

Down to the Wire

The Impact of Transnational Corporations on Sustainable Electricity Provision in Developing Countries: Case studies in Argentina and Peru



Joseph Wilde-Ramsing & Tim Steinweg

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This report deals with the sustainability of electricity provision by transnational companies in Latin America. On the basis of a theoretical framework outlining social, economic, environmental and cross-cutting indicators, this report evaluates the CSR policies and practices of Endesa, SN Power and AES in Argentina and Peru. Through case studies that include the perspectives of a range of stakeholders in these countries, the report finds that the policies made at the headquarter level are only partially put into practice at the local level.

While there are clear differences in the approaches and policies of the three companies investigated, in general communities benefit little from the presence of transnational electricity companies in their areas and in some cases experience negative impacts. The companies largely fail to tap into the enormous local potential for sustainable energy, and working conditions are becoming increasingly precarious.

This report reveals both the positive and the negative impacts on sustainable development that electricity provision can have and reaffirms the need for international normative standards for sustainable electricity provision. It exposes a number of critical issues that must be addressed if electricity provision is contribute to reducing global poverty rates, achieving to the Millennium Development Goals, and enhancing efforts towards sustainable development.



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Abbreviations and terminology

ADB Asian Development Bank	ILO International Labour Organisation (UN body)
CEER Council of European Energy Regulators	IPCC Intergovernmental Panel on Climate Change (UN body)
CCGT Combined cycle gas turbine	ISO International Organization for Standardization
CDM Clean Development Mechanism	JICA Japan International Cooperation Agency
CO₂ Carbon dioxide	kV Kilovolts
CR Corporate responsibility	kW(h) Kilowatt (hour)
CSR Corporate social responsibility	LCE Ley de Concesiones Eléctricas (Peru's Electric Power Concession Law)
DES Dominant electricity system	LDCs Less developed countries
EC European Commission	Load shedding A rolling, or planned, blackout
EIA Environmental impact assessment	MDGs Millennium Development Goals
Electricity provision Includes the generation, transmission, distribution and supply of electricity	MW(h) Megawatt (hour)
EMCEF European Mine, Chemical and Energy Workers' Federation	OECD Organization for Economic Cooperation and Development
EMFs Electromagnetic fields	OHS Occupational health and safety
EMS Environmental Management System	RES-E Renewable energy sources for electricity
ENRE Ente Regulador de la Energía Eléctrica (Argentina's electricity regulator)	SD Sustainable development
EPSU European Public Service Unions	SEA Strategic Environmental Assessment
EUSS Electric Utilities Sector Supplement	SEC Securities and Exchange Commission
FDI Foreign direct investment	SIA Social Impact Assessment
GHG(s) Greenhouse gas(es)	SNPP SN Power Perú
Global South Used synonymously with "developing countries" in this report	SOE State-owned enterprise
GRI Global Reporting Initiative	SRI Socially responsible investment
GW(h) Gigawatt (hour)	TNC Transnational corporation
H&S Health and safety	UN United Nations
IAEA International Atomic Energy Agency (UN body)	US United States
ICE Costa Rican Institute of Electricity	UNCTAD United Nations Conference on Trade and Development (UN body)
ICSID International Center for Settlement of Investment Disputes (World Bank body)	WBCSD World Business Council for Sustainable Development
IEA International Energy Agency	WCD World Commission on Dams
IHA International Hydropower Association	WCED World Commission on Environment and Development (UN body)
IFC International Finance Corporation (arm of the World Bank)	WRI World Resources Institute

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Executive summary

This report addresses the impact of electricity provision by Endesa, SN Power and AES on sustainable development in Latin America. On the basis of a theoretical framework of indicators for sustainable electricity provision, the report examines the corporate social responsibility (CSR) policies and practices of these three transnational corporations. Each company's headquarters-level policies are analysed and then compared with the results of empirical research in four case studies of the situations on the ground in Argentina and Peru. Through the analysis and the formulation of conclusions and recommendations based thereon, the report aims to improve the quality, the poverty-reducing capability, and the contribution to sustainable development of electricity provision in developing countries.

Increasing access to affordable electricity is vital for achieving sustainable development in accordance with the Millennium Development Goals. However, the electricity industry is also a major source of air and water pollution and one of the world's largest emitters of greenhouse gasses. In fact, there is hardly another industrial sector that has such potential to contribute to economic and social development that at the same time can potentially have such negative impacts for people and planet. A rapidly changing climate and steeply rising electricity demand in the developing world underline the urgency of addressing the general absence of normative standards for sustainable electricity provision by identifying the critical issues that must form the basis for more transparent and effective normative-practical guidelines for providing "quality kilowatts".

After the wave of liberalisation and privatisation in the 1980s and 90s, transnational corporations (TNCs) began playing an increasingly important role in the electricity systems of developing countries. Although optimism initially abounded about the unlimited positive impact of foreign direct investment (FDI) from TNCs in developing countries, it is now generally recognised that the positive developmental effects of FDI are not self-evident and that some current TNC strategies are actually having a negative effect on the development of infrastructure in developing countries.

As a result, the past few years have seen a sharp increase in interest in the topic of CSR in electricity provision from governments, multi-stakeholder groups, unions and civil society, as well as businesses themselves. Yet despite the increased interest, there is little empirical knowledge as to how the CSR policies of electricity TNCs are developed and implemented in developing countries. Furthermore, there remains a lack of clear normative standards for sustainable electricity provision. A recent survey of relevant literature and identified the critical social, environmental, economic, and cross-cutting issues that must form the basis for such normative guidelines.¹ The thirty critical issues identified form the basis of the analysis in this report.

Argentina was one of the first countries in the world to embark on liberalising reforms in the electricity sector including privatisation of state-owned electricity companies. The electricity generation and distribution companies that were privatised in 1992 partially came into the hands of European and North American TNCs. The current market share of private operators in relation to state-owned enterprises (SOEs) is high with 75% of the country's installed capacity in private hands. Only a few years after Argentina's devastating economic crisis in 2001, the country suffered

¹ J. Wilde-Ramsing, *Quality Kilowatts: A normative-empirical approach to the challenge of defining and providing sustainable electricity in developing countries* (Amsterdam and Oslo: SOMO and ProSus/SINTEF, 2009, forthcoming) <www.somo.nl>. See Annex 2 for the executive summary.

an equally debilitating energy crisis as the macroeconomic measures taken by the Argentine government to mitigate the economic crisis led to conflicts with electricity companies who felt that their profits and return on investment were threatened by the measures. The lack of investment in electricity infrastructure exacerbated the situation as demand from the country's recovering industrial sector quickly outstripped supply. In Peru, the past two decades have seen significant developments in the electricity sector that have completely reconfigured the sector. The country undertook a process of privatisation of SOEs in the 1980s that resulted in TNCs playing an important role in national energy policies. The discovery of the Camisea gas fields in the late 1980s led to major changes in the country's energy resource base and its fuel mix for electricity generation. Peru's recent economic growth has led to increased demand for electricity, primarily from industrial actors such as mining and construction companies. This increased demand, combined with the lack of investment in Peru's vast renewable energy potential, has caused an energy crisis that is predicted to worsen in the coming years.

The analysis of the three companies' CSR approaches reveals that, although all of the companies claim that sustainable development is among their top priorities, their approaches to sustainable electricity provision in developing countries vary widely. Endesa's approach to sustainable electricity provision is characterised by a thoroughly developed CSR policy and is highly based on existing international standards. For a company as young and as small as it is, SN Power has a remarkably well-developed CSR policy. Instead of being defined by international standards, SN Power's approach to sustainable electricity provision seems to be based more on an old-fashioned, deeply ingrained conception of development. AES' approach to electricity provision in developing countries seems to be less motivated by CSR issues than by the hard business imperative of profit.

Despite the differences in approach to sustainable electricity provision, the empirical field research in four case studies in Argentina and Peru reveals that all companies have some difficulty in translating CSR policy into practice on the ground. In Argentina, researchers examined the operations of AES' Central Dique electricity generation station and its Edelap distribution company, as well as on Endesa's Central Dock Sud and Central Costanera electricity generation facilities. The Peruvian case studies investigate the operations of Endesa and SN Power, both of which have invested in electricity generation, transmission and/or distribution companies in Peru. The findings and analysis of the case studies lead to a number of important conclusions about the impact of TNCs on sustainable electricity provision in developing countries.

- Many communities adjacent to electricity infrastructure benefit little from proximity to TNC operations

Many of the communities situated near electricity infrastructure live in precarious situations, putting into question TNCs' commitment to local economic development and the effectiveness of their CSR policies aimed at fostering sustainable development in the communities in which they operate. With regard to access to electricity, the case studies show that TNCs are generally not serving the communities closest to their electricity generation facilities, despite touting CSR policies that claim to support and develop local communities. Furthermore, several of the communities studied reported negative environmental and public health and safety impacts from the TNCs' activities. Another crucial aspect of local economic development is hiring local labourers, but that also seems to seldom be the case among the TNCs investigated.

- ❑ Lack of investment in infrastructure endangers public health and safety and disrupts supply

AES has received particularly harsh criticism for its lack of investment in electricity infrastructure, which has endangered public health and safety in Argentina. Local residents have complained about electricity poles falling down, sub-stations exploding, and transformers short-circuiting. Disruptions in supply due to inadequate or insufficient infrastructure have also caused power outages that have negatively impacted the local economy and led to the company being fined numerous times by Argentina's electricity regulator.

- ❑ Working conditions are generally good, but concerns about outsourcing and job security remain

Workers reported that sufficient occupational health and safety measures seem to be in place at the electricity facilities investigated in this report. With regard to unionisation, only SN Power's Cahua station lacks a union for its workers. However, there was a large number of lay-offs, redundancies, and forced retirements following the privatisation of electricity companies in both Argentina and Peru, and workers identified a continuing overall trend in the industry toward outsourcing of personnel. Interviews with workers and union leaders revealed that contracted workers receive less pay and benefits, are not unionised, and in general endure poorer working conditions than workers employed directly by the companies.

- ❑ High potential for clean, sustainable energy generally left untapped by TNCs, who instead rely heavily on fossil fuels and large-scale hydro

Both Argentina and Peru have high potentials for sustainable sources of energy for electricity. However, this potential is left largely untapped by the local electricity generation units of AES and Endesa, who make widespread use of fossil fuels. SN Power stands out against the other companies, as it has pledged only to develop renewable hydraulic sources of energy. However, while SN Power does currently have a mix of large-scale and small-scale hydropower facilities in Peru, its plans for expansion exclusively involve large-scale plants that can have significant environmental and social impacts. In fact, the operation of several large-scale hydroelectric plants by all three companies in both Argentina and Peru and the companies' plans for new, even larger hydro facilities should raise warning flags for the critical issues of biodiversity, ecosystem impact, and climate change and GHG emissions, as well as for indigenous rights and community lifestyle impact.

- ❑ Electricity TNCs generally recognize responsibility for occupational health and safety among contractors, but product chain responsibility goes little beyond that

The three TNCs generally seem to acknowledge their responsibility for ensuring good practices among their direct contractors, a positive development given the increase in outsourcing in the industry. However, little evidence was found to indicate that the companies' concern for product chain responsibility extends beyond this first step. For example, none of the companies has policies to address the potential impacts of product chain activities such as sourcing (e.g. mining and extraction) and transport of fuels.

- TNCs' "engagement" with communities is often limited to charity and philanthropic activities rather than meaningful engagement that addresses critical issues

All three TNCs claim to place high value on stakeholder engagement and public participation in decision making. However, what companies put forth in policy often contrasts with claims by local municipal authorities and community residents that companies seldom seek out meaningful relationships with the communities adjacent to their facilities. This was particularly the case with Endesa's CSR initiatives that are perceived by locals as being more focused on philanthropic activities in the communities than sustained engagement with communities and governments on local planning and development issues. SN Power Perú's engagement policies fared somewhat better among local citizens, seeming to substantiate the company's policy of "fluent communication and mutual collaboration with the communities in the areas where it operates". The authors posit that there is nothing wrong with TNCs undertaking philanthropic and charitable activities in affected communities and among its stakeholders, but note that these activities all too often take the place of or distract from meaningful stakeholder engagement and public involvement in decision making when critical issues are at stake.

The major areas of concern expressed by local communities, workers and other stakeholders in this study's field research substantiate Wilde-Ramsing's normative framework of social, environmental, economic and cross-cutting issues, revealing that these are indeed critical issues for the electricity industry. The lack of clear criteria for sustainable electricity provision and the inconsistent application of the various social, environmental and economic standards by TNCs in both policy and practice reveal a clear need for external standard-setting and monitoring at the international level. In the absence of such international normative standards for electricity provision, TNCs should develop policies on the critical issues in the framework used in this study. In general, the study found that when a TNC had a well defined policy and implementation mechanism for a particular issue, the company tended to perform better on that issue in practice on the ground, although it should be noted that there were some important exceptions to this generalisation. CSR policies must be accompanied by programmes for ensuring and monitoring the implementation and translation of the policies into practice on the ground in developing countries. Such monitoring must involve representatives of key stakeholder groups, particularly unions, local communities, and local energy planners.

1 Introduction

1.1. Relevance and point of departure

The United Nations asserts that, "The provision of adequate and reliable energy services at an affordable cost, in a secure and environmentally benign manner and in conformity with social and economic development needs is an essential element of sustainable development".² As one of the key public services, electricity is vital for eradicating poverty, improving human welfare, raising living standards, and achieving the Millennium Development Goals (MDGs). However, most current patterns of electricity provision and consumption around the world are unsustainable.³ On the one hand, approximately one-third of the world's population has no access to adequate and affordable electricity, limiting the possibilities for development. On the other hand, the environmental degradation and emissions associated with electricity production and consumption in other areas inhibits sustainable development. The electricity industry is a major source of air and water pollution and, due to its continued heavy reliance on fossil fuels, is one of the world's largest emitters of greenhouse gases (GHG) that are causing irreversible climate change.⁴ In fact, there is hardly another industrial sector that has such potential to contribute to economic development, poverty alleviation, and to the improvement of living standards of people around the world that at the same time can potentially have such negative impacts on people and planet.

Transnational corporations (TNCs) are playing an increasingly important role in electricity provision around the globe. Until the 1980s, the electricity sector of most developing countries was dominated by a large state-owned enterprise (SOE). However, the liberalisation and privatisation of electricity markets during the 1980s and 1990s allowed electricity TNCs based in developed countries to extend their operations into developing countries through public-private partnerships, by buying out formerly state-owned electricity enterprises, or by developing greenfield projects under the assumption that private actors would provide badly needed capital to improve and expand electricity infrastructure.⁵ As a result, the early 1990s saw a dramatic explosion of private investment in electricity generation, transmission, distribution and supply in developing countries, reaching US\$50 billion in 1997. However, economic crises and the failure of several private electricity projects in developing countries caused private investment in the electricity sector to plunge around the turn of the millennium, dropping to just US\$3 billion by 1999.⁶ But private investment has since rebounded, indicating that a new phase of private electricity sector investment may be on the way. In 2007, investment commitments to electricity projects with private participation again reached nearly US\$50 billion, with 107 new energy projects reaching financial or contractual closure.⁷

² AEA, "Energy Indicators for Sustainable Development: Country Studies on Brazil, Cuba, Lithuania, Mexico, Russian Federation, Slovakia and Thailand," (Vienna: United Nations International Atomic Energy Agency, 2007), <http://www.un.org/esa/sustdev/publications/energy_indicators/full_report.pdf> (19 May 2008). p.5.

³ UN, "Commission on Sustainable Development, Report of the ninth session," (New York: United Nations, 2001), <<http://www.un.org/esa/sustdev/csd/ecn172001-19e.htm>> (3 Mar 2008).

⁴ IPCC, "Climate Change 2007: Synthesis Report", (Valencia, Spain, November 2007), <<http://www.ipcc.ch/ipccreports/ar4-syr.htm>> (26 May 09).

⁵ L.N. Haar and T. Jones, "Misreading liberalisation and privatisation: The case of the US energy utilities in Europe," *Energy Policy*, 36(7) (2008), p. 2610-2619.

⁶ E.J. Woodhouse, "The Obsolescing Bargain Redux: Foreign Investment in the Electric Power Sector in Developing Countries," *N.Y.U. Journal of International Law and Politics*, 38(121) (2006), p. 121-219, <http://iis-db.stanford.edu/pubs/21279/JILP_Obsolescing_Bargain.pdf> (19 May 2008).

⁷ World Bank, "PPI data update note 11: Investment commitments to energy doubled in 2007," (2008), <<http://ppi.worldbank.org/features/Oct2008/2007EnergyDataLaunch.pdf>> (6 Dec 2008).

There is a wealth of literature documenting the inherent theoretical contradictions as well as the practical-empirical problems associated with the privatisation of essential public services such as electricity provision. The issue of whether privatisation is good or bad is not discussed in this report, although it should be noted that that debate is ongoing and is very relevant.⁸ This report assumes that the majority of developing countries currently find themselves in a context of TNC ownership of electricity provision operations, and that the quality and contribution to sustainable development of that provision can be improved. Furthermore, there is an increasing expectation by governments, unions, civil society and businesses that, as private enterprises have taken on a greater role as producers and suppliers of electricity in developing countries, so too must they assume greater responsibility for ensuring sustainable and high quality electric service. Central to liberalisation theory is the notion that electricity should be primarily treated as a private commodity and that markets will efficiently allocate that commodity. Under the liberalisation regime, the responsibility of electricity companies to provide high quality services may be the subject of consumer-oriented regulations but is often left to voluntary corporate social responsibility (CSR) initiatives that form part of a company's business strategy. CSR is, however, relatively new in the electricity sector; none of the 65 large electricity companies analysed in a recent study published a CSR report prior to 2003.⁹ German electricity giant RWE admits that while conservation work has long been a part of the company's strategy, CSR and climate protection are relatively new concepts for the company.¹⁰ Even the French SOE Électricité de France, with its relatively long history of publishing information on environmental and sustainability issues, only began to concretise its CSR policy in 2005.¹¹

Yet it is clear that interest in CSR is rapidly growing in the electricity sector. In 2004, the European electricity sector social partners EPSU, Eurelectric, and EMCEF released a joint statement on CSR; the GRI is currently developing a sectoral supplement for electric utilities to provide companies with sustainability reporting guidelines; and the UN's International Atomic Energy Agency (IAEA) is conducting pilot studies to establish energy indicators for sustainable development. Furthermore, the same study which found that none of the 65 companies surveyed had produced a CSR report prior to 2003 also found that by 2007 approximately one-third were doing so, with another third producing some CSR-related material, and a final third making no reference to CSR at all.¹² While CSR reporting by only one-third of the electricity sector is quite low compared to other industries, it is nevertheless a significant increase from no reporting at all in 2001 and reveals a clear trend in the industry.¹³

⁸ See, for example, C. McGuigan, "Power and poverty: World Bank energy reforms and poor people," (2007), <<http://www.christianaid.org.uk/issues/trade/resources/povertyandpower.aspx>> (10 Nov 2007).; T.C. Heller, H. Tjong and D.G. Victor, "Electricity Restructuring and the Social Contract: PSED Working Paper #15," (Stanford, CA: Stanford University, 2003), <http://iis-db.stanford.edu/pubs/20203/elect_restruct_social_contract.pdf> (19 May 2008).; S. Thomas, "Electricity Liberalization Experiences in the World," (London: Public Services International Research Unit, University of Greenwich, 2007), <www.psir.org> (19 May 2008).; Y.-M. Mun, "Lights On: Toward Equitable, Sustainable and Democratic Energy Policies," (2003).

⁹ ECOTEC, "Describing developments in the European electricity sector: Drivers for change: Corporate Social Responsibility - a report to the sectoral social partners," (Eurelectric, EPSU and EMCEF, 2007), <http://www.epsu.org/IMG/pdf/EN_CSR_European_electricity_sector_FINAL_REPORT.pdf> (19 May 2008).

¹⁰ RWE, "Corporate Responsibility Report 2005," (2005), <<http://www.rwe.com/generator.aspx?property=Data/id=333244/unsere-verantwortung-engl-2005.pdf>> (7 Sept 2008), p.11

¹¹ ECOTEC, "Describing developments in the European electricity sector: Drivers for change: Corporate Social Responsibility - a report to the sectoral social partners," (Eurelectric, EPSU and EMCEF, 2007), <http://www.epsu.org/IMG/pdf/EN_CSR_European_electricity_sector_FINAL_REPORT.pdf> (19 May 2008).

¹² Ibid.

¹³ It should be noted that while no electricity companies produced a CSR report prior to 2001 and only one-third did so in the 2007 ECOTEC report, many electricity companies do publish information on CSR-related issues such as environmental performance and sustainability and have done so for some time.

Despite this recent increase in activity around CSR in the electricity industry, there is little empirical knowledge as to how the CSR policies of electricity TNCs are developed and implemented and their impact on developing countries. While some companies appear to have made CSR a part of their long-term strategy, others have simply produced a one-off CSR report that lacks a clear strategy for systematising and further developing the concept.¹⁴ However, Palast et al. note that a number of recent corporate scandals and failed public-private partnerships involving electricity TNCs operating in the newly privatised electricity markets of developing countries have raised questions about the intentions of private utilities and their ability and willingness to provide high quality services to their clients in developing countries.¹⁵ Perhaps the obvious example is the spectacular failure of Enron's Dabhol project in India and revelations about the company's corrupt and unethical practices. In the rush to open markets to private capital, privatisation of electricity production in developing countries such as Argentina and Peru took place without the simultaneous creation of a regulatory body or with only a weak authority to ensure that TNCs adhere to quality and sustainability standards. Although a great deal of optimism abounded about the unlimited positive impact of foreign direct investment (FDI) from TNCs in developing countries and about FDI as "an engine of development" in the 1990s,¹⁶ it is now generally recognised that the positive developmental impacts of FDI are not guaranteed, particularly when it comes to investment in infrastructure, and that some current TNC strategies are actually having a "negative effect on the development of infrastructure in less developed countries".¹⁷

Given such variations in how different TNCs approach and apply their responsibility for sustainable development in developing countries, it is important to investigate how such variation comes into play for the electricity sector. Such knowledge is highly relevant for both governments and stakeholders in efforts to improve the quality of electric services in the Global South. The issue has more recently emerged as increasingly acute, given that governmental protection for electricity consumers and workers in developing countries remains weak and poorly enforced. Furthermore, a rapidly changing climate and steeply rising electricity demand in the developing world means that there is a dire and urgent need to define what should be considered as "sustainable" in the provision of electricity. Although there are no broad normative standards for "high quality" or "sustainable" provision of electricity, a recent study by SOMO and the Oslo-based Program for Research and Documentation for a Sustainable Society (ProSus) has synthesised relevant literature and compiled a list of critical indicators that could provide the basis for the development of normative standards for sustainable provision of electricity in developing countries.¹⁸

These indicators and the challenge of analysing the impacts of TNCs on the quality and sustainability of electricity provision through case studies in Argentina and Peru are taken as the point of departure of this report.

¹⁴ ECOTEC, "Describing developments in the European electricity sector: Drivers for change: Corporate Social Responsibility - a report to the sectoral social partners," (Eurelectric, EPSU and EMCEF, 2007), <http://www.epsu.org/IMG/pdf/EN_CSR_European_electricity_sector_FINAL_REPORT.pdf> (19 May 2008).

¹⁵ G. Palast, J. Oppenheim and T. MacGregor, "Democratic regulation: A guide to the control of privatized public services through social dialogue, Sectoral working paper No. 166," (Geneva: ILO, 2000), <<http://www.ilo.org/public/english/dialogue/sector/papers/pubserv/demreg.pdf>> (3 Sept 2008).

¹⁶ UNCTAD, "World Investment Report 1992: Transnational Corporations as Engines of Growth," (New York: United Nations Conference on Trade and Development, 1992).

¹⁷ M. Yamin and R.R. Sinkovics, "Infrastructure or foreign direct investment? An examination of the implications of MNE Strategy for economic development," *Journal of World Business*, 44(2) (2008), p. 144-157.

¹⁸ J. Wilde-Ramsing, *Quality Kilowatts: A normative-empirical approach to the challenge of defining and providing sustainable electricity in developing countries* (Amsterdam and Oslo: SOMO and ProSus/SINTEF, 2009, forthcoming) <www.somo.nl>. See Annex 2 for the executive summary.

1.2. Aim and objectives

The overall long-term aim of this report is to improve the quality, the poverty-reducing capability, and the contribution to sustainable development of electricity provision in developing countries. In order to achieve this aim, the report has as its specific objectives to contribute to:

- an improved understanding of how electricity TNCs conceive of and incorporate CSR elements and quality standards in their operations in developing countries;
- an enhanced empirical understanding of the impact of multinational power generation companies in different institutional settings on the quality of the local electricity services in the South;
- the further development of normative standards and a framework for sustainable electricity provision in developing countries by means of an empirical testing of the theoretical framework and indicators for sustainable electricity provision outlined by Wilde-Ramsing¹⁹;
- the development of a comparative framework, by which researchers from developing countries can evaluate the impacts of TNCs in their respective countries;
- an improved understanding of the political, cultural, and economic context in which electricity TNCs in developing countries operate, as well as the effects of the liberalisation and privatisation processes in the 1990s; and
- building the capacity of local research organisations in Argentina and Peru to improve the quality of further research into the impacts of TNCs in their countries.

1.3. Problem statement and research questions

In order to achieve the abovementioned overall aim and objectives, the central problematic of the report involves determining how electricity TNCs conceptualise “sustainable development” and “high-quality” electricity provision and whether TNCs’ CSR policies translate into practice in developing countries.

The problem statement can be translated into the following research question:

- What impacts does the presence of TNCs have on sustainable electricity provision in developing countries?

This question can be deconstructed into the following questions:

- What policies do TNCs active in electricity sectors of developing countries have in the areas of CSR and sustainable development?
- How do these policies translate into the actual performance of TNCs on the ground in Argentina and Peru?
- On the basis of the answers to the previous two questions, what actions are needed to improve the quality, the poverty-reducing capability, and the contribution to sustainable development of electricity provision in developing countries?

¹⁹ Ibid.

1.4. Methods

This report attempts to answer the abovementioned questions through an examination of four qualitative case studies of North American and European TNCs active in the electricity sectors in Argentina and Peru. The report uses the critical issues framework identified by Wilde-Ramsing²⁰ to analyse companies' motivations for and approach to CSR in their activities. The framework is based on a broad review of literature on normative standards for sustainable electricity provision in developing countries from a wide range of stakeholder and expert groups including academic, (inter-)governmental, industry, trade union, NGO and multi-stakeholder sources.

The companies analysed in the case studies of this report were chosen on the basis of a broad survey of potential companies. The initial scan included over 30 electricity companies and surveyed company websites and databases for information on the companies' areas and types of operations, headquarters location and CSR policies. The primary criterion for choosing the three companies for further analysis was that the company had to be a TNC with significant electricity provision operations (i.e. electricity generation, transmission, and/or distribution) in Argentina or Peru. The case study TNCs were chosen from three different regional context areas: the continental European setting, the Nordic setting, and the North American setting. One company per region was chosen: Endesa was chosen for the European setting, SN Power for the Nordic setting and AES Corporation (hereinafter "AES") for the North American setting. Endesa is headquartered in Madrid, Spain, and is one of the world's largest providers of electricity with significant electricity generation, transmission and distribution activities in a number of developing countries, including Argentina and Peru. In 2008, Endesa was taken over by the Italian company Enel, thereby strengthening its global position even more. SN Power is based in Oslo, Norway, and has electricity generation operations in Peru, as well as other countries in Latin America, Africa and Asia. AES has its headquarters in Washington, D.C., USA, and has electricity generation, transmission and distribution activities in Argentina, as well as 16 other developing countries in Asia, Africa, and Latin America. More information on the selected TNCs can be found at the beginning of each company profile in Chapter 4.

The analysis of the various company approaches to providing sustainable electricity was conducted using various methods, including both desk research and empirical field research. The desk research involved analysis of company websites, policy documents, and CSR policies. Furthermore, questionnaires (see Annex 1) were sent to the three selected companies and telephone interviews were conducted with management and CSR officials in the companies, both at the headquarters and local management in developing countries. Media coverage, NGO and trade union reports, and company information databases were used to give further insight into the companies' approach.

The case studies in Chapter 5 are based on empirical research in Argentina and Peru, respectively. Argentina and Peru were chosen as the case study countries because of their status as developing countries, the fact that the selected TNCs are active in Argentina and Peru, and because SOMO has strong research partners in both countries in the form of FARN and PLADES. In Argentina, researchers investigated the activities of local units of Endesa and AES, in Peru research was conducted on the operations of Endesa and SN Power. This research involved field visits to power plants and adjacent communities as well as structured interviews with local company management, labourers, trade union representatives, community residents, local authorities and environmental and consumer NGOs. All interviews and field visits took place between July and September 2008.

²⁰ Ibid.

In all cases, local company management was approached for interviews and input into the study. In Peru, an Edegel (Endesa) communications manager met with researchers and initially agreed to participate in the study, but later sent a letter declining to contribute further. Representatives of SN Power in Peru also declined to meet with researchers. The electricity workers interviewed spoke to researchers on condition of anonymity for fear of reprisals from company management, and their identities are therefore kept confidential in this report. In Argentina, a manager at AES met with researchers and provided input for the study, but then later asked that his name not be used; he is therefore also not referenced by name. Representatives of Endesa in Argentina declined to meet with researchers or provide input.

Finally, headquarter-level representatives of each company mentioned in this report were given the opportunity to review a draft of the company profile incorporated in the report and to provide comments and corrections of factual errors. Both Endesa and SN Power used the opportunity to provide feedback, SN Power on both the policy and field research, Endesa on the policy section only. AES acknowledged receipt of the draft profile in the telephone conversation and promised to respond if they found it necessary²¹; in the end no feedback was received despite numerous phone calls, emails and postal communications.

1.5. Information about SOMO

SOMO's activities and research on corporations and their international context focus on sustainable economic and social development and are aimed at promoting sustainable development and the structural eradication of poverty, exploitation, and inequality. SOMO has the following primary goals:

- ❑ Change through knowledge building: The research SOMO carries out is aimed at stimulating change. This means that on the one hand, SOMO fulfils a 'watch dog' function; SOMO collects the necessary information and carries out analyses to reveal unsustainable corporate conduct and contradictions in economic and political systems. On the other hand, with its analyses and its alternative proposals, SOMO contributes to the policy development of governments, international organisations, NGOs and corporations.
- ❑ Strengthening of civil society in the global North and South: By providing information and facilitating cooperation, SOMO helps to strengthen civil society in the global North and South. SOMO's activities focus on the disclosure of previously fragmented information, the building of networks of NGOs and the training of NGOs. SOMO concentrates its efforts on NGOs that work with Multinational Enterprises and international trade, such as labour unions and human rights, consumer, environmental, gender and development organisations.
- ❑ Increasing the impact of civil society organisations: Through its research as well as cooperation with partners from the South, and joint initiatives with other NGOs, SOMO contributes to the debate on CSR. SOMO targets its policy influence, workshops, and public meetings at opinion leaders and decision makers from governments, civil society organisations and the media. SOMO promotes the interests of the global South when participating in policy dialogues, lobby activities, conferences, expert meetings, and other fora.

The case studies in Chapter 5 are based on empirical research conducted by SOMO partner organisations Función Ambiente y Recursos Naturales (FARN) and the Programa Laboral de Desarrollo Social (PLADES) in Argentina and Peru, respectively.

²¹ Deborah, AES Business Excellence, Arlington, VA, 9 May 2008 and 9 June 2008, telephone call with J. Wilde-Ramsing.

1.6. Structure of the report

This report is structured as follows: Chapter 2 discusses the analytical framework that defines the indicators used in the case studies of this report to evaluate the performance of the TNCs. It can be regarded as a summary of Wilde-Ramsing²², the framework of which is used for the analysis in this report. Chapter 3 provides an overview of electricity provision in the Argentine and Peruvian contexts, including a brief history and current composition of the power sector in these countries. It discusses some of the critical issues and contextual aspects that are most relevant to the approaches and impacts of the TNCs discussed in the case studies. Chapter 4 discusses the approaches of Endesa, SN Power, and AES to sustainable electricity provision by analysing their CSR policies and reviewing the relevant media coverage and NGO and trade union information. Chapter 5 presents the results of the empirical research in four case studies: AES in Argentina, Endesa in Argentina, Endesa in Peru, and SN Power in Peru. Chapter 6 discusses the most relevant outcomes of the policy analyses and the case studies, draws a number of conclusions, and identifies areas for future research.

²² J. Wilde-Ramsing, *Quality Kilowatts: A normative-empirical approach to the challenge of defining and providing sustainable electricity in developing countries* (Amsterdam and Oslo: SOMO and ProSus/SINTEF, 2009, forthcoming) <www.somo.nl>. See Annex 2 for the executive summary.

2 Critical issues: a frame of reference for sustainable electricity provision

2.1. Defining “sustainable electricity provision”

Before a successful evaluation of TNCs’ impacts on “sustainable electricity provision” can take place, it is necessary to establish a common understanding of what the concept entails. It is not the authors’ intention to prescribe what “sustainable electricity provision” should be. Instead, this report’s understanding of sustainable electricity provision is grounded in the concept of sustainable development as understood in the WCED’s *Our Common Future*²³, the accords from the 1992 Rio summit, particularly *Agenda 21*, and the UN’s MDGs. These documents all have sustainability as their overall aim, and they have been agreed upon and committed to by virtually all members of the United Nations, as well as a wide range of other stakeholder groups. At the heart of sustainable development is the need to simultaneously address environmental, social, and economic issues and concerns and to find the balance between these three “pillars”. The social pillar of sustainable development is focused on satisfying basic human needs as well as addressing protection of human and labour rights. The environmental pillar includes issues like nature conservation, environmental protection, and ecological balance, while the economic component comprises (eco)-efficiency, sustainable consumption and local economic development. It is essential to recognise the interdependency between satisfying basic needs, modes of production, and impacts on natural life support systems.²⁴

It is important to note that the relative importance given to the different components of sustainable electricity provision may differ between industrialised nations and developing countries. In developed countries, the most fundamental dimension of sustainable electricity provision is often the environmental component. In developing countries, however, the social and economic elements of sustainable development have a stronger entitlement than in industrialised countries, in particular poverty reduction and meeting basic needs. This perspective has a firm footing in traditional sustainable discourse, as the prominence given to “needs” in *Our Common Future* reflects the WCED’s belief that the eradication of poverty and meeting basic human needs are key to sustainable development.²⁵

The understanding of sustainable electricity provision is thus firmly grounded in the concept of sustainable development. Sustainable electricity provision implies generating, transmitting, distributing and supplying electricity in a manner that contributes to poverty reduction and the satisfaction of basic needs without damaging the natural environment or compromising the ability of future generations to meet their own needs. This understanding is admittedly vague, and the concepts “poverty reduction”, “satisfaction of basic needs” and “damaging the environment” must be further refined with relation to electricity provision. There is a clear need for more specific empirical benchmarks as to what “sustainable electricity provision” should look like. The World

²³ WCED, "Our Common Future: Report of the World Commission on Environment and Development," (Oxford: Oxford University Press, 1987), <<http://www.un-documents.net/wced-ocf.htm>> (5 March 2009).

²⁴ W.M. Lafferty, "Introduction: Grounding the Evaluation of 'Sustainable Development'," in *Realizing Rio in Norway: Evaluative Studies of Sustainable Development*, Ed(s). W.M. Lafferty, M. Nordskog and H.A. Aakre (Oslo: ProSus, 2002), p. 1-6, <http://www.prosus.uio.no/publikasjoner/Boeker/Realizing_Rio.htm> (5 March 2009).

²⁵ WCED, "Our Common Future: Report of the World Commission on Environment and Development," (Oxford: Oxford University Press, 1987), <<http://www.un-documents.net/wced-ocf.htm>> (5 March 2009).

Commission on Dams (WCD) has stressed that “a broad consensus is needed on the norms that guide development choices and the criteria that should define the process of negotiation and decision-making” in order to resolve underlying conflicts about the environmental, social and economic benefits and impacts of electricity projects.²⁶

The MDGs are perhaps the most logical place to start for guidance on standards for sustainable electricity provision. Although none of the MDGs refers explicitly to electricity, Modi et al. argue that expanded access to electric power is crucial for meeting all of the Goals.²⁷ Beyond the MDGs, there exists a broad array of literature from academic, (inter-)governmental, industry, trade union, and NGO sources related to standards and criteria for sustainable electricity provision in developing countries. Wilde-Ramsing has conducted a comprehensive survey of this literature and extracted the most relevant critical issues and internationally accepted normative standards for sustainable electricity provision in developing countries.²⁸ These internal and external norms are the source of the moral pressure on power companies to align their electricity provision policies and practices with the principles of sustainable development. The following section provides a summary of the critical issues and normative standards for sustainable electricity identified and elaborated by Wilde-Ramsing.

2.2. Overview of critical issues

The critical issues identified in Figure 1 below represent a comprehensive list of indicators identified in the literature that should provide the basis for developing normative standards for sustainable electricity provision in developing countries. These issues can be roughly categorised into the three “pillars” of sustainable development: social issues, environmental issues, economic issues. A number of critical issues cut through all three pillars and lie at the heart of sustainable electricity provision. This section briefly mentions all the indicators; for a more extensive description of the indicators, see Wilde-Ramsing.²⁹

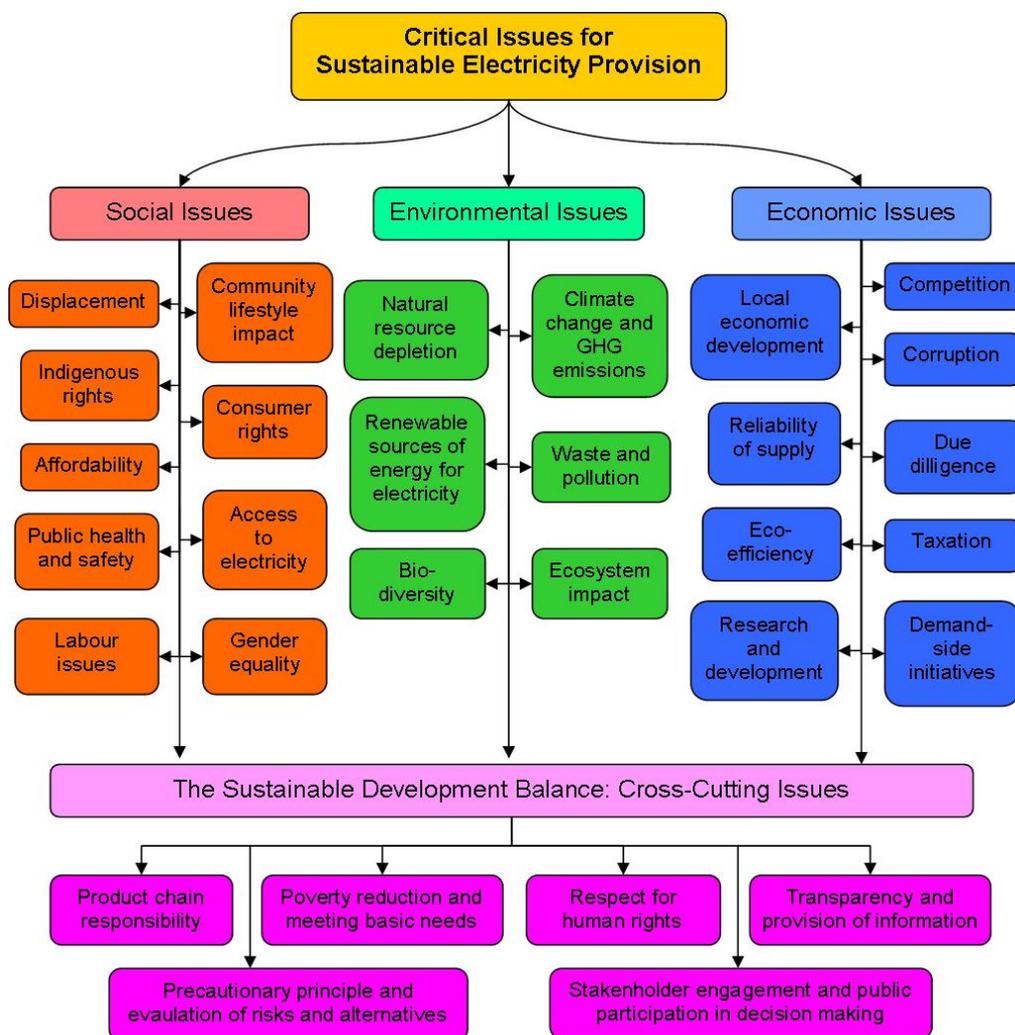
²⁶ World Commission on Dams, "Dams & Development: A New Framework for Decision-Making," (London and Sterling, VA: Earthscan Publications Ltd, 2000), <<http://www.dams.org/docs/report/wcdreport.pdf>> (6 September 2008).

²⁷ V. Modi, S. McDade, D. Lallement and J. Saghir, "Energy Services for the Millennium Development Goals," (New York: Energy Sector Management Assistance Programme, United Nations Development Programme, UN Millennium Project, and World Bank, 2005), <http://www.unmillenniumproject.org/documents/MP_Energy_Low_Res.pdf> (8 March 2009).

²⁸ J. Wilde-Ramsing, *Quality Kilowatts: A normative-empirical approach to the challenge of defining and providing sustainable electricity in developing countries* (Amsterdam and Oslo: SOMO and ProSus/SINTEF, 2009, forthcoming) <www.somo.nl>. See Annex 2 for the executive summary.

²⁹ *Ibid.*

Figure 1: Overview of critical issues for sustainable electricity provision



Source: Joseph Wilde-Ramsing

2.2.1. Social issues

Social issues refer to the impact that an electricity company’s operations have on the social well-being of a country or community. Despite the fact that social issues are generally of great concern to developing countries, ECOTEC’s analysis of electricity industry CSR reports found that the social pillar of sustainable development is often the most neglected by electricity companies.³⁰ This may be due to the fact that electricity companies have a longer history of reporting on economic and environmental issues than on the social impacts of their operations. Social issues are also often overshadowed by the dominance of the current debate on global warming, which has focused CSR concerns on the environmental aspects of sustainable development.

³⁰ ECOTEC, "Describing developments in the European electricity sector: Drivers for change: Corporate Social Responsibility - a report to the sectoral social partners," (Eurelectric, EPSU and EMCEF, 2007), <http://www.epsu.org/IMG/pdf/EN_CSR_European_electricity_sector_FINAL_REPORT.pdf> (19 May 2008).

Despite the lack of focus on social issues in the CSR debate in the electricity industry, it is clear that electricity provision has tremendous implications for poverty and meeting basic needs.³¹ Electricity companies have a responsibility to provide electricity in a manner that is socially equitable and safe, contributes to poverty alleviation, and is respectful of employees and of the communities impacted. If electricity provision is to contribute to the achievement of the MDGs, electricity companies must be conscious of issues such as **affordability** and **access to electricity**. In addition, due to the large scale of power plants and electricity infrastructure, electric utilities' assets and operations can have far-reaching **community lifestyle impacts** in places where they operate as well as neighbouring areas. Furthermore, in order to provide high-quality service, electricity companies rely on a highly skilled workforce that is often exposed to difficult and dangerous working conditions. Companies therefore need to take into consideration a variety of **labour issues**. Additional social issues include **public health and safety, displacement, indigenous rights, consumer rights** and **gender equality**. Some of the most important internationally accepted standards related to the social aspects of sustainable electricity provision are:

- UN Universal Declaration of Human Rights and its Protocols;
- UN International Covenant on Civil and Political Rights;
- UN International Covenant on Economic, Social, and Cultural Rights;
- ILO Declaration on Fundamental Principles and Rights at Work of 1998 (particularly the Core Conventions of the ILO);
- OECD Guidelines for Multinational Enterprises;
- ILO Tripartite Declaration Concerning Multinational Enterprises and Social Policy;
- UN Global Compact.

2.2.2. Environmental issues

The production, transmission, distribution and use of electricity create pressure on environments and ecosystems in the household, the workplace, the community, the city, and the natural surroundings at national, regional and global levels. It is therefore imperative that electricity companies strive to minimise the environmental impact over the full life cycle of their product, from inputs such as fuels, water and materials, to waste products such as emissions and effluents. The electric power industry is among the world's largest consumers of fossil fuels and, as a result, largest emitters of carbon dioxide, making fuel use and fuel mix a critical concern. Power generation can result in significant negative environmental impacts such as diminishing soil, water and air quality; climate change; loss of biodiversity, in which developing countries are particularly rich; production of radioactive waste; and acid rain. In developing countries, where large numbers of people live in precarious situations, environmental problems, climate change and pollution affect a greater number of people and have a more direct and more acute impact on people. Furthermore, electricity infrastructure such as hydroelectric dams and high-voltage transmission lines are often located in ecologically sensitive areas rich in biodiversity.

Electricity companies have a responsibility to ensure the environmental sustainability of their operations. Companies need to have in place initiatives to stimulate the increase of **renewable sources of energy for electricity** and a long-term strategy for phasing out fossil fuels and completely switching to renewables. In addition to increasing the use of renewables, electricity companies should also implement other strategies to reduce their impact on **climate change and**

³¹ V. Modi, S. McDade, D. Lallement and J. Saghir, "Energy Services for the Millennium Development Goals," (New York: Energy Sector Management Assistance Programme, United Nations Development Programme, UN Millennium Project, and World Bank, 2005), <http://www.unmillenniumproject.org/documents/MP_Energy_Low_Res.pdf> (8 March 2009).

GHG emissions, and disclose proper information regarding their performance to the public. They should also install control systems for **waste and pollution**, thereby minimising **ecosystem impacts**. Other, related environmental indicators include the company's impact on **biodiversity** and **natural resource depletion**.

Some of the most relevant international environmental standards that apply to electricity companies providing services in developing countries include:

- ❑ The 1992 Rio Declaration on Environment and Development;
- ❑ The 1992 Biodiversity Treaty;
- ❑ The 1997 Kyoto Protocol;
- ❑ ISO 14001;
- ❑ Chapter V on Environment of the OECD Guidelines for Multinational Enterprises.

In addition, the role of private companies in sustainable development was emphasised at the 2002 Johannesburg UN World Summit on Sustainable Development. There are also a wide range of conventions and treaties addressing the responsibilities of corporations with regard to their impact on natural ecosystems, air, water, soil, climate, health and biodiversity. In general, companies should minimise the negative environmental impacts of their activities and should at least follow the most important principles for environmental sustainability expressed in the above-mentioned standards, including:

- ❑ The principle of preventative action
- ❑ Addressing environmental damage at its source
- ❑ The polluter pays principle (Principle 16 of the Rio Declaration)

As part of a responsible environmental management system (EMS), companies should conduct appropriate and thorough environmental impact assessments (EIAs) for each electricity project in order to determine the relevant environmental issues that should be addressed, the potential positive and negative impacts of a project, and the mitigation measures necessary. EIAs should be based on factual information, should be appropriate to the size and nature of the project, and should involve consultations with local stakeholders and regulatory authorities at the outset of the process.³²

A brief additional explanation of sustainability with regard to the distinction between large and small-scale hydroelectric facilities is pertinent here, especially given the fact that many developing countries rely heavily on hydropower for electricity generation. The UNEP sets the upper limit of what can be considered "small scale" hydro at 10 MW, mini-hydro at <1 MW.³³ Although water is a renewable source of energy, large-scale hydro is generally not considered sustainable because of the significant negative environmental impacts of large dams and reservoirs. In fact, the World Commission on Dams asserts that "Where other options offer better solutions, they should be favoured over large dams".³⁴ Small-scale hydro, while also not necessarily free of negative impacts, is generally considered more sustainable. The IHA emphasises that small scale run-of-the-river and mini-hydro projects generally have less impact on aquatic ecosystems and resources

³² IHA, "Sustainability Guidelines," (London: International Hydropower Association, 2004), <http://www.hydropower.org/downloads/IHA%20Sustainability%20Guidelines_Feb04.pdf> (9 September 2008).

³³ UNEP, "Energy Technology Factsheet: Small Scale Hydro (SSH)", no date, <<http://www.uneptie.org/ENERGY/information/publications/factsheets/pdf/hydro.PDF>> (16 May 2009).

³⁴ World Commission on Dams, "Dams & Development: A New Framework for Decision-Making", (London and Sterling, VA: Earthscan Publications Ltd, 2004).

than larger projects requiring dams and reservoirs.³⁵ However, for small-scale hydro to be considered sustainable, it must be undertaken in combination with a proper needs assessment, stakeholder consultations, and a thorough evaluation of risks and alternatives. In this sense, large-scale hydro can also be part of the solution if it conforms to the other criteria for sustainable electricity provision. However, for the purposes of this report, small hydro will be considered sustainable, and large hydro not, with the recognition that there are exceptions on both sides.

2.2.3. Economic Issues

Economic issues affect the progress and sustainability of economic development. Economic aspects of companies' operations and impacts are increasingly debated from a CSR perspective.³⁶ Power companies are expected to contribute to sustainable economic development in their host country by investing in and improving electricity infrastructure, researching and developing sustainable new technologies that can be utilised by the host country in the future, ensuring a reliable supply of electricity for local residences and businesses in the short and long-term, managing demand, paying fair and appropriate taxes, and conducting their operations in an efficient, honest, and transparent manner.

In order to maximise contribution to **local economic development**, electricity companies should first assess the local needs and determine whether new generation capacity is truly necessary or whether the demand could be met through efficiency measures and other **demand-side initiatives** rather than additional supply. **Reliability of supply** refers to the ability of a electricity system to provide an adequate, secure and uninterrupted supply of electrical energy at any point in time. **Eco-efficiency** refers to reducing the impact on natural resources for producing goods and services. Other economic indicators of sustainable electricity supply include **competition**, **corruption**, **taxation**, **due diligence**, and **research and development**.

Some of the most relevant international standards include

- UNCTAD's Multilaterally Agreed Equitable Principles and Rules for the Control of Restrictive Business Practices;
- and Chapter VI on combating bribery, Chapter X on competition and Chapter II on local economic development of the OECD Guidelines for Multinational Enterprises.

2.2.4. Cross-cutting issues

Several critical issues cut through all three pillars of sustainable electricity provision and lie at the heart of a comprehensive approach to integrating the social, environmental, and economic dimensions of sustainable development. The cross-cutting standards and norms represent bottom-line normative standards with which electricity companies are expected to comply. A minimum requirement for sustainable electricity projects is compliance with all existing laws and regulations, both locally and internationally, in social, environmental, and economic issue areas. Furthermore, there is considerable support for considering **respect for human rights** as a fundamental normative reference point in any debate on electricity provision projects.³⁷ The Special Representative of the UN Secretary-General on the issue of business and human rights has emphasised TNCs' responsibility to respect all human rights and the corresponding requirement for

³⁵ IHA, "Sustainability Guidelines," (London: International Hydropower Association, 2004), <http://www.hydropower.org/downloads/IHA%20Sustainability%20Guidelines_Feb04.pdf> (9 September 2008).

³⁶ MVO Platform, "MVO Referentiekader," (Amsterdam: MVO Platform, 2007), <http://mvo-platform.tuic.nl/files/Publicaties/MVO%20referentiekader%20NL_tweede%20druk.pdf> (5 September 2008).

³⁷ Ibid.

concrete action by companies to discharge this duty.³⁸ Other “cross-cutting issues” identified by Wilde-Ramsing³⁹ include **poverty reduction and meeting basic needs, the precautionary principle and evaluation of risks and alternatives, transparency and provision of information, stakeholder engagement and public participation in decision-making, and product chain responsibility**. The internationally accepted standards and norms under these cross-cutting issues are consistent with a wide range of UN agreements and declarations, including the UN Declaration of Human Rights, and they are aligned with the WCD’s foci of equity, efficiency, participatory decision-making, sustainability, and accountability.⁴⁰

³⁸ J. Ruggie, "Protect, Respect and Remedy: A Framework for Business and Human Rights," (New York: United Nations, 2008), <<http://www.reports-and-materials.org/Ruggie-report-7-Apr-2008.pdf>> (7 September 2008).

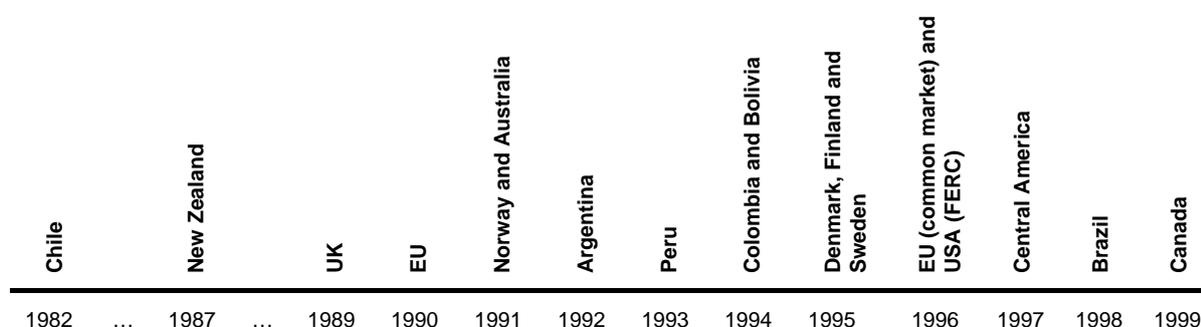
³⁹ J. Wilde-Ramsing, *Quality Kilowatts: A normative-empirical approach to the challenge of defining and providing sustainable electricity in developing countries* (Amsterdam and Oslo: SOMO and ProSus/SINTEF, 2009, forthcoming) <www.somo.nl>. See Annex 2 for the executive summary.

⁴⁰ World Commission on Dams, "Dams & Development: A New Framework for Decision-Making," (London and Sterling, VA: Earthscan Publications Ltd, 2000), <<http://www.dams.org/docs/report/wcdreport.pdf>> (6 September 2008).

3 Power provision in the Argentine and Peruvian context

Latin America was one of the first regions in the world to embark on a slate of electricity sector reforms including opening of markets and privatisation of state-owned electricity companies. The reforms began in Chile in 1982, but as revealed by Figure 2, Argentina and Peru followed closely behind, undertaking electricity-sector reforms in 1992 and 1993, respectively. This chapter further details the reform processes in Argentina and Peru, explores the socio-economic and environmental impacts that accompanied those reforms, and describes the context in which electricity provision currently takes place in those countries.

Figure 2: Timeline of global electricity sector reforms, 1982-1999



3.1. Argentina

Table 1: Basic characteristics of the Argentine electricity system

Argentina overview	
Key elements of the legislative framework	<ul style="list-style-type: none"> ■ Law 23696 (1989) authorises privatisation of SOEs ■ Law 23697 (1989) declares economic emergency and establishes identical treatment of foreign and domestic firms ■ Law 24065 (1991) stipulates restructuring and privatisation of sector and establishes regulator ENRE ■ Law 26190 (2006) establishes national framework and targets for electricity from renewable sources (8% by 2016) ■ Labour relations regulated by National Labour Law (Law 20.744), the collective agreement for the electricity sector (<i>Convenio Colective de Trabajo de Luz y Fuerza 36/75</i>), and individual collective bargaining agreements
Regulatory Body	Ente Regulador de la Energía Eléctrica (ENRE)
Degree of market opening / private participation (2007)	100% / 75%
Electricity TNCs active (selection)	AES (US), Endesa (Spain), EdF (France, recently divested)
Electrification (2005)	94.7% of households (highest in Latin America)
Installed capacity (2006)	25,678 MW
Electricity generation and fuel mix (2006)	106,660 GWh <ul style="list-style-type: none"> ■ 48% Natural gas (CCGT and conventional turbine) ■ 37% Large hydro ■ 7% Nuclear

■	4%	Fuel oil
■	1%	Coal
■	1%	Diesel
■	1.4%	Small hydro
■	<1%	Wind, Geothermal, Solar

3.1.1. Privatisation and impacts on the Argentine electricity market

Situation prior to 1990

Prior to the wave of privatisation that washed over the Argentine electricity market during the 1990s, the entire system, including generation, distribution and supply of electricity, was controlled by three large public companies: Servicios Eléctricos del Gran Buenos Aires (SEGBA), Hidroeléctrica Norpatagónica S.E. (HIDRONOR) and Agua y Energía Eléctrica S.E. (AyEE). These three companies were controlled by the national government and vertically integrated to a high degree. The three companies observed a regional division, with SEGBA controlling generation and supply in and around Buenos Aires, HIDRONOR controlling the zone between the Comahue region and Buenos Aires, and AyEE in the interior of the country.

During the 1980s, the Argentine government invested heavily in these companies, pumping US\$ 2 billion into the system over the course of the decade and increasing installed capacity by 55%.⁴¹ However, the investments were inadequate to meet steeply rising demand, not least because much of the financing went toward inappropriate technologies and because there was only limited control of the execution of public works contracts. The additional impact of a sustained drought that kept the hydroelectric facilities from running at full capacity, the limited availability of thermal capacity and the breakdown of the nuclear power station Atucha 1 culminated in the energy crisis of 1988, in which demand for electricity exceeded supply by more than 50%.⁴²

This energy crisis occurred simultaneously with an economic crisis that was caused by external indebtedness and high inflation rates, posing serious problems for SOEs providing public services. As with many public service providers in developing countries, the publically-owned Argentine electricity system was criticised by international financial institutions and creditor countries as being inefficient and corrupt. As part of the larger structural adjustment programmes based on the “Washington Consensus”, recommendations were made for the privatisation of public service companies, including electricity operators. Argentine public opinion at the time was also largely in favour of privatisation, as the loss-making operations of service providers was heavily criticized by taxpayers. Additionally, the public image of Argentine electricity companies was one of bad service standards, dissatisfied clients, low internal efficiency, high losses due to energy theft, high facility unavailability, excess bureaucracy and low professionalism, and political tariffs incapable of incentivising investment.⁴³

The privatisation process

As a result of the 1988 energy crisis and the external and internal pressure to privatise its electricity system, in August 1989 the Argentine government established the legislative framework for

⁴¹ D. Suazo, “El proceso de reestructuración y el esquema regulatorio del sector eléctrico argentino: Experiencias, reflexiones y perspectivas”, no date, p.1, <<http://www.adeera.com.ar/destacados/EI%20Sector%20Eléctrico%20Argentino%20.PDF>> (3 July 2008).

⁴² Secretaría de Energía, “Informe Quinquenal del Sector Eléctrico. Período 1986-1990”, no date, <<http://energia.mecon.gov.ar/inf8690ener/introd.htm>> (7 July 2008).

⁴³ D. Suazo, “El proceso de reestructuración y el esquema regulatorio del sector eléctrico argentino. Experiencias, reflexiones y perspectivas”, no date, p.1, <<http://www.adeera.com.ar/destacados/EI%20Sector%20Eléctrico%20Argentino%20.PDF>> (3 July 2008).

privatisation by passing Laws 23696 and 23697. These laws authorised the privatisation of SOEs, stipulated liberalisation and economic opening of the Argentine market, and mandated equal conditions for national and foreign companies to produce and invest in the country. In a note attached to the law, the reasons behind the legislation were defended not only by the energy crisis of 1988/9 and the hyperinflation caused by the economic crisis, but also because the pegging of the peso to the dollar, it was argued, would attract FDI to the electricity sector.

Shortly after the legislative framework was established, the three electricity SOEs were all unbundled and divided into dozens of smaller generation, distribution and supply companies. SEGBA was divided into 5 generation and 3 supply companies, and was sold in its entirety during the first year for a total of US\$1.2 billion. AyEE was divided into 18 generation and 5 distribution companies and sold for US\$845 million, whereas HIDRONOR was split into 5 generation companies for US\$5 billion. By October 1994, at the end of the first phase of privatisation, 58% of Argentina's installed capacity was in private ownership.

In May 1992, Spain's Endesa acquired SEGBA's 1,260 MW Central Cosanera SA power plant, and in May 1994, U.S.-based AES bought the 650 MW Central Térmica San Nicolás from AyEE. Between June and October 1994, France's EdF bought the 260 MW Hidroeléctrica Los Nihuiles SA and the 388 MW Hidroeléctrica Diamante SA from AyEE. By October 1994, these electricity TNCs controlled over 25% of the country's total installed capacity with Endesa holding 12.5% and AES and EdF each controlling 6.4%.

Privatisation of electricity transmission and distribution activities, which were still considered a public service, was carried out by means of 95-year, geographically-exclusive concession contracts. Electricity generation activities were privatised through the sale of existing power stations and 30-year concession contracts. This structure was designed to create an environment highly favourable to (foreign) private investors by, for example, allowing foreign companies to freely repatriate 100% of the profits earned in Argentina. The policy was successful in generating considerable interest among investors, which saw 109 private companies, one-quarter of which were foreign, participate in the original tender for AyEE alone. Following liberalisation and privatisation, the reformed Argentine electricity sector exhibited a number of characteristics that clearly distinguished it from the pre-reform era, including:

- the existence of competition in the electricity market, particularly among power generators, although market concentration was regulated to prevent any one producer from exceeding a 10% market share;
- the vertical disintegration of the sector into generation, transmission, distribution and supply/retail activities;
- the commoditisation of electricity, with electric power becoming an economic good; prices for generation and distribution were established based on the companies' marginal costs whereas supply prices had a fixed ceiling; and
- the shifting of the Argentine state's role in the sector from one of entrepreneur to that of regulator.⁴⁴

Impacts of privatisation on sustainable electricity provision

The privatisation process of the 1990s had a number of consequences for labour relations, the most striking of which were mass layoffs and "redundancies". The newly privatised companies

⁴⁴ ENRE, "Informe Anual 1993-1994", 1994, p. 3, <[http://www.enre.gov.ar/web/web.nsf/Files/93pitulo01.pdf/\\$FILE/93pitulo01.pdf](http://www.enre.gov.ar/web/web.nsf/Files/93pitulo01.pdf/$FILE/93pitulo01.pdf)> (8 July 2008).

used measures such as voluntary separation and early retirement schemes to quickly shed thousands of positions. Daniel Fernández of the Buenos Aires electricity workers' trade union explains, "We were 17,000, and only 3,900 were left in the end. That gives you an idea of what happened".⁴⁵ Fernández also indicates that the quality of electricity provision worsened as many that left the company were the highly educated workers for whom it was relatively easy to find employment elsewhere.

Another labour-related difficulty caused by privatisation was a virtual evaporation of job stability for electricity workers as they were no longer protected under the public employment legislation, subject instead to the much less worker-friendly private sector employment regulations. The increased flexibility afforded the private companies in their employment policies led to an increase in outsourcing and the use of contract and sub-contract labour as well as more part-time work with little or no job security or employment benefits.

The layoffs and loss of job security affected not only the workers, but negative impacts were also felt by the larger society. Fernández acknowledges that many of the positions in state-owned electricity companies were redundant, but stresses the benefits of employing uneducated workers, who were provided with opportunities to develop skills and work themselves up a ladder. He also indicated the importance of the example these workers set for their own children by going to work every morning. Massive unemployment among electricity workers led to a loss of these work-related social goods and a disintegration of the social fabric in electricity workers' communities.⁴⁶

According to ENRE, electricity tariffs did decrease slightly following privatisation, with the residential tariff declining 17-21% between 1992 and 2001.⁴⁷ In 2008 however, ENRE, in agreements with the power companies, announced an increase of up to 30% for electricity tariffs for residential users whose bi-monthly consumption is higher than 650kWh. Tariffs for industrial and commercial users were also raised, but by an average of only 10%

Privatisation did not lead to a significant change in the country's fuel mix for electricity generation, as the country's historically heavy reliance on fossil fuels and large scale hydroelectric generation remains largely unchanged (see below) and investment in sustainable energy has not materialised. It should be noted that although the reliance on fossil fuels continued, more efficient and less CO₂-emitting combined-cycle technologies were used more extensively after privatisation.

3.1.2. Current Argentine electricity market⁴⁸

Market concentration and major corporate players

The current market share of private operators in relation to state participation is high with 75% of the country's installed capacity in private hands. The remaining 25% is primarily controlled by local and state governments. In the 1990s, Argentina saw the highest level of new generator entry in the region, which explains why the degree of concentration in its generation market is relatively low

⁴⁵ D. Fernández, Subsecretary of Culture, Training and Scholarships, Sindicato Luz y Fuerza Capital Federal, interview with FARN, 15 August 2008.

⁴⁶ Ibid.

⁴⁷ ENRE, "Las tarifas del servicio de Distribución e Informe de Control Interno y Gestión del ENRE, Período 2003-2007", 2008, <<http://www.enre.gov.ar/>> (25 July 2008).

⁴⁸ It should be noted that as a result of the recent economic and energy crises in Argentina, only limited and outdated data was available on the current situation of the Argentine electricity market. Most of the figures were at least three to four years old, making this section only an estimation of the levels of market concentration, fuel mix and actual status of the energy crisis in 2009.

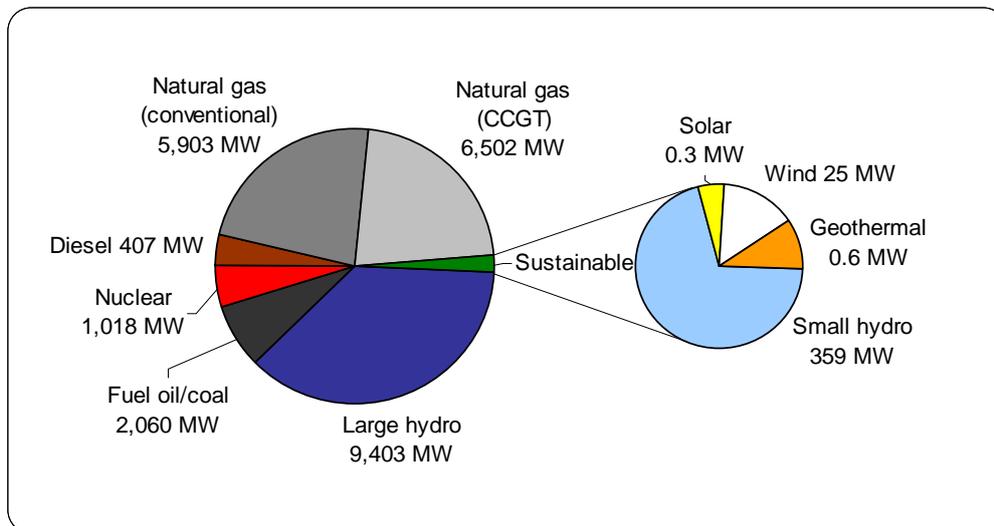
compared to other countries in the region whose markets are considerably more concentrated. In 2006, the wholesale electricity market comprised 39 companies and 18 economic groups.⁴⁹ The major corporate players in the Argentinean market include Endesa, with a 20% share of the country's total installed capacity, and AES, which controls approximately 12% generation market. EdF held a share of 3%, before it decided to divest of its Argentine assets in the early 2000s. Endesa operates the Costanera and Dock Sud thermal power stations and the El Chocón hydroelectric plant and is the primary supplier of power to the Buenos Aires capital city area, where the electrification rate exceeds 99% of households. AES operates the San Nicolás, Dique, and Sarmiento thermal power stations as well as the Paraná, Ullum, Cabral Corral and Alicura hydroelectric facilities. More information on AES and Endesa's operations in Argentina can be found in Section 5.

Labour relations between these corporate players and their workers are regulated by the national Labour Law (*Ley de Contrato de Trabajo N° 20.744*), the collective agreement for the electricity sector (*Convenio Colectivo de Trabajo de Luz y Fuerza N° 36/75*, also known as *Convenio Base*) and further collective agreements developed by each company with its workers.

Fuel mix and sustainable energy

In 2006, Argentina's total installed electricity generation capacity amounted to 25,678 MW, only a 1.4% increase from the total capacity in 2001. The country relies primarily on natural gas-fired plants (12,405MW) and large-scale hydroelectric facilities (9,762MW), but fuel oil and coal thermal plants (2,060MW), nuclear power stations (1018MW), diesel-fired turbines (407MW), wind parks (25MW), geothermal (0.6MW), and solar (0.03MW) also play a smaller role. Of the natural gas plants, approximately one-half are conventional steam turbines and the other half more efficient combined-cycle gas turbines (CCGT).⁵⁰

Figure 3: Argentina's installed generation capacity by fuel source, 2006



Based on: Argentine Department of Energy⁵¹

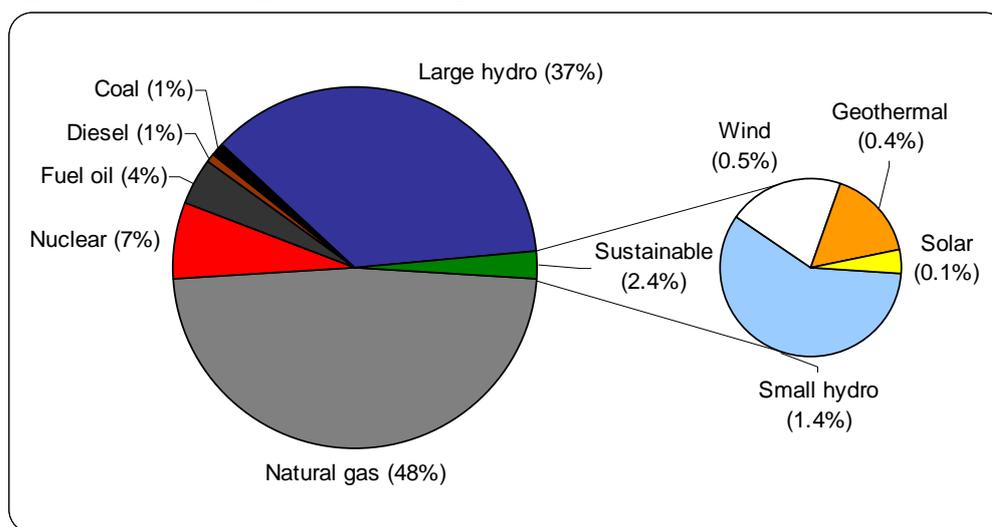
⁴⁹ ENRE, "Informe Anual 2006. El seguimiento y control de las Transferencias Accionarias", 2007, <<http://www.enre.gov.ar/>> (25 July 2008), p.129-51.

⁵⁰ Secretaría de Energía de Argentina, "Informe del Sector Eléctrico: Año 2006, Provisorio", 2007, <http://energia3.mecon.gov.ar/home/home_electrica.php> (12 Julio 2008), p.23.

⁵¹ Ibid.

The actual electricity generated in Argentine power plants reflects a similar fuel mix. Of the 106,660 GWh generated in 2006, 48% was natural gas-fired, approximately 37% came from large hydro resources, 7% nuclear power, 4% fuel oil, 1% diesel, and 1% coal. The share of sustainable energy in Argentina's electricity generation fuel mix is extremely low, with small-scale hydro⁵² accounting for 1.4% of generation in 2006, and wind, geothermal and solar all contributing less than 1%, for a total of no more than 2.4% renewables in total electricity generation.⁵³

Figure 4: Electricity generated in Argentina by fuel source, 2006



Based on: Argentine department of energy⁵⁴

Perhaps due to this dismal situation with regard to renewable energy, Argentina passed Law 26190 with the aim of promoting the use of sustainable sources of energy for electricity. The law stipulates that, by 2016, 8% of Argentina's total electricity consumption must be supplied by renewable energy sources. Furthermore, the country has a great renewable energy potential that is not being utilised. The research institute Fundación Bariloche analysed the potential of various sustainable technologies in Argentina and found that renewables could play a much larger role in electricity provision than the miniscule part they currently play (see Table 2). According to the institute, both the Argentine government and electricity companies must do more to stimulate and utilise sustainable fuel sources for electricity generation if the 8% renewables target established by Law 26190 is to be realised.

⁵² As explained in Section 2.2.2, although hydro is a renewable source of energy, large-scale hydro is generally not considered sustainable because of the significant negative environmental impacts of large dams and reservoirs. Small-scale hydro, while also not necessarily free of negative impacts, is generally considered more sustainable, but it must be undertaken in combination with proper needs assessment and thorough evaluation of risks and alternatives.

⁵³ Fundación Bariloche, "Diagnóstico del Sector de Energías Renovables de Argentina. Informe de Avance Con datos a diciembre 2007", 2008.

⁵⁴ Secretaría de Energía de Argentina, "Informe del Sector Eléctrico. Año 2006. Provisorio", 2007, <http://energia3.mecon.gov.ar/home/home_electrica.php> (12 July 2008), p. 23.

Table 2: Theoretical potential of sustainable electricity technologies in Argentina

Technology	Penetration potential
Solar thermoelectric	100 MW by 2015; maximum 1,000 by 2025 (structural)
Solar fotovoltaic	48 MW by 2015 (residential systems); maximum 1,400 MW by 2025
Wind	2,100 MW by 2015
Biomass	68 MW by 2015
Sugar refineries	800 MW
Small hydro (<30MW)	430 MW
Geothermal	30 MW by 2010

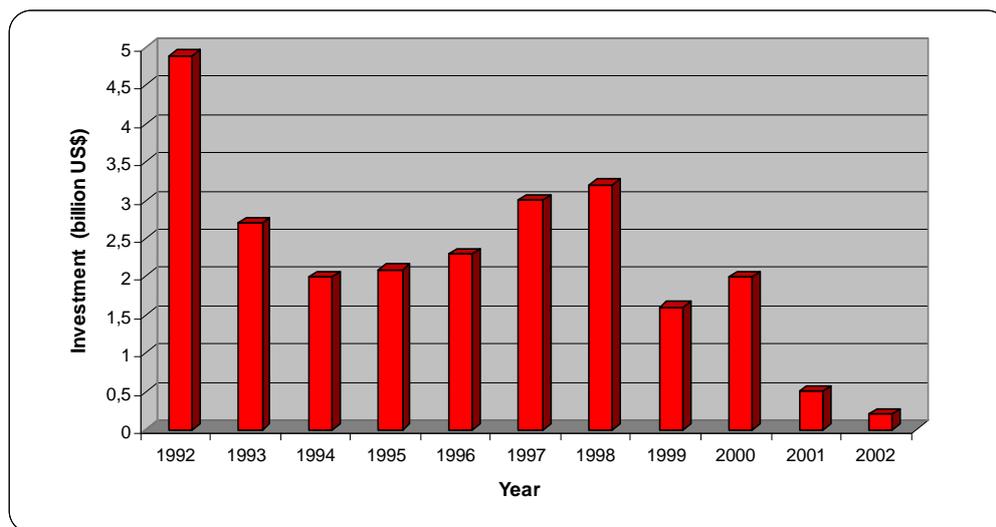
Based on: Fundación Bariloche⁵⁵

Current energy crisis

Only a few years after Argentina's devastating economic crisis in 2001, the country suffered an equally debilitating energy crisis, as the recovering industry's demand for electric power could not be met by supply. One of the principle reasons for the insufficient electricity supply was the lack of investment in new generation capacity and corresponding infrastructure by the electricity companies.

Figure 5 reveals the sharp decline foreign investment in Argentina's power sector in 2001 and 2002.

Figure 5: Private investment in Argentina's power sector, 1992-2002



Based on: World Bank, World Development Indicators

The lack of investment in this period should be seen in the context of the abandonment of the 1:1 peso-dollar peg and the conversion of all infrastructure contracts to devaluated pesos, which inevitably led to disputes with investors who stood to lose out substantially due to the erosion in revenues. Nearly 30 arbitration claims were filed by TNCs against Argentina across a range of sectors, primarily electricity and water provision. Following Argentina's currency devaluation, the government converted electricity tariffs to pesos and froze them, as well as limiting profit expatriation by companies. Although the intensity of the impacts was felt differently throughout the country, the slowdown in investments is generally regarded as having had a worsening effect on the power crisis, and it continues to affect the quality of the service today.

⁵⁵ Fundación Bariloche, "Diagnóstico del Sector de Energías Renovables de Argentina. Informe de Avance Con datos a diciembre 2007", 2008.

Furthermore, the high number of new entrants in the electricity generation market, combined with a decline in demand during the economic crisis lowered electricity prices to a level that was barely sufficient to cover generators' costs, much less attract new investment during times of high risk. In the transmission and distribution sector, the government regulator ENRE is responsible for the expansion of the grid, and acts upon requests from the market's agents. In practice, this process, which involves precise coordination in order to minimize the overuse of the grid, is not always undertaken with the required agility and has led to inefficiencies and incongruities in the system, with insufficient infrastructure available to transmit the power that is generated to its consumption centres.

The TNCs active in Argentina at the time of the crisis reacted differently to the changing electricity market and macroeconomic situation. After the currency devaluation, both EdF and AES filed suits against Argentina at the World Bank's International Center for Settlement of Investment Disputes (ICSID). As a condition for renegotiating contracts with the TNCs, the Argentine government required that they withdraw the cases. However, EdF, which controlled a number of generation plants and supply companies, failed to reach an agreement with the Argentinean government concerning a rise in electricity tariffs. Consequently, EdF determined that its activities would no longer be profitable and decided to divest from the country altogether, abandoning its concession to local investors and announcing its intention to refocus on its core European market.⁵⁶ AES, on the other hand, agreed to withdraw the ICSID complaints it had filed and renegotiate the contracts with the government. In turn, the Argentine government adopted a provision to subsidise the use of fuel oil as a replacement for natural gas due to a lack of the latter in Argentina. It should be noted that the combustion of fuel oil for electricity generation emits more CO₂ and other airborne pollutants than natural gas.

3.2. Peru

Over the past two decades, Peru has experienced significant developments in its electricity sector that have completely reconfigured the sector. The country undertook a process of privatisation of SOEs in the 1980s that resulted in TNCs playing an important role in national energy policies. The discovery of the Camisea gas fields in the late 1980s led to major changes in the country's energy resource base and its fuel mix for electricity generation. Despite recent efforts to reform and decentralise the State's role in the sector, the electricity system continues to be managed by the national government and specialised agencies in a very centralised and coordinated manner, with regional and local governments generally sidelined. However, while under the current legal framework the State has assumed a regulatory role in the energy market, the government's performance in terms of planning remains weak.

Peru's recent economic growth has led to increased demand for electricity, primarily from industrial sectors such as mining and construction, and has led to an energy crisis. In August and September 2008, the city of Lima experienced severe power cuts caused by the lack of water (due to low rainfall) for hydropower generation as well as by shortages in natural gas supply for thermal stations. These shortages sparked a public debate in which the national energy matrix and power generation are central.

⁵⁶ CEPAL, "La inversión extranjera en América Latina y el Caribe, 2005", 2006, <<http://www.eclac.org/publicaciones/>> (3 July 2008), p. 33.

Table 3: Basic characteristics of the Peruvian electricity system

Peru overview	
Key elements of the legislative framework	<ul style="list-style-type: none"> ■ Electric Power Concession Law (LCE - Law 25844, 1992) ■ Law to Ensure the Efficient Development of Electricity Generation (Law 28832, 2006), modified by Law 28958 (2007) ■ Technical standard for electricity service quality (D.S.-020-97) ■ Resolution 180-2007-OS/CD (25 April 2007): approved the norm on pricing at the generation level and the compensation mechanism among regulated users ■ General Law on rural electrification (Law 28749, 2006)
Key regulatory bodies and roles	<ul style="list-style-type: none"> ■ Ministry of Energy and Mining (MEM) – develops policies & norms; grants concessions; develops indicative expansion plan ■ Energy and Mining Investment Supervisory Body (OSINERGMIN) – supervises compliance electricity laws/regulations (e.g. LCE) and energy quality and supply; determines companies' market share (bi-yearly); supervises the Committees for the Economic Operation of the National Interconnected System (COES-SINAC); sets tariffs for generation, transmission and distribution ■ Comisión de Tarifas Eléctricas (CTE)
Degree of market opening	45% (2006)
Network access for generators	Regulated third-party access; Maximum 15% market share for generators and transmission
Electricity TNCs active (selection)	Endesa (Spain), SN Power (Norway), Duke Power (USA), Hydro Quebec (Canada), NRG Energy (USA), PSEG (USA)
Electrification (2006)	78.1% of households (2 nd lowest in Latin America)
Installed capacity (2006)	6,700 MW
Electricity generation and fuel mix (2007)	27,254.93 GWh <ul style="list-style-type: none"> ■ 54% large-scale hydro ■ 30% natural gas ■ 12% diesel and other fossil fuel ■ 3% coal ■ 1% small-scale hydro

3.2.1. Privatisation and impacts on the Peruvian electricity market

Situation prior to privatisation and the privatisation process

In the early 1990s, the Peruvian electricity sector underwent a critical period as a result of a fiscal crisis (a problem related to external debt throughout Latin America), low investment in infrastructure, limited maintenance and attacks on electricity transmission infrastructure by rebel organisations. The primary characteristics of the Peruvian electricity system at that time included:

- An electricity network that reached only 45% of the population, one of the lowest electrification rates in Latin America.
- Domestic energy supply that covered only 74% of total demand, and distribution losses that exceeded 20%.
- Electricity tariffs that were subsidised even beyond operation costs (covering only 23%), which led to the companies in the sector generating significant losses, estimated at US\$426 million in 1989.
- A workforce of over 15,000 employees, more than twice as many as are currently employed.⁵⁷

⁵⁷ A. Dammer, J. Gallardo and R. García, "Reformas Estructurales en el Sector Eléctrico Peruano: Documento de Trabajo No. 5", 2005, Oficina de Estudios Económicos, OSINERG.

The reform of Peru's electricity sector, like that in many other Latin American countries, included segmenting generation, transmission and distribution operations and introducing competition and private participation into the wholesale generation market. Many of these reforms were imposed on Peru by the International Monetary Fund and the World Bank as part of structural adjustment programmes aimed at liberalising markets, shrinking the role of the State, and reducing government spending. The neoliberal Alberto Fujimori government in power in Peru at the time embraced the "Washington Consensus" model and initiated a broad legal reform process to promote the privatisation of state-owned assets and increase foreign investment. For the electricity sector this meant the introduction of the Electric Power Concession Law (*Ley de Concesiones Eléctricas – LCE*) in 1992 and a selling-off of state electricity assets that attracted private investments of approximately US\$6.2 billion between 1994 and 2007.⁵⁸

The privatisation process was conceived to attract as many investors as possible. As revealed in Table 4 below, a stake of at least 60% of almost all Peruvian electricity companies was offered in tender. ElectroAndes and Electrosurmedio were the most extreme cases with 100% and 98% of the respective companies being sold to private investors.

Table 4: Privatisation of Peruvian electricity assets, 1994-2002

Company	Activity	Shares sold (%)	Price (mln US\$)	Date sold	Buyer
Edelnor	Dist	60	176.5	06/1994	Endesa and Enersis
Luz del Sur	Dist	60	212.5	06/1994	Chilquinta and Ontario Hydro
Cahua	Gen	60	41.8	04/1995	Sipesa (current owner SN Power)
Edegel	Gen	60	524.5	10/1995	Endesa
Ede-Chancay	Dist	60	10.4	12/1995	Endesa and Enersis
Etevensa	Dist	60	120.1	12/1995	Endesa
Egenor	Gen	60	228.2	06/1996	Duke
Ede-Cañete	Dist	100	8.6	06/1996	Chilquinta and Ontario Hydro
EE Piura	Gen	60	59.7	10/1996	Endesa
Electro Sur Medio	Dist	98.2	51.3	11/1997	IATE
Mantaro-Socabaya	Trans	BOT	179.2	02/1998	Hydro Quebec
Reforza-miento Sur	Trans	BOT	74.5	01/1999	Red Eléctrica de España
Cahua	Gen	30	9.5	03/2000	Skanska and Vatenfall (current owner SN Power)
Oroya-D. Antamina and Aguaytía-Pucallpa	Trans	Build-Operate-Transfer (BOT)	65.4	02/2001	ISA
ElectroAndes	Gen	100	227.5	07/2001	PSEG (current owner SN Power)
Etecen and Etesur	Trans	Con-cession	272.5	06/2002	ISA

Based on: OSINERG; Gen.=Generation, Dist.=Distribution, Trans.=Transmission

The new legal framework assigned a new role to the State and allowed for reforms aimed at the sector's deregulation. Planning functions were assigned to a national regulator, and the State

⁵⁸ Sociedad Nacional de Minería, Petróleo y Energía (SNMPE), "Reporte minero energético: Segundo semestre 2007" (Lima, 2007: SNMPE).

abandoned generation and supply functions to become a promoter of competition in these sectors. Measures for increasing competition in the generation segment included:

- Stipulating free access to generation operations for companies meeting minimum requirements to be granted concession rights;
- Creating a free market in which generators can compete with distributors to sell energy directly to larger clients at non-regulated tariffs;
- Dispatching generation stations based on variable costs in the spot market according to the programme established by the electricity regulator.

The LCE also overhauled the country's electricity tariff system with the aim of fostering economic and technical efficiency while encouraging private investment in generation capacity and increasing electrification rates. The new tariff aimed to eliminate discriminatory or arbitrary subsidies based on the use or purpose of the electricity.

Impacts of privatisation on sustainable electricity provision

Privatisation of electricity companies in Peru has not had a positive impact on the affordability of electricity nor on the sustainability of the country's fuel mix. In 1994, at the time of privatisation, hydroelectricity accounted for the 61% of the country's generation, with fossil fuels, primarily diesel, generating 39%. By 2007, the share of hydroelectricity had dropped to 54% and thermal generation had risen to 46%, with the biggest increase coming from natural gas (30%) and coal being introduced as a fuel source for electricity generation in 1999. According to Carlos Herrera, former Peruvian Minister of Energy and Mining, investments by private companies in hydroelectric generation have been vastly insufficient, despite the country's huge hydraulic potential. Instead, private investment has focused on thermal stations that, when there is a shortage of natural gas as there has been in recent years, are forced to use other fossil fuels that are more polluting and more expensive, resulting in a trend increasing emissions of CO₂ and other pollutants as well as electricity tariffs. Nazario Arellano, Secretary General of the power sector trade union (*Federación Luz y Fuerza*), proclaims that privatisation has not been successful as it has failed to increase investment in electricity generation infrastructure, significantly expand the distribution coverage or reduce electricity tariffs, and has in fact had the opposite effect of increasing tariffs. Although access to electricity increased from 54% of households nationally at the time of privatisation (1992) to 79% in 2007, Peru continues to have the second-lowest electrification rate in all of Latin America, topping only Bolivia.⁵⁹

3.2.2. Current Peruvian electricity market and future outlook

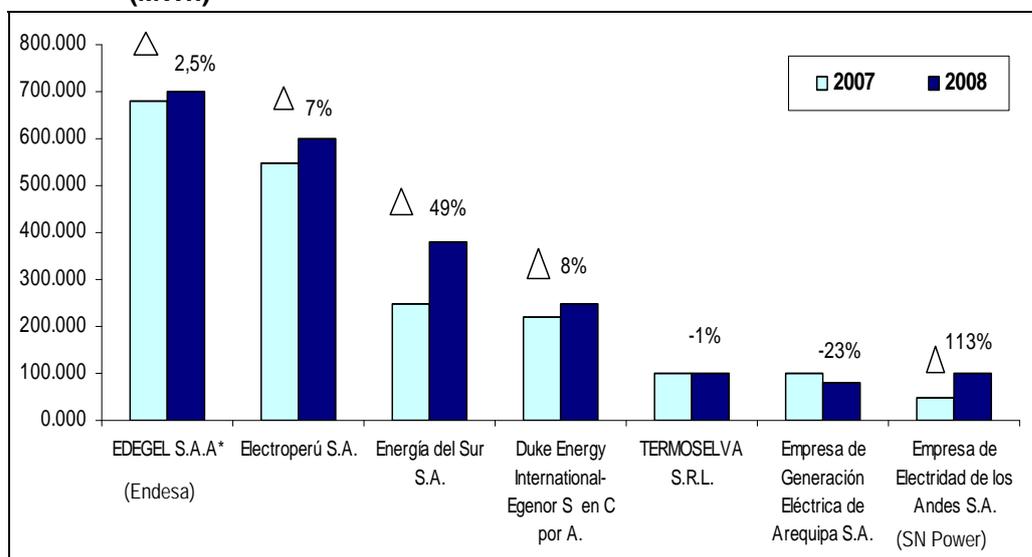
Market concentration and major corporate players

As the natural gas from the Camisea field began to come into production in 1999, the Peruvian government backtracked slightly on its reform agenda by slowing the pace of privatisations and concessions and passing an amendment to the LCE that granted the State a larger presence in energy planning. Despite this move, there are currently 154 registered electricity generation companies in Peru. Market concentration is regulated by the national electricity regulator, OSINERGMIN, and no generation or distribution company is allowed to control more than 15% of the market. Figure 6 identifies some of the country's major electricity generation companies and the amount of electricity each produced in the month of April 2008 compared to their production in the same month a year before. As can be seen in the figure, Endesa's Edegel is the country's largest

⁵⁹ Sociedad Nacional de Minería, Petróleo y Energía (SNMPE), "Reporte Estadístico Minero Energético: Segundo semestre 2007", (2007, Lima: SNMPE).

electricity producer, but SN Power's ElectroAndes saw the greatest increase in its production over the year. These two companies' operations in Peru are discussed in greater detail in Chapter 5.

Figure 6: Electricity generated by major power companies in Peru, April 2007 & April 2008 (MWh)



Based on: MEM⁶⁰

Labour relations

Electricity sector workers in Peru are organised in trade unions by sub-sector, each of which represents a particular operation within the overall sector. The branch trade unions correspond to the main power distribution, commercialisation and generation companies: Edelnor, CAM Peru, Luz del Sur and Edegel. The country's largest power sector trade union federation, Power and Light (*Luz y Fuerza*), unites 24 trade unions in the generation, distribution and commercialisation sectors and includes both state-owned and private companies.

However, negotiations with companies are not carried out jointly, but rather directly between each trade union branch within a particular company (generally one or two individuals) and company representatives. According to union officials, this negotiation system works in the companies' favour and in fact disadvantages the sector's workers as a whole. Because each company and union negotiate separately, benefits accrued by one company's workers do not necessarily apply to other workers in the sector. This results in widely varying working conditions among different companies in the sector. Some workers, such as those at SN Power's Cahua S.A., do not even have a trade union (see Section 5.4). Workers have initiated a process to create a coordination entity for the energy sector (*Coordinadora del Sector Energético*) comprising the most representative federations in the mining and energy sectors, including FERUPTROL, *Federación Minera* and *Luz y Fuerza*. These federations met in December 2008 to increase coordination in their work for the protection of labour rights in the sector.

Among the various types of companies and workers in the electricity sector, generation companies' workers are considered to enjoy better labour conditions and benefits than workers at distribution and transmission companies. Distribution companies' workers have the lowest average wages of all workers in the sector.

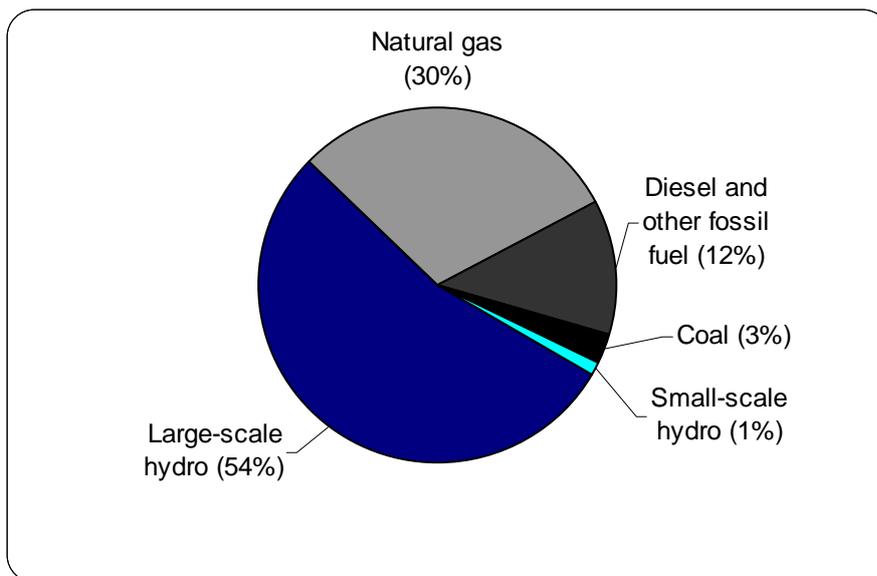
⁶⁰ Ministerio de Energía y Minas del Perú, "2006-2015 Electricity Reference Plan", (2006, Lima: MEM).

Outsourcing and the use of contract labour are expanding in the Peruvian electricity sector. In addition to low-skilled work such as maintenance and cleaning, technical work such as human resources and IT is being increasingly outsourced. In the energy sector, activities in technical areas such as human resources, IT, and operational tasks are increasingly being outsourced. According to one union official, “All operative tasks in the company are done by contracted people, and permanent workers are becoming a mere witness, a mere supervisor and that’s it, you no longer grasp objects, you write, take note of whether they did it well or not, and you inform”.⁶¹ Contracted workers can comprise up to 70% of some companies’ personnel and often enjoy fewer benefits and more precarious working conditions than those labourers employed directly by companies.⁶²

Fuel mix and sustainable energy

In Peru, electricity is primarily produced in hydropower and fossil fuel thermal combustion stations. In 2007, the total amount of electricity generated in Peru reached 27,254.93 GWh, a 10.06% increase over 2006. Of this electricity, 55% came from hydraulic resources (the vast majority from large-scale hydroelectric facilities) and 43% from fossil fuels, broken down into natural gas (30%), diesel (12%), and coal (3%).

Figure 7: Electricity produced in Peru by fuel source, 2007



Based on: MEM⁶³

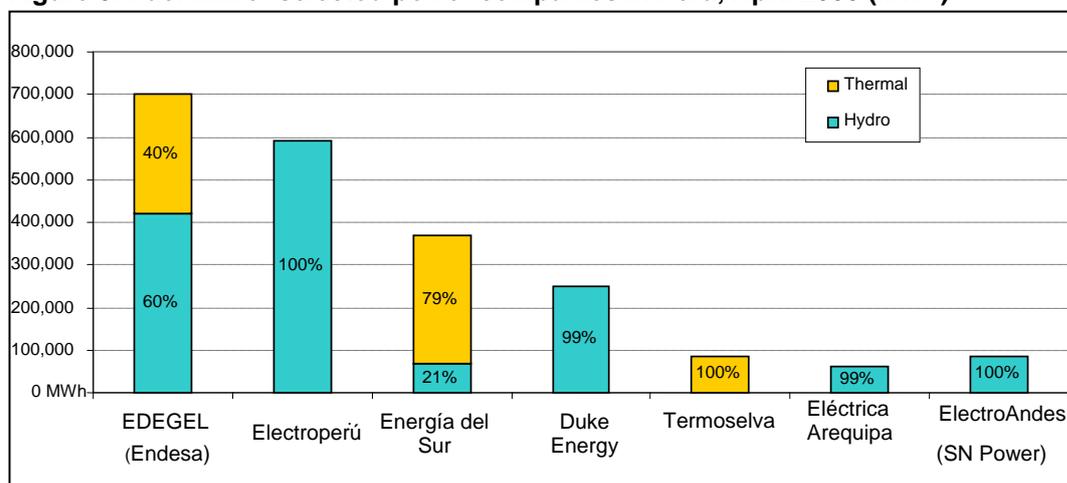
Figure 8 illustrates the fuel mix of some of Peru’s individual electricity generation companies, revealing that the country’s largest producer, Endesa’s Edegel, relies on fossil fuel stations for 40% of its production and large scale hydro facilities for the other 60%. Some companies, such as SN Power’s ElectroAndes, rely solely on hydropower to produce electricity.

⁶¹ J. Rivera, Sutrel and Edelnor, Lima, 15 August 2008, interview by Plades.

⁶² M. Tapia, “El outsourcing en el sector energético”, 2005, Desde Adentro, <<http://www.snmpe.org.pe/wlInformacion/revistas/revista2005/pdf/17/panorama.pdf>> (17 May 2009).

⁶³ Ministerio de Energía y Minas del Perú, “2006-2015 Electricity Reference Plan”, (2006, Lima: MEM).

Figure 8: Fuel mix of selected power companies in Peru, April 2008 (MWh)



Based on: MEM⁶⁴

Despite the vast exploitable potential of renewable sources, investors in new electricity infrastructure in Peru are primarily focused on expanding the country’s fossil fuel-based thermal generation capacity. As mentioned above, Carlos Herrera, former Minister of Energy and Mining, has decried the fact that investment in renewable infrastructure such as hydroelectricity stations has been woefully low despite Peru having a topography that is ideally suited to renewable energy. Instead, private investment has focused on thermal stations. According to Herrera, the government has promoted uncontrolled and unsustainable development of the Camisea natural gas field while failing to adopt the technical measures to promote investment in hydroelectricity stations and to understand that gas was and should be only a complementary resource.

As a result, the vast majority of investment in and development of electricity generation capacity in recent years and in plans for the near future is oriented toward natural gas. Table 5 reveals that only two of the nine recently completed and imminently planned electricity generation projects in Peru involve hydroelectricity, one of which consisted of simply expanding a previous project. The remaining seven investments are natural gas projects, many of them low-efficiency single cycle gas turbines. It should be noted that a number of additional hydro projects (as well as many natural gas projects) are not included in the table because the investments and/or plans are not 100% sure. In addition, several wind power projects are currently being implemented through temporary concessions, such as C.E. Parque Talara, C.E. La Brea, C.E. El Tunal and C.E. Malabrigo in the north of the country, and C.E. Parque Ilo in the south, but these remain small.

Table 5: Developed and planned generation projects in Peru

	Project name	Fuel	Capacity (MW)	Company	(Planned) start date	Status
Developed	Kallpa – TG1	Nat. gas (simple)	170	Kallpa Gen. (Israel Corp.)	2007	Operational

⁶⁴ Ministerio de Energía y Minas del Perú (MEM), “2006-2015 Electricity Reference Plan”, (2006, Lima: MEM).

	Chilca – TG2	Nat. gas (simple)	170	Enersur (Suez Energy)	2007	Operational
		Nat. gas (simple)	180	Globaleq	2007	Operational
Planned	Santa Rosa	Nat. gas (CCGT)	170	Edegel (Endesa)	2009	Offers under assessment
	Kallpa – TG2	Nat. gas	170	Kallpa Gen. (Israel Corp.)	2009	Under study
	Chilca – TG3	Nat. gas (CCGT)	170	Enersur (Suez Energy)	2009	Construction awarded
	TG1	Nat. gas (simple)	170	Egenor (Duke Energy)	2010	Under study
	El Platanal	Hydro	220	Cementos Lima	2009-10	Construction/reformulation
	Machu Picchu2	Hydro	71	Egemma	2010-11	Construction tendered

Based on: MEM⁶⁵

Energy crisis

The lack of investment in Peru's vast renewable energy potential is one of the primary causes of the energy crisis that the country has already begun to experience and a worsening of which looms imminently in the near future. Peru's demand for electricity is projected to grow by between 5.6% and 7.4% annually in the period 2009-2015, with most of the demand increase coming from two large mining projects. At current rates of electricity supply investment and construction, this would mean that demand will outstrip supply by 2012 forcing the country to turn to costly fuel imports, despite the abundance of hydraulic resources in the country.⁶⁶ In fact, the country is already experiencing problems such as rolling blackouts and load shedding. According to the president of the Economic Operation Committee of the National Interconnected System (COES-SINAC), Peru is currently operating with only 1% of electricity reserves as opposed to the 20% reserves that is standard. As a result, "Any interruption in any of the system's machines or transmission lines will result in constraints in the service".⁶⁷

In response to the crisis, Juan Valdivia Romero, another former Minister of Energy and Mining, recently announced that Peru intends to seek US\$3.065 billion in electricity sector investment and add 3,605 MW of new electricity generation capacity by 2015. 2,540 MW of this new capacity is to be in natural gas-powered thermal stations and 1,065 MW in hydroelectricity stations.⁶⁸ However, many experts view the fact that more than two-thirds of the government's planned expansion will be focused on fossil fuels as further confirmation of the government's failure to adopt necessary and timely technical measures to promote investment in renewables and to understand that gas was intended to be only a complementary resource.

⁶⁵ Ibid.

⁶⁶ Ibid.

⁶⁷ C. Butrón, "Perú tiene 1% en reservas de energía para electricidad en vez de 20%", El Comercio, 5 September 2008, <<http://www.elcomercio.com.pe/ediciononline/HTML/2008-09-05/coes-peru-tiene-1-reservas-energia-electricidad-vez-20.html>> (15 May 2009).

⁶⁸ J.V. Romero, speech to the International Conference on Alternative Approaches for Increasing Infrastructure Investments in Latin America and the Caribbean, July 2008, Lima.

4 Sustainable energy provision: TNC approaches to CSR and electricity provision

The wide range of quality indicators for sustainable electricity provision discussed in Chapter 2 are translated into policies and practices in different ways by different companies. These differences in turn lead to discrepancies in the impact that TNCs' approaches to CSR have on sustainable development and the quality of electricity provision in developing countries. This section seeks to analyse how the selected TNCs, Endesa, SN Power and AES, conceive of and incorporate CSR elements and quality standards in their operations in developing countries. Each of the three company profiles begins with a brief presentation of basic information about the company, followed by a mapping of the types and locations of the company's operations. Finally, each company's policies for and approach to providing sustainable electricity in developing countries is analysed based on the critical indicators.

4.1. Endesa

4.1.1. Basic company information

Endesa, headquartered in Madrid, is Spain's largest electric utility company and has major operations in Latin America. In 2007, Acciona (Spain) and Enel, an Italian transnational electricity company partially (22%) owned by the Italian Ministry of Economics and Finance, purchased 92.06% of the shares in Endesa. In February 2009, Acciona sold all of its Endesa shares to Enel, which now alone owns more than 90% of the company. Despite the takeover, Fraile confirms that the Endesa headquarters in Madrid is still responsible for CSR issues and policies at assets formerly owned and/or operated by Endesa in developing countries.⁶⁹ For this reason, this report considers Endesa as an entity separate from Enel, although readers should keep in mind that Enel is now the owner of Endesa and that the two companies' policies and approaches are likely to converge in the near future.

4.1.2. Operations and investments in developing countries

In addition to its European operations in Spain, Portugal and Greece⁷⁰, Endesa is active in electricity provision in a number of developing countries, primarily in Latin America. Endesa currently has 14,707 MW of electricity generation capacity in developing countries, which is nearly one-third of its total worldwide capacity. However, in March 2009 Endesa announced that it was slashing its investments in Latin America for the period 2009-2013. The company will invest US\$5.4 billion over the five-year period, down more than 30% from what it had announced a year ago. The majority of Endesa's total US\$17.3 billion worth of investments in the period will go to

⁶⁹ Á. Fraile, Endesa, 28 May 2008, personal communication with J. Wilde-Ramsing.

⁷⁰ After the selling of assets related to the takeover by Enel and Acciona, Endesa no longer has assets in France or Italy, although it has retained its joint ventures in the Greek and Moroccan markets. New expansion opportunities are also under analysis by the Corporate Development Division of Endesa.

Spain and Portugal, with only a third going to its developing country operations.⁷¹ Table 6 and Figure 9 indicate the geographical distribution of Endesa's electricity provision activities.

Table 6: Endesa's global presence in developing countries

Region	Country
Latin America	Argentina
	Brazil
	Chile
	Colombia
	Peru
Africa	Morocco

Figure 9: Endesa's global presence



4.1.3. Approach to provision of sustainable electricity in developing countries

General values and standards

Endesa believes that, through CSR, companies make their contribution to sustainable development. For Endesa, CSR means responsible growth based on the integration of social and environmental elements into all aspects of the operational and management spheres of its business strategy. The values that shape Endesa's behaviour are described in its mission statement, its Corporate Values document, and its vision statement. These core values include people, health and safety, innovation, customer orientation, community and environment (see below for more information on these values and related policies). Furthermore, Endesa has formulated a Sustainability Policy in which it states its aim to "supply customers with quality service responsibly and efficiently, while providing a return to [its] shareholders, fostering [its] employees' professional development, assisting with the development of the social environments where [it] operate[s] and using the natural resources necessary for [its] activities in a sustainable manner".⁷²

According to Endesa, the company understands that its core business is related to an activity that is essential for society, and has therefore made social development a key aim in its Sustainability Strategic Plan.⁷³ At the same time, the issue of finding solutions to climate change is a core

⁷¹ Business News America, "Endesa to slash Latin American investments on market conditions" 13-3-2009, <http://www.bnamericas.com/news/electricpower/Endesa_to_slash_Latin_American_investments_on_market_conditions> (16 March 2009).

⁷² Endesa website, "Sustainability Policy," (2008), <http://www.endesa.es/Portal/en/our_commitment/sustainability_3/1_sustainability_policy/default.htm> (7 September 2008).

⁷³ Endesa, "Endesa Sustainability Report 2007," (Madrid: Endesa, 2008), <http://www.endesa.es/Portal/en/our_commitment/sustainability_3/8_reports_publications/default.htm> (20 September 2008). p.17-26.

concern for the company. Responding appropriately to these two challenges is at the core of the company's CSR commitment to secure society's short and long-term energy need with minimum environmental impact.

Endesa's CSR policies are based on a wide range of international standards and norms. Those mentioned in particular in its CSR documents are:

- ❑ UN Global Compact (and supporting implementation documents)
- ❑ UN Human Rights Norms for Business
- ❑ OECD Guidelines for Multinational Enterprises
- ❑ UN Millennium Development Goals
- ❑ ISO 14001 (for environmental certification)
- ❑ OHSAS
- ❑ SA8000 (Social Accountability International)
- ❑ ILO Standards
- ❑ UNICEF Child Labour Resource Guide

While Endesa believes that its overall CSR goals are valid throughout its operations worldwide, internal research by the company has shown that applying the CSR standards to operations in developing countries requires a different approach.⁷⁴ The company undertakes individual country risk analyses based on the Global Compact principles and understands that its own standards become more important in developing countries where the regulatory framework is weak. According to Endesa, "human rights and bribery issues need to be tackled more carefully in some developing countries where Endesa operates such as Peru and Brazil. Hence, the set of standards that Endesa's subsidiaries in those countries have to adhere to must be more demanding than, for instance, in Europe".⁷⁵ Similarly, Endesa believes that its standards and practices for reducing CO₂ emissions must be more stringent in developing countries where, in contrast to Europe, regulatory structures to control emissions are not yet in place. Endesa believes that this makes business sense because, by working to minimise emissions now, "Endesa will be better positioned when the pressure [to regulate carbon emissions] extends to those markets".⁷⁶

Management and implementation of standards in developing countries

Operational responsibility for quality and sustainability issues is found at the highest level of management at Endesa. The company has a top-level Environment and Sustainable Development Committee, which is composed of members of the Executive Management Committee and chaired by the CEO. This Committee approves plans, programmes, and actions relating to sustainability and is responsible for monitoring implementation of the Strategic Plan. Furthermore, the General Directors of each business unit are responsible for environment, social and human rights, and labour rights issues from an operational point of view.

Endesa has also established a formal structure to coordinate all sustainability activities and a permanent working group incorporating managers from all of Endesa's operation areas to assure the implantation of CSR throughout the company's management. Finally, each employee's evaluation is linked to sustainability performance.⁷⁷

⁷⁴ Ibid. p.110.

⁷⁵ Ibid. p.111.

⁷⁶ Á. Fraile, Endesa, 28 May 2008, personal communication with J. Wilde-Ramsing.

⁷⁷ Endesa, "Endesa Sustainability Report 2007," (Madrid: Endesa, 2008), <http://www.endesa.es/Portal/en/our_commitment/sustainability_3/8_reports_publications/default.htm> (20 September 2008). p.22-24.

In order to implement its CSR goals and values, Endesa periodically develops Sustainability Strategic Plans that contain the general programmes to be developed through Action Plans during the following five years. The Action Plans are developed by a multi-departmental group, and progress is evaluated at least twice a year. This structure is followed by every Endesa subsidiary, and global results are consolidated in the headquarters.

Furthermore, Endesa has developed an internal tool to ensure the fulfilment of its commitment to the Global Compact principles. This tool sets a group of standards for Endesa and all its subsidiaries that have to be followed on all management areas, based on international standards. The company uses external certifications, such as ISO 14001 and EMAS, and has its sustainability policy evaluated by a third party.

Endesa notes that the implementation of its standards is more difficult and requires more effort in developing countries than in industrialised nations. In order to determine strategies for implementing its policies and ensuring compliance by its subsidiaries in developing countries, the company has conducted an in-depth analysis of the ILO conventions and Global Compact principles, taking into account the general situation in the developing countries in which the company operates and evaluating which standards should be applied and which implementation measures used in each situation.⁷⁸

Since all Endesa subsidiaries have the same CSR structure as the headquarters, implementation of its standards is generally monitored in the same way in developing countries as it is in developed countries. The structures of a top-executive-level Environment and Sustainable Development Committee and Sustainability Group are replicated in each country, and Endesa requires that all subsidiaries respect the international initiatives, such as the Global Compact, that the headquarters endorses.

One exception to the rule of having subsidiaries in developing countries implement CSR values in the same way as in developed countries is that in some critical issue areas more specific or in-depth monitoring tools are used in developing countries. For example, Endesa requires its Brazilian subsidiary to produce a special report on the progress of the programme for fighting corruption and bribery.⁷⁹

Approach to social issues

With regard to social issues, Endesa's efforts in developed countries are focused on customer satisfaction and maintaining a high technical service quality, while in developing countries issues such as ensuring basic access, rural electrification, cultural activities and the safety of infrastructure are more important.

□ Access to electricity

According to Endesa, extending electricity access is one of the company's main aims, especially considering that nearly half its business is located in Latin America, where access in rural and low-income urban areas is limited and a large portion of the population lives below the poverty threshold.⁸⁰ Endesa sees making electricity accessible and affordable as part of its contribution to

⁷⁸ Ibid. p.110-1.

⁷⁹ Á. Fraile, Endesa, 28 May 2008, personal communication with J. Wilde-Ramsing.

⁸⁰ Endesa, "Endesa Sustainability Report 2006," (2007), <http://www.endesa.com/Portal/en/our_commitment/sustainability_2/Informes_publicaciones/default.htm> (7 Sept 2008). p.122.

the development of the societies in which it operates. The company claims that it “develops infrastructure...paying attention to more vulnerable communities or those with greater difficulties gaining access to supply, as in certain rural parts of various Latin American countries.”

Endesa’s subsidiaries in Latin America carried out a variety of rural electrification programmes in 2007. In Brazil, the “Light for Everybody” project expects to bring access to 567,000 new clients in the state of Ceará by the end of 2008. In Colombia, the “New Supplies Investment” project developed electrification projects that benefited 13,000 people in 2007; in Peru, the “Human Settlement Electrification Program” connected a total of 25,000 new customers; and in Argentina, the “New Rural Supplies” programme developed 80 new rural electrification projects in 2007.⁸¹

□ *Affordability*

Endesa claims to have set affordability of energy for low-income populations as a critical issue. One example of its approach on this issue is a scheme called Ecoelce, developed by Endesa’s Brazilian subsidiary Coelce. The scheme consists of allowing low-income residents in the state of Ceará to exchange waste for electricity. Locals can take their waste to collection points and, using an identification card, exchange it for discounts on their electricity bill. Coelce has also held information sessions to teach participants more about recycling, collection and environmental issues. Since 2006, the project has seen 3,128 tonnes of waste exchanged for electricity worth US\$242,295, with more than 40,000 low-income residents participating.⁸² Another Coelce project helps low-income customers save money by improving energy efficiency through measures such as installing more efficient light bulbs and refrigerators.⁸³

Nevertheless, Endesa has been criticised for the poor quality of its electricity provision operations in Bogota, Colombia, in particular the negative effects on customers in poorer areas in the city. According to Friends of the Earth International, “Household electricity prices have increased by 500% from the average price [since Endesa took over electricity provision]. There have also been arbitrary suspensions of electricity services to homes, public hospitals and community centres. Endesa’s aggressive and exclusive policies in the poorer parts of the city contrast sharply with the benevolent image that the company presents in wealthier neighbourhoods, where it arranges financial plans for buying appliances and discounts”.⁸⁴

□ *Public health and safety*

Endesa acknowledges the potential dangers associated with generation and distribution of electricity and provides a wealth of information on its measures to protect public health and safety at its installations and in customers’ homes.⁸⁵ In developing countries, the company makes a special effort to educate customers on how to safely use electricity and campaigns to minimise the risk of electrocution for children playing with kites.⁸⁶

⁸¹ Ibid. p.122

⁸² Waste Management World website, “UN rewards waste collection project in Brazil,” (2008), <http://www.waste-management-world.com/display_article/341474/123/ARTCL/none/COLTR/1/UN-rewards-waste-collection-project-in-Brazil/> (3 October 2008).

⁸³ Á. Fraile, Endesa, 28 May 2008, personal communication with J. Wilde-Ramsing.

⁸⁴ FoEI, “Colombia Private Energy,” Friends of the Earth International website (2008), <<http://www.foei.org/en/campaigns/finance/ffm/energypriv.html/?searchterm=endesa>> (20 September 2008).

⁸⁵ Endesa, “Endesa Sustainability Report 2006,” (2007), <http://www.endesa.com/Portal/en/our_commitment/sustainability_2/Informes_publicaciones/default.htm> (7 September 2008). p.41-2, 126-8

⁸⁶ Á. Fraile, Endesa, 28 May 2008, personal communication with J. Wilde-Ramsing.

Despite these policies, Endesa's record on safety was put into question in early 2008 when it was accused by the Spanish government of "seriously breaching safety rules" in handling a radioactive leak for which more than 2,600 people had to undergo radiation tests. A radioactive leak occurred at Endesa's Asco I nuclear plant in November 2007, but plant operators did not detect it until March 2008 and then waited to notify the Nuclear Safety Council, Spain's regulatory body, until 4 April 2008, a day after a school group was allowed to visit the plant. The regulator said that plant management violated monitoring and incident-reporting rules and that Endesa had "grossly underreported the amount of contamination released" and failed to adequately protect workers and provide "prompt and truthful information".⁸⁷ The local Catalan government blamed the incident on Endesa's insufficient investment in maintenance and safety and accused the company of cutting costs at nuclear power stations at the expense of safety. One government spokesman noted that "deterioration began in 2002 when both companies started to sub-contract work to reduce costs".⁸⁸ The Nuclear Safety Council has recommended that Endesa be fined €22.5 million (US\$33 million) for the incident.

□ *Community lifestyle impact, displacement and indigenous rights*

According to Fraile, the impact of potential projects on communities and indigenous peoples is addressed in the social impact assessments (SIAs) it conducts.⁸⁹ Aspects that the company claims to give particular consideration to in SIAs for projects in developing countries include modifications to the local community's way of life, displacement of local people, and the impact that imported site workers with different cultures and values can have on the host community.

Despite these considerations, in 2001 Pehuenche Indians in southern Chile protested against Endesa's building of the Raco Dam on the Bío-Bío River. The indigenous families claimed that Endesa did not have their permission to continue although this was one of the legal conditions set out in the 1997 agreement. The Chilean government, rather than Endesa, reached a deal with the families, and the Chilean state paid more than half of the reparations and resettlement costs.⁹⁰

In another area of Chile, a wide range of stakeholder groups have organised themselves against the negative impacts of projects by the Colbún-Endesa consortium in Patagonia, including the HidroAysén project, a US\$3 billion plan to build five large hydroelectric dams along the Baker and Pascua Rivers. On 8 February 2008, more than 50 local and international civil society organisations called on Endesa to halt the project. According to the groups' statement, the project would impact more than 15,000 hectares and destroy marshland and habitat of endangered species. Furthermore, the dams and accompanying transmission line will open up Chilean Patagonia to further industrialisation as other companies and industries utilise the roads and infrastructure constructed for the project. In addition to opposition from environmental groups, the region's Catholic bishop wrote a 90-page open letter to executives of Endesa and the other companies involved warning that "the environmental, social and economic costs of the proposed dams far outweigh their supposed benefits...[and] that the planned dams and reservoirs would alter local ecosystems, harm endangered species, hurt tourism and other local industries and displace

⁸⁷ M. Roberts, "Spain nuclear watchdog seeks sanctions over leak," Reuters, 18 August 2008, <<http://uk.reuters.com/article/oilRpt/idUKLI9500720080818?pageNumber=1&virtualBrandChannel=0>> (21 Oct 2008).

⁸⁸ G. Keeley, "Generators accused of putting profit before safety," The Guardian, 29 August 2008, <<http://www.guardian.co.uk/world/2008/aug/29/nuclear.renewableenergy>> (15 October 2008).

⁸⁹ Á. Fraile, Endesa, 28 May 2008, personal communication with J. Wilde-Ramsing.

⁹⁰ G. Gonzalez, "Ralco Dam: The Dark Story Behind Chile's Biggest Source of Light," Inter Press Service, 29 September 2004, <<http://www.oneworld.net/article/view/94963/1/1843>> (10 October 2008).

residents".⁹¹ An April 2009 poll revealed that a growing majority of Chileans object to the controversial project. According to the poll, 57.6% of Chilean citizens from around the country "reject" the HydroAysén venture, up sharply from a year ago.⁹²

▣ *Labour issues: Core ILO conventions*

As mentioned above, Endesa cites the ILO conventions as one of the bases of its CSR policies and approach to providing sustainable electricity. The company notes, however, that the implementation of these core labour policies is more difficult and requires more effort in developing countries than in industrialised nations.

Endesa expressly condemns child labour.⁹³ In addition to implementing mechanisms to ensure that all of its employees are of legal age, part of the company's strategy to combat child labour in developing countries includes participating in projects aimed at improving education and reducing extreme poverty to indirectly eradicate child labour.

Endesa also condemns forced labour and recognises its employees' right to freedom of association. In 2007, 49 collectively bargained agreements were in place, covering 21,616 of the company's 27,019 employees. The most recent agreement was the III Collective Agreement, which was reached in April 2008. Coverage by the collective agreements does reveal some differences between developed and developing countries. In Europe, 92% (13,680 out of 14,824) of the company's employees is covered by such agreements, while in Latin America only 65% (7,936 out of 12,169 employees) is covered.⁹⁴

With regard to workers' right to strike, Endesa maintains that since electricity is such a crucial service, the right to strike is heavily regulated by most countries and the conditions determined by the local regulator.

Regarding discrimination, Endesa has established a Gender Balance Plan (as part of its III Collective Agreement), under which it agreed to undertake an external analysis of potential discrimination within the company. According to Endesa, the analysis has not yet identified any case of discrimination, nor has the company received any complaints regarding different remuneration between women and men.⁹⁵ Still, only a small portion of Endesa's employees are women; 17.2 % of Endesa's workforce in Spain is female, and only 16.9% of employees in Latin America are women.

⁹¹ B. Witte, "Chilean Bishop Sounds off on Patagonia Dam Plan," The Patagonia Times, 1 September 2008, <<http://www.patagoniatimes.cl/content/view/633/26/>> (21 October 2008).

⁹² "Poll: Opposition to Chile Dam Project on the Rise", The Patagonia Times, 20 April 2009, <<http://www.patagoniatimes.cl/index.php/20090420797/News/Environment/POLL-OPPOSITION-TO-CHILE-DAM-PROJECT-ON-THE-RISE.html>> (22 April 2009).

⁹³ Endesa, "Endesa Sustainability Report 2007," (Madrid: Endesa, 2008), <http://www.endesa.es/Portal/en/our_commitment/sustainability_3/8_reports_publications/default.htm> (20 September 2008).

⁹⁴ Ibid. p.72-87

⁹⁵ Ibid. p.88-9.

□ *Labour issues: occupational health and safety*

Endesa gives extensive coverage to the topic of OHS in its 2006 and 2007 Sustainability Report, claiming that it is one of the company's primary values.⁹⁶ Endesa has endorsed several international voluntary standards for OHS (see above section on General values and standards), and it has integrated these principles into its Strategic Plan for Health and Safety and its Health and Safety Model, which was developed in 2007. Due to increased risks to occupational health and safety in developing countries, Endesa has implemented a policy of providing all subsidiaries with country-specific OHS operating guidelines. The company also has a strategy for seeing that its OHS standards are observed by contractors (see below section on Supply chain). Endesa reports that, in a recent worldwide worker satisfaction survey conducted by the company, Endesa workers gave OHS the best score, with a 79% satisfaction ratio.⁹⁷

□ *Labour issues: Use of contract labour*

In 2006, Endesa Chile required suppliers of unskilled labour-intensive services (cleaning, security) to pay their employees a higher wage than the legal minimum. But Friends of the Earth International has criticised Endesa's use of contract labour at its operations in Colombia, noting, "Energy workers have also been hard hit during the privatization process. Forty percent of [Endesa's] personnel, a total of 1,750 people, left either voluntarily or through forced redundancies following privatization, and [the company] subcontracted out new vacancies under very bad conditions of employment".⁹⁸

Approach to environmental issues

Endesa's new Sustainability Strategic Plan 2009-2012 groups the environmental issues to be addressed in three blocks: fighting climate change, implementing advanced environmental management, and deepening preservation of biodiversity.

□ *Climate change and GHG emissions*

According to Endesa, a wide-ranging analysis of its stakeholders' expectations in the coming five years revealed climate change to be one of the company's two main challenges in the near future and a top priority in its Sustainability Strategic Plan 2009-2012.⁹⁹ Endesa thus devotes a great deal of the Environment chapter of its sustainability reports to the issue of climate change and GHG emissions reduction.¹⁰⁰ The company claims that it has reduced its specific emissions by 36.5% in the period 1990-2007, beating its target of 35% reduction, and that it aims to halve its greenhouse

⁹⁶ Endesa, "Endesa Sustainability Report 2006," (2007), <http://www.endesa.com/Portal/en/our_commitment/sustainability_2/Informes_publicaciones/default.htm> (7 September 2008).; Endesa, "Endesa Sustainability Report 2007," (Madrid: Endesa, 2008), <http://www.endesa.es/Portal/en/our_commitment/sustainability_3/8_reports_publications/default.htm> (20 September 2008).

⁹⁷ Endesa, "Endesa Sustainability Report 2007," (Madrid: Endesa, 2008), <http://www.endesa.es/Portal/en/our_commitment/sustainability_3/8_reports_publications/default.htm> (20 September 2008). p.85.

⁹⁸ FoEI, "Colombia Private Energy," Friends of the Earth International website (2008), <<http://www.foei.org/en/campaigns/finance/ffm/energypriv.html/?searchterm=endesa>> (20 September 2008).

⁹⁹ Á. Fraile, Endesa, 28 May 2008, personal communication with J. Wilde-Ramsing.

¹⁰⁰ Endesa, "Endesa Sustainability Report 2006," (2007), <http://www.endesa.com/Portal/en/our_commitment/sustainability_2/Informes_publicaciones/default.htm> (7 September 2008).; Endesa, "Endesa Sustainability Report 2007," (Madrid: Endesa, 2008), <http://www.endesa.es/Portal/en/our_commitment/sustainability_3/8_reports_publications/default.htm> (20 September 2008).

gas emissions by 2020.¹⁰¹ The company's strategy on climate change also involves participation in a number of international initiatives focused on research and development of solutions for climate change.¹⁰² Endesa acknowledges that there is less regulatory pressure to reduce GHG emissions in developing countries than in Europe, but sees this as an opportunity for developed countries and companies to invest in renewable energy technologies in order to help reach their own greenhouse gas emissions reduction targets.¹⁰³

□ *Renewable sources of energy for electricity*

Endesa's strategy on developing renewable sources of energy for electricity is outlined in its Sustainability Strategic Plan, in which the company sets itself a target of installing 6,000 MW of new renewable electricity generation capacity between 2008 and 2012, primarily in Europe. For Endesa, increasing the use of renewable sources of energy is a much more urgent issue in Europe than in developing countries because regulatory and social pressures to increase renewables are greater in Europe.¹⁰⁴ While the company aims to develop 50 MW of renewable electricity generation capacity in Latin America by the end of 2009, the amount to be developed in Europe is much higher.¹⁰⁵ This strategy seems to be somewhat at odds with the company's policy on CO₂ emissions, described above, in which it places more priorities on developing countries. In Chile, the company has created Endesa ECO with the specific aim of developing renewable energy projects in Latin America.

□ *Waste and pollution*

Endesa has for many years employed an Environmental Management System (EMS) to minimise the environmental impact of discharges, emissions, and waste. As part of its Advanced Environmental Management programme, Endesa has set itself objectives such as the reduction of water consumption each year over the previous year, 100% processing of waste waters, 100% use of river beds (not leaving any stretch dry), 100% evaluation of facilities with environmental liabilities, and 100% of facilities ISO 14001 certified.

Endesa carries out an internal compulsory regulation related to the management and elimination of wastes in all its facilities. These guidelines establish criteria and specific procedures on the treatments that have to be done, as well as on the contracting of the proper waste operators. The company's approach to waste and pollution differs little between developing countries and industrialised nations. For example, in 2007 89.18% of the electricity Endesa produced in Spain and Portugal was ISO 14001 certified, while in Latin America 94.2% received the certification.¹⁰⁶

¹⁰¹ Endesa, "Endesa Sustainability Report 2006," (2007), <http://www.endesa.com/Portal/en/our_commitment/sustainability_2/Informes_publicaciones/default.htm> (7 September 2008). p.84

¹⁰² Endesa, "Endesa Sustainability Report 2007," (Madrid: Endesa, 2008), <http://www.endesa.es/Portal/en/our_commitment/sustainability_3/8_reports_publicaciones/default.htm> (20 September 2008).

¹⁰³ Á. Fraile, Endesa, 28 May 2008, personal communication with J. Wilde-Ramsing.

¹⁰⁴ Ibid.

¹⁰⁵ Endesa, "Endesa Sustainability Report 2006," (2007), <http://www.endesa.com/Portal/en/our_commitment/sustainability_2/Informes_publicaciones/default.htm> (7 September 2008). p.93.

¹⁰⁶ Endesa, "Endesa Sustainability Report 2007," (Madrid: Endesa, 2008), <http://www.endesa.es/Portal/en/our_commitment/sustainability_3/8_reports_publicaciones/default.htm> (20 September 2008). p.140.

Despite these policies, on 8 September 2008, the municipal government of the Chilean city of Coronel ordered Endesa to cease construction of its coal-fired Bocamina II power plant. Local residents had complained that the construction of the plant was damaging their property and that the existing Endesa Bocamina coal plant was already polluting their community. In ordering the construction halt, city officials noted that Bocamina II construction had damaged homes and weakened land, impacts not foreseen in Endesa's EIA for the project. Endesa claims that it has installed an emissions filter on the first Bocamina plant and that Bocamina II will have the latest pollution-reducing technology, but that has not placated locals, one of whom noted, "We think it's a joke for them to tell us that the filter did away with the dust. Trucks keep going in day and night with coal, and the dust won't even let us eat a clean piece of bread. We'll be eating bread with coal".¹⁰⁷ Other local opponents organised demonstrations and clashed with police. In early 2008, Endesa agreed to relocate 105 Coronel families only after they initiated legal action against the company. Since then, Endesa refused to relocate another 250 families seeking similar treatment and successfully contested the town's decision to halt construction in a local court.¹⁰⁸

Endesa's Central Costanera in Argentina is another plant where there seems to be an incongruence between the company's policies and standards and its actual performance on the ground. This situation is described in Section 5.2

□ *Biodiversity*

Endesa's Biodiversity Conservation Program is framed within the company's Strategic Environment and Sustainable Development Plan and addresses the minimisation of the impact of generation and distribution facilities on fish, birds, vegetation, and landscapes.¹⁰⁹ With regard to biodiversity in rivers affected by Endesa hydro plants, the company's strategy is focused on minimum environmental flow, the construction of fish steps, and working toward agreements with the local environmental authorities to preserve fish populations, particularly salmonids. The Program is implemented similarly in developed and developing countries.

Approach to economic issues

Many of Endesa's policies in the area of economic sustainability are outlined in its Commitment to Good Governance and Ethical Behaviour, in which it notes that "the company has an Auditing and Compliance Committee which supervises good corporate governance and transparency in the ambits of economics, finance and external auditing".¹¹⁰

□ *Competition*

Endesa states it has adopted the OECD Guidelines Chapter IX on Competition, explaining that all of its operations are in deregulated markets.¹¹¹ Endesa has been active and influential in lobbying for liberalisation and privatisation of energy markets and companies, particularly in Latin America.

¹⁰⁷ L. Shadko, "Chilean City Halts Power Plant Construction," Santiago Times, 10 September 2008, <http://www.santiagotimes.cl/santiagotimes/news/business-news/index.php?option=com_content&task=view&id=14626&Itemid=65> (10 September 2008).

¹⁰⁸ K. Bedford, "Colombian Energy Companies Arrive in Chile," Ibid. 7 Oct 2008, <http://www.santiagotimes.cl/santiagotimes/news/business-news/index.php?option=com_content&task=view&id=14802&Itemid=1> (7 Oct 2008).

¹⁰⁹ Endesa, "Endesa Sustainability Report 2006," (2007), <http://www.endesa.com/Portal/en/our_commitment/sustainability_2/Informes_publicaciones/default.htm> (7 Sept 2008). p.95.

¹¹⁰ Ibid. p.22.

¹¹¹ Ibid. p.22.

Friends of the Earth notes that “[Endesa] enjoys an influential position within the European energy lobby.¹¹² Rafael Miranda Robredo, CEO of the Endesa Group, is Vice President of the European electricity lobby group, Eurelectric. Eurelectric is the only energy sector group in the influential pro-liberalization lobby, the European Services Forum, which is active in GATS negotiations.”

❑ *Corruption*

Endesa cites the OECD Guidelines chapter on combating bribery (Chapter VI) and the UN Global Compact principle on corruption in its Commitment to Good Governance and Ethical Behaviour. The company has created an Ethics Channel through which workers and other individuals can anonymously make complaints regarding corrupt behaviour.¹¹³

❑ *Local economic development*

Endesa states that it “develops the infrastructures and actions necessary to cover the evolution of the demand for electricity in the communities where the company is present and reach as many customers as possible”. The company further claims that increasing local capacity and human capital is one of the “strategic criteria” applied when selecting from potential business partners.¹¹⁴ In 2007, for example, Endesa’s Latin American business unit purchased a total of €1.4 billion (US\$1.75 billion) worth of material, equipment, and services from Latin American suppliers, an increase of 39% over the previous year.

❑ *Reliability of supply*

“Service Quality” is one of Endesa’s seven Commitments for Sustainable Development, and the company alleges that “adequate, secure and uninterrupted supply of electrical energy to all its customers, wherever they are, must be its main objective”.¹¹⁵ That said, the company acknowledges that there are differences between its performance on reliability of supply in developed countries and that in developing countries. The main difference is that the electricity infrastructure in developing countries is usually in poorer condition, but Endesa also notes that people’s expectations as to the quality of service are lower in developing countries.

Despite reliability being a main objective, Endesa has been cited for failing to supply reliable power even in its home market. The company was fined over €2 million (US\$2.5 million) for power cuts in the Spanish provinces of Seville and Jaen in 2005, as well as €90,000 (US\$112,500) for a blackout in Barcelona and for another power cut in rural Catalunya in 2004.¹¹⁶

¹¹² FoEI, “Colombia Private Energy,” Friends of the Earth International website (2008), <<http://www.foei.org/en/campaigns/finance/ffm/energypriv.html?searchterm=endesa>> (20 September 2008).

¹¹³ Endesa, “Endesa Sustainability Report 2006,” (2007), <http://www.endesa.com/Portal/en/our_commitment/sustainability_2/Informes_publicaciones/default.htm> (7 September 2008). p.83.

¹¹⁴ Á. Fraile, Endesa, 28 May 2008, personal communication with J. Wilde-Ramsing.

¹¹⁵ Ibid, personal communication with

¹¹⁶ SBD, “Spanish Endesa Fined for Power Cuts in Seville, Jaen,” Spanish Business Digest, 21 September 2005.

□ *Eco-efficiency and demand-side initiatives*

Endesa devotes a whole chapter of its Sustainability Report to efficiency, which it claims is an important issue that is integrated into its mission, vision, and values, and which it seeks to improve across the electricity value chain, from generation to transmission to distribution.¹¹⁷

The company has also included demand-side management as part of its 2008-2012 Sustainability Strategic Plan under the programme *Plan de Eficiencia Energética PE3* and undertakes a number of demand-side initiatives for responsible use of electricity and saving of energy.¹¹⁸ The company's activities include promoting energy efficient products as well as awareness raising campaigns, both in Latin America and Europe.

□ *Taxation*

Endesa's policy on taxation cites the tax chapter (Chapter X) of the OECD Guidelines for Multinational Enterprises.

Approach to cross-cutting issues

□ *Stakeholder engagement and public participation in decision making*

Endesa claims that constant contact with stakeholders is a priority and offers "a wide variety of communication channels to stakeholders in order to facilitate a bidirectional communication and their participation in a fluid dialogue with the company".¹¹⁹ With regard to stakeholder expectations, Endesa's strategy for engagement consists of three elements: identification of stakeholders, dialogue and management of expectations, and transparency throughout the process.¹²⁰ The company attempts to integrate stakeholder consultation throughout its activities, beginning with the EIAs carried out when developing new projects. One strategy that Endesa uses to engage stakeholders is to work with local Global Compact offices to organise "Square Tables" in which different stakeholder groups such as NGOs, regulators, competitors, and clients can dialogue openly over relevant issues. Endesa's policies and strategies for stakeholder dialogue do not differ between developed and developing countries.¹²¹

¹¹⁷ Endesa, "Endesa Sustainability Report 2007," (Madrid: Endesa, 2008), <http://www.endesa.es/Portal/en/our_commitment/sustainability_3/8_reports_publications/default.htm> (20 September 2008).

¹¹⁸ Endesa, "Endesa Sustainability Report 2006," (2007), <http://www.endesa.com/Portal/en/our_commitment/sustainability_2/Informes_publicaciones/default.htm> (7 September 2008). p.43.

¹¹⁹ Endesa, "Endesa Sustainability Report 2007," (Madrid: Endesa, 2008), <http://www.endesa.es/Portal/en/our_commitment/sustainability_3/8_reports_publications/default.htm> (20 September 2008). p.27.

¹²⁰ Endesa, "Endesa Sustainability Report 2006," (2007), <http://www.endesa.com/Portal/en/our_commitment/sustainability_2/Informes_publicaciones/default.htm> (7 September 2008). p.11.

¹²¹ Á. Fraile, Endesa, 28 May 2008, personal communication with J. Wilde-Ramsing.

□ *Precautionary principle and evaluation of risks and alternatives*

Endesa adheres to the UN Global Compact's principle of a precautionary approach to the environment and claims to have translated this principle into a number of actions, including measures to minimise environmental impacts of new projects.¹²²

□ *Product chain responsibility*

Endesa embraces what it calls a "trend" in CSR for corporations to extend their social responsibilities to suppliers and contractors. In order to do so, Endesa employs different strategies to help suppliers and contractors to incorporate CSR issues into their management. For example, Endesa's CEO has written a letter to all major suppliers and contractors informing them about the Global Compact and encouraging them to sign up to the GC principles. In addition, Endesa includes CSR criteria when contracting suppliers and contractors and monitors business partners in countries and on issues where there exists an elevated risk of non-compliance.¹²³ Endesa gives as an example its operations in Chile, where Endesa's subsidiary Endesa Chile employs "contractor inspectors" to monitor each contractor on site to ascertain their performance on human rights issues. In 2006, those contractors evaluated scored an average of 81.4 out of 100 points. The best scores were for compliance with safety rules (85.48%); compliance with employment rules (85.32%), and treatment of employees (84.47%). According to Endesa, no contract has ever been terminated as a result of this monitoring.¹²⁴

Due to the importance of OHS throughout the electricity supply chain, Endesa has implemented a policy of providing all subsidiaries with country-specific OHS operating guidelines to be distributed to all contractors. The internal rule, named N.020 for Labour Management of Contractors, was approved by the Director's Executive Committee at the beginning of 2007. Furthermore, Endesa has a number of programmes aimed at guaranteeing the extension of the company's standards to its contractors such as prizes for best practices and communicating Endesa standards directly to the employees of contractors.

□ *Human rights*

The commitment to human rights is specified through the Ethic and Behaviour codes and through the contracts that regulate the company's relationship with employees. According to Endesa, the company's adhesion to the Global Compact reinforces the integration of human rights concerns throughout Endesa, including its subsidiaries, through the fulfilment of the first two Global Compact principles.¹²⁵

¹²² Endesa, "Endesa Sustainability Report 2006," (2007), <http://www.endesa.com/Portal/en/our_commitment/sustainability_2/Informes_publicaciones/default.htm> (7 September 2008). p.87.

¹²³ Endesa, "Endesa Sustainability Report 2007," (Madrid: Endesa, 2008), <http://www.endesa.es/Portal/en/our_commitment/sustainability_3/8_reports_publicaciones/default.htm> (20 September 2008). p.68.

¹²⁴ Ibid. p.90.

¹²⁵ Endesa, "Endesa Sustainability Report 2007," (Madrid: Endesa, 2008), <http://www.endesa.es/Portal/en/our_commitment/sustainability_3/8_reports_publicaciones/default.htm> (20 September 2008). p.111.

4.2. SN Power

4.2.1. Basic company information

SN Power, headquartered in Oslo, Norway, was established in 2002 as a 50/50 joint venture between Statkraft and Norfund.¹²⁶ The Statkraft Group is a Norwegian public utility company that specialises in hydro and wind power. It operates 164 hydro power plants in Scandinavia, three wind farms, and three natural gas plants in Norway and Germany. Norfund is a Norwegian government-funded “risk capital” investment agency that “facilitates economic growth and poverty reduction by investing risk capital in profitable businesses in developing countries”.¹²⁷ It invests through means of providing equity, quasi-equities and loans. Its investment in SN power is in the form of equity. Its other investments include direct investments in hotels, phone companies, fish and food processors and other companies. It is also involved in a number of investment funds, fund management operations and loans portfolios.

As a joint venture between Statkraft and Norfund, SN Power is a 100% public entity, but it operates as a fully commercial enterprise. Although SN Power was created as a profit-making enterprise, the company was also founded with the aim of making a positive contribution to sustainable development. It is for this reason that the company operates exclusively in developing countries and works solely with renewable energy technologies.¹²⁸

It is important to note that SN Power is much smaller, in terms of number, scope, and type of operations as well as financial turnover, than the other two electricity companies analysed in this report.

4.2.2. Operations and investments in developing countries

SN Power is specialised in hydropower generation activities in developing countries. The company’s current generation capacity is exclusively hydro-based, although it is developing one wind power project in Chile. The company currently owns and operates 14 hydropower plants, with nine more in various stages of planning and construction. Regionally, SN Power operates primarily in Asia and Latin America, with Peru, where it operates eight hydropower plants with a combined generating capacity of nearly 300 MW being its main market.

Figure 10 illustrates SN Power’s current global presence for electricity generation operations.

¹²⁶ As of 1 January 2009, Statkraft will purchase an additional 10% of the shares in SN Power from Norfund, increasing its ownership to 60% and reducing Norfund’s participation to 40%. The increased participation of Statkraft will likely make more funds available for investment in energy projects. As part of the deal, Statkraft and Norfund have agreed to establish a separate company which will focus on hydropower development in Africa and Central America. See: SN Power website, “Change to SN Power’s ownership structure,” (2008), <http://www.snpower.no/News_and_events/Press_releases/29661/index_printText_html> (11 November 2008).

¹²⁷ Norfund website, “Norfund - Home,” (2008), <<http://norfund.no/>> (11 September 2008).

¹²⁸ M.L. Kopstad, External Affairs Manager, SN Power, 10 September and 3 November 2008, personal communication with J. Wilde-Ramsing.

Figure 10: SN Power's global presence



In total, the company has a gross installed capacity of 816 MW worldwide. Table 7 shows the company's worldwide installed electricity generation capacity, and Table 8 lists the company's investments and projects in development.

Table 7: SN Power installed electricity generation capacity, 2008

Project	Country	Capacity (MW)	Mean annual output (GWh)	Fuel Type
Melana	India	86	350	Hydro
Arcata	Peru	5.4	37	Hydro
Cahua	Peru	43	280	Hydro
Gallito Ciego	Peru	37	150	Hydro
La Oroya	Peru	9	65	Hydro
Malpaso	Peru	54.5	207	Hydro
Pachachaca	Peru	9	45	Hydro
Pariac	Peru	4.9	24	Hydro
Yaupi	Peru	108	789	Hydro
Magat	Philippines	360	1,000	Hydro
Binga	Philippines	100	350	Hydro
Khimti	Nepal	60	350	Hydro
Assupiniella	Sri Lanka	4	17	Hydro
Belihuloya	Sri Lanka	2.1	9	Hydro
Total		816	3,673	Hydro

Based on: SN Power¹²⁹

¹²⁹ SN Power website, "Our Business," (2008), <http://www.snpower.no/Our_business> (11 September 2008).

Table 8: SN Power electricity generation projects in development, 2008

Project	Country	Capacity (MW)	Mean annual output (GWh)	Fuel Type	Investment (mln US\$)	Status
Various	Brazil	N/A	N/A	Hydro	1,200	Planning
La Higuera	Chile	155	728	Hydro	N/A	Under construction
La Confluencia	Chile	156	645	Hydro	N/A	Under construction
Trayenko	Chile	600	2,628	Hydro	N/A	Suspended
Totalal (Coquimbo)	Chile	47	100	Wind	140	Late 2009 in operation
Allain Duhangan	India	192	800	Hydro	N/A	Under construction
Bara Bangahal	India	200	N/A	Hydro	N/A	N/A
Tamakoshi	Nepal	450-650	N/A	Hydro	N/A	N/A
Cheves	Peru	168	825	Hydro	N/A	N/A
Ambuklao	Philipp.	175	N/A	Hydro	N/A	Under rehab.

Based on: SN Power¹³⁰, EBN¹³¹, Lima¹³²

In March 2009, SN Power announced that it had signed a Memorandum of Understanding with India-based Tata Power Trading Company Limited (TPTCL) in order to develop hydropower projects in Nepal, Bhutan and in the border between India and Nepal. In addition to its Asian and Latin American assets and investments, SN Power intends to start operations in Africa. Two of its initial target markets were Uganda and Mozambique, but plans for both countries have recently been abandoned.¹³³ Nevertheless, SN Power is making a new push to enter the African market, and as of 1 January 2009, SN Power's owners Statkraft and Norfund have agreed to establish a separate company that will focus on hydropower development in Africa.¹³⁴

4.2.3. Approach to provision of sustainable electricity in developing countries

General values and standards

SN Power expresses its values and standards through its Values and Principles document, which is also translated into Spanish; its Business Principles; a chapter on social and environmental impact in its annual reports; and a section on CSR on its website where it publishes the two above-mentioned documents as well as a number of other CSR related texts. The company does not publish a separate CSR report.

SN Power claims that it is "committed to social and environmental sustainability throughout [its] business" and that sustainability is one of its top priorities.¹³⁵

¹³⁰ Ibid.

¹³¹ EBN, "SN Power to invest \$140 million in Chilean wind farm," Energy Business Review, 27 June 2008, <http://www.energy-business-review.com/article_news.asp?guid=3269594D-6E18-4F04-BE02-8C957C398C9C> (11 September 2008).

¹³² J. Lima, "Statkraft Unit to Invest 2 Billion Reais in Brazil, Valor Says," Bloomberg website, 23 June 2008, <http://www.bloomberg.com/apps/news?pid=20601086&sid=aarsZ6N1e4I0&refer=latin_america> (9 September 2008).

¹³³ B. Among, "Powerless in Uganda," The East African, 10 Dec 2007, <http://www.ocnus.net/artman2/publish/Africa_8/Powerless_in_Uganda.shtml> (11 September 2008).

¹³⁴ SN Power website, "Change to SN Power's ownership structure," (2008), <http://www.snpower.no/News_and_events/Press_releases/29661/index_printText_html> (11 November 2008).

¹³⁵ SN Power, "Values and Principles," (Oslo: SN Power, 2007), <http://www.snpower.no/Corporate_Responsibility/info2/Values_and_Principles.pdf> (9 September 2008). p.2.

Its CSR documents mention the following international standards to which the company strives to adhere:

- ❑ UN Universal Declaration on Human Rights
- ❑ ILO Conventions 138 (on minimum age for employment) and 182 (on the worst forms of child labour)
- ❑ UN Global Compact
- ❑ International Hydropower Association's Sustainability Guidelines
- ❑ International Finance Corporation's Policy and Performance Standards on Social and Environmental Sustainability

SN Power believes that CSR and individual company standards take on added importance for TNCs operating in developing countries. According to Kopstad, because regulatory frameworks are often weaker in developing countries, companies need to play a greater role in ensuring that standards for the protection of human rights and the environment are met. In these situations, companies must have clear ethical standards in both policy and practice. Companies need to pay particular attention to quality issues like corruption and child labour when operating in developing countries.¹³⁶

Management and implementation of standards in developing countries

SN Power's CEO has stated that the standards and principles it adheres to "are embedded into [the company's] business model as [it] expand[s] in a socially and environmentally responsible manner".¹³⁷ According to Kopstad, the standards are incorporated into the company's project management system from the idea phase all the way through planning and project operation.¹³⁸ She notes that the company seeks to make health, social and environmental considerations an integral part of project planning, operation and reporting by giving importance to these issues throughout the company's management structure, from the field in developing countries all the way up to top management at the headquarters in Oslo. CSR officers in the field communicate with the CSR managers at the headquarters through regular dialogue and meetings. These CSR managers in turn have regular contact, both formal and informal, with top management, and although the board of SN Power does not include a CSR representative, quality issues are incorporated into top management decisions by having the head of the CSR department on the company's management team.¹³⁹ In mid-2008 the company created a new position entitled Director of Social and Environmental Programmes to work on CSR issues. The new director will spend a significant portion of his/her time in the field following-up on specific projects and issues and will report to the executive vice-president for CSR.

In order to monitor and ensure the implementation of its values in its developing country operations, SN Power has CSR staff on the ground for every project and carries out an EIA and an SIA on all of its projects prior to investment. The assessment documents give information about the project itself, the social and environmental contexts; the company's plans for compliance with environmental legislation; environmental, social, and aesthetic baseline data; and a citizen participation strategy. The findings of these assessments are used to develop social and environmental management plans, which are to be implemented, audited, and followed up upon

¹³⁶ M.L. Kopstad, External Affairs Manager, SN Power, 10 September and 3 November 2008, personal communication with J. Wilde-Ramsing.

¹³⁷ SN Power, "SN Power Annual Report 2007," (Oslo: SN Power, 2008), <http://www.snpower.no/News_and_events/Reports/SN_Power_Annual_Report_2007.pdf> (9 September 2008).

¹³⁸ M.L. Kopstad, External Affairs Manager, SN Power, 10 Sept and 3 November 2008, personal communication with J. Wilde-Ramsing.

¹³⁹ Ibid.

throughout the lifecycle of its projects. SN Power's policy is to publish all of its impact assessments online, but as of September 2008, only one assessment (for La Higuera, Chile) was available.

While SN Power claims that it "implement[s] programmes alongside all projects to limit the negative impact on local communities and environments", the company's articulation of its values and standards remains rather general and seems to lack specific indicators and monitoring protocols to measure the degree of implementation of its values in its operations in developing countries.¹⁴⁰ Kopstad acknowledges that since the company is so young, the implementation of its values and standards may not yet be fully systematic in all of its projects, but that the company is learning and improving with each new project.¹⁴¹

Approach to social issues

□ Access to electricity

As an example of its policy toward expanding access to electricity and rural electrification, SN Power highlights its efforts to bring electric power to citizens in rural Nepal.¹⁴² The project is part of a rural development programme executed by SN Power's subsidiary Himal Power Limited and the Norwegian Development Agency. As of 2007, the programme had connected 4,367 households to the electricity grid. It is not clear how much money SN Power has invested in this programme.

□ Labour issues

SN Power refers to ILO norms 138 and 182 on the minimum age for employment and the worst forms of child labour as the basis for its policy on labour issues.¹⁴³ The company also has policies on non-discrimination and a commitment to allow employees to continue to develop their skills throughout their employment at SN Power. No mention is made of minimum wage, freedom of association or working hours. OHS is a particular focus of SN Power's labour policies, and the company aims for a zero accident and injury rate in all projects in all phases.

Despite this aim, an October 2008 report by Norfund revealed that 15 workers lost their lives on SN Power electricity projects in developing countries between 2005 and 2008. Most of the workers were employees of contractors or sub-contractors, and the majority of the fatalities (11) occurred at the Allain Duhangan hydropower project in northern India, of which SN Power owns a 43% minority stake. Three additional deaths occurred on the La Higuera project in Chile and one on the Conferencia project, also in Chile.

In addition to the 11 fatalities at the Indian Allain Duhangan project, there were an additional 81 personal injuries requiring treatment at hospital or an out-patient clinic. SN Power blames the accidents on dangerous conditions at the site (rough and very steep terrain, high risk of rock falls and avalanches, and harsh climatic conditions) as well on "a lack of knowledge and experience with implementing high health and safety standards in the project company", AD Hydro.¹⁴⁴ SN

¹⁴⁰ SN Power website, "Our Business," (2008), <http://www.snpower.no/Our_business> (11 September 2008).

¹⁴¹ M.L. Kopstad, External Affairs Manager, SN Power, 10 September and 3 November 2008, personal communication with J. Wilde-Ramsing.

¹⁴² SN Power, "SN Power Annual Report 2006," (Oslo: SN Power, 2007), <http://www.snpower.no/News_and_events/Reports/SN_Power_Annual_Report_2006.pdf> (9 September 2008).

¹⁴³ SN Power, "Business Principles," (Oslo: SN Power, 2007), <http://www.snpower.no/Corporate_Responsibility/info2/SNP_Business_Principles_for_the_website.pdf> (15 September 2008).

¹⁴⁴ SN Power website, "Fatal accidents at hydropower project in India," (2008), <http://www.snpower.no/News_and_events/Press_releases/29664/index_printText_html> (27 November 2008).

Power's President and CEO expressed his "disappointment" with AD Hydro's management (the Indian-based NLJ Bhilwara Group is the project's manager and principal shareholder with 45% of shares) and asserted that SN Power is taking action to improve the OHS standards at the plant. SN Power is using its influence on the board of AD Hydro to improve the standards and is interacting directly with the project on the ground by conducting (internal) audits to identify weak areas and assisting in the development of corrective action plans. SN Power is also financing a team of Norwegian and international OHS experts to support the project. Despite the company's efforts, SN Power acknowledges that there are still "significant issues" that need to be improved to bring the project up to international standards.¹⁴⁵

▣ *Displacement and community lifestyle impact*

SN Power makes mention of its efforts to minimise the impact of its activities on local communities in a general way, claiming, "We aim to reflect the priorities and concerns of local communities in our decision-making processes and we try and minimize potential negative effects through a combination of careful planning, design adjustments and operational improvements".¹⁴⁶

On 19 October 2004, Norfund issued a press release announcing SN Power's decision to invest in a joint venture with Indian power group LNJ Bhilwara for the joint operation and development of two hydro-plants: the 86 MW Malana plant and the 192 MW Allain Duhangan project, which was still under construction. According to this press release "[The Allain Duhangan project] does not require anyone in the local population to move. The project has a detailed environmental management and monitoring plan, as well as a community development programme". Øistein Andresen, CEO of SN Power, was quoted as saying, "We are committed to pursuing this project in a manner which minimises the environmental impacts and creates benefits for the local communities".¹⁴⁷ The decision was made public days after the IFC approved a US\$45 million loan for the project.

However, local communities have protested against the construction of the dam, both before SN Power was involved, as well as in the time since. After the IFC had published an ESIA on the World Bank website in 2003, a group of 62 local residents filed a formal complaint with the Compliance Advisor/Ombudsman of the IFC on 1 October 2004.¹⁴⁸ This complaint filed was only days before SN Power's public decision to invest. In their complaint, local villagers expressed their concerns regarding threats to their drinking water supply, blocked access to pasture lands, construction dusts, and several negative consequences from the influx of migrant workers constructing the dam.¹⁴⁹ Even after the IFC decided to fund the project, local citizens continued to challenge the project through various means, including a litigation filed at the High Court of Himachal Pradesh, which, on 11 September 2007, decided that the construction work on the dam should be suspended pending a response to the litigation by the developer and the central government. This in turn created new problems for the local communities. While construction was ongoing, migrant workers brought in for the project had been receiving firewood for fuel. When these disbursements

¹⁴⁵ Ibid.

¹⁴⁶ SN Power, "Values and Principles," (Oslo: SN Power, 2007), <http://www.snpower.no/Corporate_Responsibility/info2/Values_and_Principles.pdf> (9 September 2008), p.5.

¹⁴⁷ Norfund website, "SN Power enters the Indian hydropower sector," (2004), <http://www.norfund.no/index.php?option=com_content&task=view&id=77&Itemid=83> (12 June 2008).

¹⁴⁸ Jagatsukh Communities, "Complaint from affected people Regarding proposed IFC funding of The proposed Allain Duhangan (Hydropower) Project," (People from Jagatsukh and surrounding villages near Manali in Kulu district in Himachal Pradesh in North India, 2004), <http://www.sandrp.in/hydropower/ad_comp_eft_ombd.pdf> (9 Sept 2008).

¹⁴⁹ T. Martin, "Muting the Voice of the Local in the Age of the Global: How Communication Practices Compromised Public Participation in India's Allain Duhangan Environmental Impact Assessment," *Environmental Communication: A Journal of Nature and Culture*, 2(1) (2007), p. 171 - 193.

ceased due to the suspension of the project, the workers turned to illegal logging to meet their fuel demands, causing significant damage to nearby forests that the communities depend on.¹⁵⁰

According to Kopstad, since SN Power is the minority partner in the project, the company's Indian joint venture partner is handling community relations. In response to the protests, a local community group has been established to dialogue with affected communities and address their concerns. Kopstad also notes that this was SN Power's first major investment and that it has learned a great deal about community involvement and stakeholder engagement from this project.¹⁵¹

Approach to environmental issues

□ *Renewable sources of energy for electricity and GHG emissions*

SN Power operates almost exclusively with hydroelectric generation of electricity, placing it far ahead most electricity companies when it comes to renewable energy use. As a result of the renewable-only fuel mix, the company claims that its operations do not emit any significant greenhouse gases. However, hydropower, especially if it involves large reservoirs but also smaller run-of-river projects, can be a significant source of GHG emissions through the submersion and subsequent rotting of CO₂-absorbing plants, and it is not clear whether and how SN Power measures these emissions. Furthermore, while SN Power currently has a mix of large-scale and small-scale hydropower facilities, its plans for expansion exclusively involve large-scale plants (see Table 8).

The company has an active policy on carbon credits. It seeks to comply with the Clean Development Mechanism (CDM) criteria in order to be eligible for receiving these carbon credits. According to SN Power, the company's "role in combating climate change as a significant supplier of renewable energy was reinforced in 2007 when [its] second project got registered under the Kyoto Protocol's CDM".¹⁵² It should be noted that these CDM projects generate significant additional revenues for the company. For example, the La Higuera project in Chile, which is CDM certified, is expected to generate approximately US\$9.4 million dollars in revenue per year. The company also hopes to get its Totoral wind project in Chile CDM certified, and cites the CDM as a significant factor in its decision to invest in renewable energy technologies. SN Power's Allain Duhangan project applied for CDM in September 2006, but construction was already well underway at the end of 2004, casting doubt on the extent to which the CDM certification led to "additional" GHG reductions.

□ *Biodiversity*

SN Power's policy is to encourage the protection of biodiversity by applying the precautionary principle in all of its operations and decisions and striving to minimise the environmental footprint of its activities.¹⁵³ However, it should again be noted that the company's operations are increasingly large-scale hydroelectric facilities that can have a significant impact on biodiversity. Many of the

¹⁵⁰ K. Chauhan, "Labourers ruining forest wealth," *The Tribune*, 3 October 2007, <<http://www.tribuneindia.com/2007/20071003/himachal.htm>> (9 September 2008).

¹⁵¹ M.L. Kopstad, External Affairs Manager, SN Power, 10 September and 3 November 2008, personal communication with J. Wilde-Ramsing.

¹⁵² SN Power, "SN Power Annual Report 2007," (Oslo: SN Power, 2008), <http://www.snpower.no/News_and_events/Reports/SN_Power_Annual_Report_2007.pdf> (9 September 2008).

¹⁵³ SN Power, "SN Power Annual Report 2006," (Oslo: SN Power, 2007), <http://www.snpower.no/News_and_events/Reports/SN_Power_Annual_Report_2006.pdf> (9 September 2008).

company's operations are run-of-river projects, but these can also have serious impacts on migratory fish and other species and can divert water from long stretches of river to feed turbines.

Approach to economic issues

□ Local economic development

SN Power claims that it does business "in a way that adds value in the local communities and the countries in which [it] operate[s]".¹⁵⁴ In order to do so, the company aims to create long-term value for the countries in which it operates by investing in and operating profitable renewable energy projects. To ensure that the local economic development it fosters is sustainable, the company's policy is to "include appraisal of the risks and rewards as well as sustainable development considerations (economic, social and environmental) as key criteria for investment and divestment decisions".¹⁵⁵ As examples of the economic benefits its operations provide to local communities, SN Power lists job creation, contracts to local suppliers and service providers, tax generation, and active engagement in knowledge and skills transfer to host communities.¹⁵⁶

SN Power's decision to withdraw its plans to invest in Uganda provides an example of the difficult trade-offs the company has to make when it comes to balancing profitability and commercial viability with its commitment to local economic development and poverty eradication. In December 2004, SN Power announced that it would make Uganda its entry point for Africa in the energy sector. Despite an abundance of the natural resources necessary for power generation, including ten potential hydropower sites along the Nile alone, Uganda cannot meet its domestic energy needs. Currently, only about 5% of Uganda's population has access to electricity, and while power demand is growing at an annual rate of 9%, the growth in supply is 0%. The Ugandan government had hoped that SN Power's entry into the country would help improve Uganda's dismal electricity situation by providing power to an additional 15% of the population. However, in 2006 SN Power decided to withdraw from the Ugandan projects because it deemed them financially unviable. According to Kopstad, the projects "did not fit [SN Power's] corporate strategy and the commercial viability was not strong enough".¹⁵⁷ SN Power sold its rights to Norwegian power company Troenderenergi, which agreed to develop the sites. Nevertheless, the transfer of rights and related delay mean that residents of western Uganda continue to endure irregular or no power supplies beyond the originally-planned 24-month construction period.¹⁵⁸

Kopstad responded to the situation saying that SN Power's construction as a for-profit commercial enterprise requires it to make a return on investment for its investors and that the company conducts due diligence studies on all potential projects to ensure that they will meet this requirement before making the decision to invest. She added that although SN Power decided not to invest in the project, it did make considerable efforts to facilitate the transfer of the project to another company so that the project would eventually go ahead.¹⁵⁹

¹⁵⁴ SN Power, "Values and Principles," (Oslo: SN Power, 2007), <http://www.snpower.no/Corporate_Responsibility/info2/Values_and_Principles.pdf> (9 September 2008). p.5.

¹⁵⁵ SN Power, "Business Principles," (Oslo: SN Power, 2007), <http://www.snpower.no/Corporate_Responsibility/info2/SNP_Business_Principles_for_the_website.pdf> (15 September 2008). p.1.

¹⁵⁶ SN Power, "SN Power Annual Report 2006," (Oslo: SN Power, 2007), <http://www.snpower.no/News_and_events/Reports/SN_Power_Annual_Report_2006.pdf> (9 September 2008).

¹⁵⁷ Quoted in B. Among, "Powerless in Uganda," *The East African*, 10 December 2007, <http://www.ocnus.net/artman2/publish/Africa_8/Powerless_in_Uganda.shtml> (11 September 2008).

¹⁵⁸ *Ibid.*

¹⁵⁹ M.L. Kopstad, External Affairs Manager, SN Power, 10 Sept and 3 Nov 2008, personal communication with J. Wilde-Ramsing.

□ *Corruption*

SN Power's policies state that the company will act responsibly and will not offer, promise, pay or take bribes, nor will it involve itself in political favours, "unless they are of nominal value and are normal and customary in the business circumstances". The company also pledges not to influence political processes in an "unfair or un-transparent manner".¹⁶⁰ In 2008, the company developed and began implementing the SN Power Integrity Programme, which includes training for all employees on anti-corruption measures throughout the project development process. The programme also foresees the inclusion of anti-corruption measures in all of the company's contracts and agreements.¹⁶¹ SN Power is also a member of Transparency International Norway.

Approach to cross-cutting issues

□ *Stakeholder engagement and public participation in decision making*

SN Power claims that, "During project assessment and construction [it] work[s] closely with local communities to understand their needs and help ensure that [its] projects deliver social benefits." The company seeks to establish a regular and open dialogue on environmental and social performance with host communities and other stakeholders and aims to reflect the priorities and concerns of local communities in decision-making processes.¹⁶²

As for defining "stakeholder" and determining which stakeholders it needs to engage with, Kopstad notes that this very much depends on the project.¹⁶³ In order to receive feedback from stakeholders, SN Power holds early information meetings to inform stakeholders about its projects and plans. These meetings are held either in collaboration with local public bodies or as stand-alone open meetings. In Peru, for example, the company has held a series of meetings in small villages that will be affected by proposed projects. Furthermore, the social and environmental impact assessments that SN Power conducts provide a platform for dialogue with local stakeholders and provision of information.

To give one concrete example of the company's approach to stakeholder engagement, SN Power has encountered local resistance to its plans to develop four hydro plants in the Chilean region where the native Mapuche live. The Trayenko project, an 80/20 joint venture with the Gustavo Pavez Group, is currently undergoing feasibility studies. The project has received opposition from the Mapuche, who are dependent on the water and who fear that the hydroelectric dams will threaten holy lands, dry up an important waterway and riverside land, and dramatically alter their lifestyle. An additional concern, expressed by one of the mayors in the region, is that the dams might negatively influence the local tourism industry.¹⁶⁴

SN Power claims its policy regarding the projects has been one of active dialogue with the local community, but local activists have criticised the company representatives for their arrogant

¹⁶⁰ SN Power, "SN Power Annual Report 2006," (Oslo: SN Power, 2007),

<http://www.snpower.no/News_and_events/Reports/SN_Power_Annual_Report_2006.pdf> (9 September 2008). p.1.

¹⁶¹ M.L. Kopstad, External Affairs Manager, SN Power, 10 September and 3 November 2008, personal communication with J. Wilde-Ramsing.

¹⁶² SN Power, "SN Power Annual Report 2007," (Oslo: SN Power, 2008),

<http://www.snpower.no/News_and_events/Reports/SN_Power_Annual_Report_2007.pdf> (9 September 2008).

¹⁶³ M.L. Kopstad, External Affairs Manager, SN Power, 10 September and 3 November 2008, personal communication with J. Wilde-Ramsing.

¹⁶⁴ E. Hagen, "Protests against Norwegian Hydroelectric Power," Norwatch website, 22 October 2007, <<http://www.norwatch.no/index.php?artikkelid=1656&back=2>> (11 September 2008).

approach and unwillingness to yield the community's concerns.¹⁶⁵ SN Power has twice suspended the project in the face of local opposition, once after one of its employees was shot at in January 2008. On 2 August 2008, 26 communities from the Mapuche Territory of Liquiñe and the Liquiñe Commission for the Protection of the Environment, Indigenous Culture and Tourism made a public declaration of opposition to the Trayenko project. In the statement, the signatories allege that local residents had been bribed with alcohol, food, and promises for local infrastructure improvements in exchange for signing a document in support of the project. The statement also alleges that although the project has been temporarily suspended, the construction of access roads necessary for the project has continued and that this construction has caused damage to local forests and other local flora and fauna and the pollution of watersheds utilised by locals. The statement cites SN Power's public support for the principles of the UN Global Compact and questions why the company does not apply those principles to its activities in the Trayenko project.¹⁶⁶

Kopstad asserts that the situation is complex due to the fact that much of the Mapuche's ancestral land is now owned by large landowners outside the region, the existence of a number of misperceptions about the project¹⁶⁷, and the fact that there is much disagreement within the Mapuche community itself, some of which is totally opposed to dialogue with SN Power. Nevertheless, SN Power has undertaken a number of measures to address local concerns, incorporate these into project planning, and provide information to the affected communities. According to Kopstad, the company has placed a relatively large CSR team (6-7 individuals) on the ground for the project, set up local information offices, held over 50 information and dialogue meetings, conducted an ESIA, and incorporated some of the Mapuche's proposed changes into the potential project design to avoid disrupting the religious function of the rivers. However, the conflict goes beyond technical and environmental issues to the very question of how decisions are made, and by whom. The Mapuche insist on their right to "free, prior and informed consent" and that the water rights bought by SN Power from a local non-indigenous landowner were never theirs to buy. Although the company had at one point declared a "majority" of locals to be in favour of the project, Kopstad now admits that it is hard to gauge the degree of local opposition to or support for the project. She believes that the company's efforts to engage the communities through dialogue and cooperation platforms have increased local support for the project, but acknowledges that there is still some resistance.

In February 2009, Chile's national environmental regulator, Conama, declared the EIA to be inadmissible for not including necessary information. SN Power planned to revise and resubmit the EIA.

□ *Precautionary principle*

SN Power's policy is to apply the precautionary principle in all of its operations and decisions.¹⁶⁸

¹⁶⁵ A. Cacciari, "Chile Businessman Shot at in las Condes," The Santiago Times, 09 January 2008 <http://www.santiagotimes.cl/santiagotimes/2008010812656/news/business-news/index.php?option=com_content&task=view&id=12656&Itemid=41> (11 September 2008).

¹⁶⁶ Mapuche Communities, "Conflicto SN Power: Desde todos los frentes territoriales rotundo rechazo a proyectos hidroeléctricos en Liquiñe," Mapuexpress, 2 August 2008, <<http://www.mapuexpress.net/?act=news&id=3046>> (9 September 2008).

¹⁶⁷ Kopstad suggests that the largest misconception is that the project will involve large dams and flooded areas, which it will not. According to Kopstad, all four projects use run-of-the-river technology with most of the infrastructure concealed underground.

¹⁶⁸ SN Power, "SN Power Annual Report 2006," (Oslo: SN Power, 2007), <http://www.snpower.no/News_and_events/Reports/SN_Power_Annual_Report_2006.pdf> (9 September 2008).

□ *Product chain responsibility*

Kopstad asserts that SN Power always includes CSR issues in the tenders and evaluations it makes when selecting contractors and suppliers, paying particular attention to the health and safety record of potential business partners. She does acknowledge, however, that price and technical quality remain key criteria for choosing suppliers and contractors. In terms of how the company balances the trade off between social and environmental criteria, on the one hand, and price, which has a more direct effect on profits, on the other, Kopstad believes that the suppliers and contractors that are most competitive on price and technical quality generally also have a good record on sustainability issues.¹⁶⁹

Once SN Power decides to do business with a supplier or contractor, the company's policy is to provide copies of its *Values and Principles* to all partners and key contractors and require that they align themselves with the principles set out in the document.¹⁷⁰ The company asserts that it will not enter into partnerships that are not aligned with its *Business Principles*. In order to ensure compliance, SN Power includes sustainability clauses in contracts with its business partners. Examples of the criteria taken up in such clauses include requirements that contractors appoint a community officer, employ a quota of local residents, and contribute to local HIV/AIDS prevention programmes. SN Power monitors compliance with its *Values and Principles* by maintaining its own direct relations with communities in order to receive feedback on contractor performance. SN Power does conduct periodic audits of some of its business partners. These audits are generally done internally, without the use of independent third parties or involvement of local civil society and labour groups, but this is something SN Power may consider doing in the future.¹⁷¹

□ *Human rights*

SN Power refers to the UN Universal Declaration on Human Rights and the ten principles of the UN Global Compact as the basis for its policy for protecting human rights. No further specification is given.

4.3. AES corporation

4.3.1. Basic company information

AES, founded in 1981, is headquartered in Washington, D.C., USA. The company built its first plant in Texas in 1985 and expanded when markets began to open worldwide in the early 1990s. Today, AES is one of the world's largest global power companies with electricity generation and distribution operations in 29 countries on five continents. The company has an installed electricity generation capacity of over 43 GW at 124 power plants and generates more than 78,000 GWh of electricity for its over 100 million customers each year. In 2007, the company employed 28,000 globally and generated revenues of US\$13.6 billion.

¹⁶⁹ M.L. Kopstad, External Affairs Manager, SN Power, 10 September and 3 November 2008, personal communication with J. Wilde-Ramsing.

¹⁷⁰ SN Power, "Values and Principles," (Oslo: SN Power, 2007), <http://www.snpower.no/Corporate_Responsibility/info2/Values_and_Principles.pdf> (9 September 2008).

¹⁷¹ M.L. Kopstad, External Affairs Manager, SN Power, 10 Sept and 3 Nov 2008, personal communication with J. Wilde-Ramsing.

Two financial institutions hold relatively large percentages of AES' shares. Legg Mason Funds Management holds 17.89% of the shares, and Fidelity Investments owns 9.98% of the company.¹⁷² AES Corporation is organised into four regional business units: North America; Latin America; Europe, CIS, and Africa; and Asia and the Middle East.

4.3.2. Operations and investments in developing countries

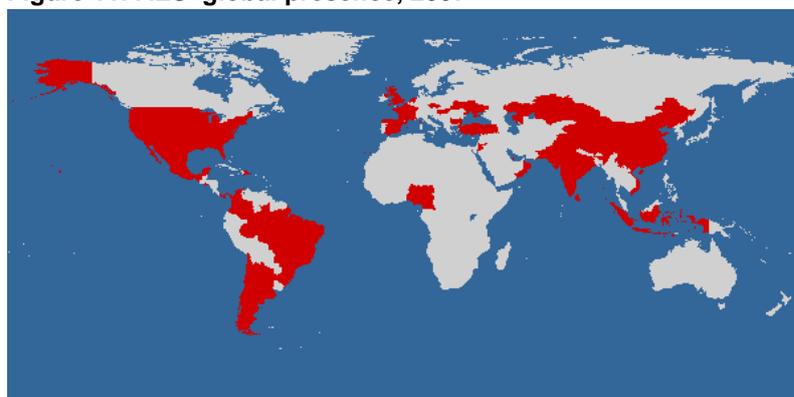
AES has electricity provision operations in 29 countries around the world, about half of which are developing countries. The company's Latin American operations are particularly significant for AES financially; in 2007, four of the company's top ten (revenue earning) subsidiaries were Latin American. AES Gener S.A. is AES' primary subsidiary in Latin America. Gener is 80% owned by AES and is based in Chile, but employs 630 people in its activities in Colombia, Argentina and the Dominican Republic. Table 9 lists the countries where the company is active, and Figure 11 maps the company's global presence.

Table 9: AES' global presence, 2007

Region	Countries
Latin America	Argentina, Brazil, Chile, Colombia, Dominican Republic, El Salvador, Mexico, Panama
Africa	Cameroon, Nigeria
Asia	China, India, Indonesia, Pakistan, Sri Lanka, Vietnam
North America	United States
Europe	Bulgaria, Czech Republic, France, Hungary, Kazakhstan, Netherlands, Spain, Turkey, Ukraine, United Kingdom
Middle East	Jordan, Oman, Qatar

Based on: AES¹⁷³

Figure 11: AES' global presence, 2007



Based on: AES¹⁷⁴

¹⁷² AES, "SEC filing, Form 10-K," (Filed 23 May 2007, 2007).

¹⁷³ AES website, "Global Presence," (2008), <http://aes.com/aes/index?page=global_presence> (24 October 2008).

¹⁷⁴ Ibid.

4.3.3. Approach to sustainable electricity provision in developing countries

AES declined to respond to a questionnaire (see Annex 1) sent by SOMO with regard to its approach to the provision of sustainable electricity in developing countries. The company also declined the opportunity to provide input telephonically and to comment on draft versions of this report. The information below is thus based on AES websites, annual and CSR-related publications, company information databases and news reports.

General values and standards

AES maintains a brief corporate responsibility section on its website, but the company does not publish a CSR report or any other periodic document to communicate its CSR policies to its stakeholders. The company notes that, at AES, “corporate responsibility is not a program”, but is rather about how the company conducts business and “the overall impact [it has] on society and on the lives of the people [it] serves”.¹⁷⁵ However, most of the examples AES lists on its “Corporate Responsibility” website are philanthropic activities rather than actions targeted at critical issues in sustainable electricity provision.

On its website, the company provides information about its general views, corporate governance, ethics and compliance, environment and safety. The company has published a Corporate Governance Code of Conduct. It also has a publicly available code of conduct in which it describes its five principal AES Values: 1) Put safety first, 2) Act with integrity, 3) Honor commitments, 4) Strive for excellence, and 5) Have fun through work. AES acknowledges that its Code of Conduct provides limited practical guidance to its employees and asserts that, “AES people are expected to rely on their own judgement to translate our Values from words to action”.¹⁷⁶ However, the company stresses that “business results are never more important than conduct consistent with [AES] Values”.¹⁷⁷

With regard to its values in developing countries, AES emphasises, “Providing electricity can radically improve the quality of life, especially in developing countries”, where the company aims to provide electricity “reliably, safely and responsibly”. The company admits that some of its standards, such as those related to the environment, currently differ at various AES operations in developing countries, but the company is developing new, company-wide environmental standards that will, when implemented, apply to all subsidiaries around the globe.¹⁷⁸

AES claims that “strong corporate governance is essential to running a successful and responsible business” and that the company has therefore developed rigorous governance structures that are outlined in its Corporate Governance Guidelines.¹⁷⁹ The company also encourages its employees to openly communicate their questions, concerns and suggestions about the management and operation of the company and strictly prohibits harassment, intimidation, and retaliation against an employee for raising a question or concern about improper behaviour. Furthermore, to address

¹⁷⁵ AES website, “Corporate Responsibility,” (2008), <http://www.aes.com/aes/index?page=corporate_responsibility> (6 November 2008).

¹⁷⁶ AES, “The AES Values: From Words to Action, AES Code of Conduct,” (Washington, D.C.: 2007), <<http://www.aes.com/pub-sites/sites/AES/content/live/0201391d47b2b0113038d998a0069dd/1033/AES%20Code%20of%20Conduct.pdf>> (7 September 2008), p.12.

¹⁷⁷ *Ibid.*, p.2.

¹⁷⁸ AES website, “Corporate Responsibility,” (2008), <http://www.aes.com/aes/index?page=corporate_responsibility> (6 November 2008).

¹⁷⁹ AES, “Corporate Governance Guidelines of The AES Corporation,” (2008), <http://aes.com/aes/index?page=corporate_governance> (6 November 2008).

questions or concerns AES operates a helpline that is available 24 hours a day, 7 days a week and can be accessed anonymously or confidentially.¹⁸⁰

Management and implementation of standards in developing countries

The AES Corporate Governance Guidelines describe the company's policies and structures for oversight of the board of directors as well as the board's membership criteria, independence, compensation, and tasks. The company provides no information on how management of sustainability and CSR issues is structured and provides little other information on management and implementation of its standards except to note that the company has recently initiated an ISO 14001-consistent EMS.¹⁸¹

Approach to social issues

□ Access to electricity and affordability

AES mentions on numerous occasions throughout its CSR material and Code of Conduct that one of its primary aims is to bring reliable electric service to underserved customers, and although the company provides few concrete details or examples, it alludes to its "exten[sion of] power lines into a village in El Salvador or Cameroon".¹⁸² However, in 2007 AES was fined by the Kazakh government for anti-competitive practices that resulted in steep electricity price increases for Kazakh citizens. The head of the Ministry of Industry and Trade's Committee for Competition Protection blamed AES for the country's soaring energy prices, asserting, "As a result of [AES'] actions, consumers and residents...have been overcharged for power supply [where] the power tariffs according to the antimonopoly regulations should have been 27% less".¹⁸³ Bayliss also reports that in 1999, Telasi, AES' power supply subsidiary in Georgia, was disconnecting 1,000 customers a month while electricity prices increased and blackouts continued.¹⁸⁴

□ Labour issues

According to AES, the company's number one value and top priority is safety, both among its own employees and contractors as well as the communities in which it operates.¹⁸⁵ The company has set itself a goal of "zero fatalities among AES people and contractors".¹⁸⁶ AES claims that it has developed and is implementing global safety standards based on "internationally recognized safety standards", but the company does not communicate about the content of its standards or on which international standards they are based, nor is there evidence that the principles are translated into concrete policies.¹⁸⁷

¹⁸⁰ AES, "The AES Values: From Words to Action, AES Code of Conduct," (Washington, D.C.: 2007), <<http://www.aes.com/sites/sites/AES/content/live/0201391d47b2b0113038d998a0069dd/1033/AES%20Code%20of%20Conduct.pdf>> (7 September 2008). p.3.

¹⁸¹ Ibid.

¹⁸² Ibid.

¹⁸³ KGN, "Government fines AES for \$200 over antimonopoly law violations," Kazakhstan General Newswire, 5 October 2007.

¹⁸⁴ K. Bayliss, "Privatisation and Poverty: The Distributional Impact of Utility Privatisation," (Centre on Regulation and Competition, 2002), <http://www.competition-regulation.org.uk/publications/working_papers/wp16.pdf> (6 November 2008).

¹⁸⁵ AES website, "Corporate Responsibility," (2008), <http://www.aes.com/aes/index?page=corporate_responsibility> (6 November 2008).

¹⁸⁶ AES, "2006 Annual Report," (Arlington, VA: AES Corporation, 2007). p.11.

¹⁸⁷ AES website, "Corporate Responsibility," (2008), <http://www.aes.com/aes/index?page=corporate_responsibility> (6 November 2008).

In order to monitor implementation of its safety standards and policies, AES conducts periodic self-assessment safety audits at all of its subsidiaries, but no information is given about independent, third-party audits or the involvement of stakeholders in the audits. AES also holds annual Safety Action Forums at which personnel from various countries and levels of the company, including linemen, team leaders, dispatch operators and contractors, discuss how to improve safety.

In order to offer its employees ongoing training and career development opportunities, AES has set up Learning Centers in several countries, including a number of developing countries such as Brazil, Cameroon, Kazakhstan, and Ukraine. The company also has an online AES Learning Center where it offers technical and managerial courses to employees.

■ *Indigenous rights*

AES claims that it “fully respect[s] human rights in the development and operation of projects”.¹⁸⁸ However, the company has received heavy criticism from indigenous communities and civil society organisations for its plans to construct three large scale hydroelectric dams on the Changuinola River in Panama. The US-based Center for Biological Diversity has decried the “controversial forced relocation of Ngöbe indigenous people” associated with the project and highlighted the following recent events¹⁸⁹:

- In March 2009, the Ombudsman of the Republic of Panama issued a special report on human-rights violations and the construction of the dam.¹⁹⁰
- In October 2008, the InterAmerican Commission on Human Rights held a public hearing on the legality of the displacement of the Ngöbe tribe and the alleged failure of AES to obtain prior, informed consent.
- In August 2008, UN special rapporteur on indigenous peoples, James Anaya, issued a declaration expressing concern about the Ngöbe affected by the dam.¹⁹¹
- In July 2008, the World Heritage Committee found that there is an “absence of any planned measures to mitigate the impact of the hydroelectric dams...and...absence of an effective participatory management process involving civil society and government authorities,” and requested that Panama develop and implement measures to monitor mitigation, ensure the needs of the community are met, and carry out a cumulative-effects analysis of the dam construction.¹⁹²

■ *Public health and safety*

In addition to the occupational health and safety programmes mentioned above, AES has several initiatives designed to ensure electric safety among the public in developing countries. For example, in

¹⁸⁸ AES, “AES responds to Cultural Survival statement ‘Crisis in Panama’”, 16 April 2009, <<http://www.business-humanrights.org/Links/Repository/887061>> (9 May 2009).

¹⁸⁹ P. Galvin, “AES Corporation Participating in the Demise of the Ngobe Tribe of Panama and La Amistad Biosphere Reserve”, 23 April 2009, Center for Biological Diversity, <http://www.biologicaldiversity.org/news/press_releases/2009/la-amistad-04-23-2009.html> (9 May 09).

¹⁹⁰ Ombudsman of the Republic of Panama, “Informe Especial sobre impactos socio culturales y ambientales ocasionados por el Proyecto Hidroeléctrico Chan-75”, March 2009, <<http://www.defensoriadelpueblo.gob.pa/>> (12 May 2009).

¹⁹¹ UN High Commissioner for Human Rights, “United Nations Expert on Indigenous Peoples denounces human rights violations committed against the Charco la Pava community in Panama”, 8 August 2008, <<http://www.unhchr.ch/hurricane/hurricane.nsf/0/40A49D23F8481D60C125749F003925B6?opendocument>> (12 May 2008).

¹⁹² World Heritage Committee, quoted in P. Galvin, “AES Corporation Participating in the Demise of Ngobe Tribe of Panama and La Amistad Biosphere Reserve”, 23 April 2009, Center for Biological Diversity, <http://www.biologicaldiversity.org/news/press_releases/2009/la-amistad-04-23-2009.html> (9 May 09).

El Salvador, Ukraine, and Kazakhstan, AES produces magazines aimed at spreading knowledge of electrical safety in schools, community centres, and other local venues.

Approach to environmental issues

In 2007, AES initiated the implementation of a new, ISO 14001-consistent EMS, which it claims will lead all AES businesses worldwide to implement internationally recognised environmental standards and management procedures.

□ *Climate change and GHG emissions*

AES views GHG emissions as one of today's most significant challenges, but a challenge that also represents "a potential US\$28 billion market" and a business "growth opportunity in projects and technologies to reduce or offset GHG emissions".¹⁹³ Rather than reducing the GHG emissions of its electricity provision activities, AES climate change strategy is focused on the creation of carbon offset credits. AES has developed a separate business unit, called Climate Solutions, to tackle climate change. The company's strategy for reducing greenhouse emissions is primarily focused on capturing and destroying methane gas from agricultural waste, landfills, and industrial processing plants. AES has also undertaken a number of reforestation projects in Latin America in order to remove CO₂ from the atmosphere.

AES has also recently launched a joint venture with General Electric called GE AES Greenhouse Gas Services (GHGS), which will create carbon offsets and sell them to US businesses that cannot or do not want reduce the GHG emissions from their own activities. This, as the company notes twice on its short Alternative Energy webpage, will "creat[e] attractive opportunities for AES while improving the environment in the process".¹⁹⁴ However, the success of AES' venture is highly dependent on the US Congress passing legislation that restricts GHG emissions and the way in which the legislation defines "offsets", the emissions credits that are granted for activities that reduce GHGs in the air, such as tree planting. This has led to an expensive climate lobbying campaign by AES for members of Congress.¹⁹⁵

At the same time, AES' numerous operative coal-fired power plants and its plans to build more in the future make it a large emitter of GHG and put it at risk of losing out if climate change combating legislation is enacted. In September 2007, New York's Attorney General subpoenaed executives of AES for information on whether its disclosures to investors in filings with the Securities and Exchange Commission (SEC) adequately described the company's financial risks related to its emissions of GHGs.¹⁹⁶ Furthermore, environmentalists in the UK are advocating for the closure of AES' Kilroot plant in Northern Ireland because they say it uses outdated technology and emits high levels of GHGs.¹⁹⁷ In response, AES notes that it has installed desulphurisation technology at the Kilroot plant to reduce SO₂ emissions.

Developing countries will figure prominently into AES' climate strategy; the company notes that it is well established in 19 developing countries that are signatories to the Kyoto Protocol and eligible

¹⁹³ AES website, "Alternative Energy," (2008), <http://aes.com/aes/index?page=alternative_energy> (12 November 2008).; AES, "2006 Annual Report," (Arlington, VA: AES Corporation, 2007). p.11.

¹⁹⁴ Ibid.

¹⁹⁵ T. Carney, "AES and GE imitate Enron on coal and climate", Washington Examiner online, 26 May 2009, <<http://www.washingtonexaminer.com/politics/AES-and-GE-imitate-Enron-on-coal-and-climate-46120417.html>> (26 May 2009).

¹⁹⁶ Associated Press, "Dynergy to Warn Investors on Risks of Coal Burning," The New York Times online, 23 October 2008, <http://www.nytimes.com/2008/10/24/business/24dynergy.html?_r=1&ref=business&oref=slogin> (24 October 2008).

¹⁹⁷ FoE UK website, "Carbon Dinosaurs," (2008), <http://www.foe.co.uk/campaigns/climate/press_for_change/carbon_dinosaurs/aes.html> (14 March 2008).

as hosts for CDM and JI offset projects. At the same time, two of the top four CO₂ producing electricity companies in Latin America are AES subsidiaries: AES Argentina and AES Gener SA in Chile.¹⁹⁸ And despite its lobbying for climate legislation at home, the company is rapidly expanding its coal and diesel-fired operations in Latin America, Asia, and Africa. The company operates or is planning coal-fired power plants in China, the Dominican Republic, El Salvador, Vietnam, Chile, where it already has four coal plants in operation, and India, where the company is currently building a new coal-fired power plant with an accompanying coal mine.¹⁹⁹ These plans, combined with the company's climate-related activities at home, led one US journalist to observe, "AES [is] peddling greenhouse gas offsets while lobbying for policies to make those offsets valuable — the same buy-low, lobby-hard, sell-high strategy tried by Enron. AES' simultaneous expansion of coal-fired power in Asia, South America and Africa, however, highlights how environmental regulations can yield profit without necessarily yielding environmental gains".²⁰⁰

□ *Renewable sources of energy for electricity*

AES aims to increase its utilisation of renewable sources of energy in the coming years, investing up to US\$10 billion in a newly launched renewables business over the next decade. The company notes that alternative sources of energy are becoming more economically competitive with fossil fuel and views investment in renewables as a strategic business opportunity that, it mentions as an afterthought, "is also good for the environment".²⁰¹

The company does not provide an overview of fuel source breakdowns of its electricity generation, but according to AES, the company's renewables portfolio comprises nearly 20% of its global generation capacity.²⁰²

In March 2008, AES announced that it would partner with the private-equity firm Riverstone Holdings to invest up to US\$1 billion in solar energy projects around the world. The joint venture, AES Solar, will begin developing solar projects in the developed world, primarily in Europe and Asia, where local utilities are required to buy renewable electricity at above-market rates. However, it became clear in 2009 that AES was reducing its commitment to the company and investing less than initially planned, contributing less than one-third of the US\$126 million it had initially pledged.²⁰³ AES' primary focus with regard to development of renewable sources of energy appears to be wind, which it regards as "one of the lowest cost renewables per megawatt today" and a technology with "tremendous growth potential globally".²⁰⁴ AES has developed or purchased a number of wind projects in recent years, but these have been almost exclusively in developed countries, primarily the US. Of the 1,312 MW of wind capacity (in 13 projects) AES developed or acquired between 2005 and 2008, only one project of 50 MW (less than 4%) is located in a developing country – the 50 MW Hulunbeier plant in Inner Mongolia, China. The company does have further wind projects in the planning and construction phases in India, China, and Latin America.

¹⁹⁸ CARMA website, "CARMA: Carbon Monitoring for Action," (2007), <www.carma.org> (17 October 2008).

¹⁹⁹ AES website, "Global Presence," (2008), <http://aes.com/aes/index?page=global_presence> (24 October 2008).

²⁰⁰ T. Carney, "AES and GE imitate Enron on coal and climate", Washington Examiner online, 26 May 2009, <<http://www.washingtonexaminer.com/politics/AES-and-GE-imitate-Enron-on-coal-and-climate-46120417.html>> (26 May 2009).

²⁰¹ AES, "2006 Annual Report," (Arlington, VA: AES Corporation, 2007). p.17.

²⁰² Ibid. p.34.

²⁰³ The Wall Street Journal online, "AES Slows AES Solar Funding, Jilts European Developer", 26 May 2009, <<http://online.wsj.com/article/BT-CO-20090526-708944.html>> (26 May 2009).

²⁰⁴ AES website, "Alternative Energy," (2008), <http://aes.com/aes/index?page=alternative_energy> (12 November 2008).

□ *Biodiversity*

According to environmental and indigenous organisations in Panama, AES' plans to construct three hydroelectric dams on the Changuinola River threaten to damage the La Amistad Biosphere Reserve, a UNESCO-designated site that provides habitat for hundreds of rare, endemic, endangered, and migratory species. The US-based Center for Biological Diversity claims that the dams will "create insurmountable barriers for numerous fish species [and cause] massive destruction inside the UN-designated La Amistad Biosphere Reserve".²⁰⁵ In a statement responding to the situation, AES maintained that it remains committed to environmental responsibility and providing sustainable energy.²⁰⁶

□ *Waste and pollution*

AES claims that it is working to reduce waste and pollution from its power plants. However, most of the examples it gives of such reduction are at its plants in developed countries, primarily the US. It does provide one example for the AES Jiaozuo plant in China, where the company has installed desulphurisation technology to reduce SO₂ emissions by 90%.²⁰⁷

On the other hand, AES has been involved in a number of pollution controversies in developing countries. In 2007, AES was fined US\$6 million by the Dominican government for the illegal dumping of ash generated in a Puerto Rican generation plant. Environmentalists protested against the verdict, claiming that the compensation was much too low.²⁰⁸ Also in 2007, AES' construction of a fossil fuel-based plant in Douala, Cameroon, drew protests from local communities over soil, water, and air pollution.²⁰⁹

Approach to economic issues

□ *Eco-efficiency*

In 2006 AES implemented a pilot project, called APEX, to improve efficiency and performance across its developed and developing country units. According to the company, the pilot project has been a big success, improving economic efficiency and reliability at plants in several developing countries, such as in China where it streamlined the handling of pulverised coal, in the Ukraine where it saved US\$600,000 on maintenance costs, and in Brazil where it hopes to save US\$1.5 million in 2007. Based on these positive experiences, AES is now rolling out the programme company-wide.²¹⁰

□ *Taxation*

AES has cited its payment of taxes to developing country governments to defend itself against charges of anti-competitive behaviour, for example in Kazakhstan. However, Bayliss observes that in Honduras AES petitioned the government to operate under free-trade zone conditions which

²⁰⁵ P. Galvin, "AES Corporation Participating in the Demise of the Ngobe Tribe of Panama and La Amistad Biosphere Reserve", 23 April 2009, Center for Biological Diversity, <http://www.biologicaldiversity.org/news/press_releases/2009/la-amistad-04-23-2009.html> (9 May 09).

²⁰⁶ AES, "AES responds to Cultural Survival statement 'Crisis in Panama'", 16 April 2009, <<http://www.business-humanrights.org/Links/Repository/887061>> (9 May 2009).

²⁰⁷ AES, "2006 Annual Report," (Arlington, VA: AES Corporation, 2007). p.24.

²⁰⁸ Xinhua, "Impugnan ambientalistas dominicanos acuerdo con EEUU," Xinhua News Agency, 4 March 2007.

²⁰⁹ African Press Agency website, "Cameroon: Residents of Douala protest against pollution," (2007), <http://www.apanews.net/apa.php?page=show_article_eng&id_article=39092> (14 Mar 2008).

²¹⁰ AES, "2006 Annual Report," (Arlington, VA: AES Corporation, 2007). p.23.

would allow it to avoid paying taxes and other royalties.²¹¹ Furthermore, AES has 81 subsidiaries listed in the Netherlands, including the Dutch Antilles, and six subsidiaries in Bermuda. This is noteworthy because these countries are generally known as “tax havens”, and AES has few or no electricity provision operations in these countries. The majority of the subsidiaries and holding companies have no employees.

□ *Corruption*

AES undertakes to conduct its business in a fair and ethical manner and pledges “not offer anything of value to others to gain an improper advantage in obtaining or retaining business or obtaining other favorable action”.²¹² The company does not condone bribery or any improper payments, even if its refusal to do so would result in a lost business opportunity. The company claims that it abides by international anti-corruption laws and standards and gives as an example of such standards the United States Foreign Corrupt Practices Act.

Despite this policy, AES is involved in a bribery case in Brazil in which 17 people from the Brazilian national bank are being charged with illegally providing money to AES to buy the distribution company Electropaulo.²¹³ Furthermore, in 2003 the Ugandan Inspectorate of Government initiated an investigation into alleged bribery by AES related to a hydroelectric dam project.²¹⁴

□ *Competition*

AES’ approach to competition is to “compete lawfully based on the merits of [its] products and services and in accordance with the letter and spirit of antitrust and other laws designed to preserve free and open competition”. The company further notes that, “AES will not make formal or informal agreements with its competitors regarding prices, production or inventory levels, bids, or allocation of markets, customers, or suppliers”.²¹⁵

Yet despite this policy, the company has acknowledged that its Ukrainian subsidiary, AES-Kyivoblenergo, violated anti-monopoly laws in that country in 2005. The Ukrainian government contacted the US Ambassador to Ukraine about the issue, and AES was fined by the government for “systematic inobservance of the legislation and normative documents” and “inobservance of improvement notices issued by regulatory authorities.” The authorities agreed to reduce the fine after AES admitted to the violations.²¹⁶

In a separate incident, in 2007 AES was fined US\$200 million by the Kazakh government for violation of that country’s anti-monopoly laws. According to the Kazakh Ministry of Industry and Trade’s Competitiveness Protection Committee, “AES companies have bundled and committed serious violations of the anti-monopoly legislation. In 2005-2006 AES without any legal ground refused to sell power to a few power supply companies, which were ‘not of their lot,’ built a power

²¹¹ K. Bayliss, "Privatisation and Poverty: The Distributional Impact of Utility Privatisation," (Centre on Regulation and Competition, 2002), <http://www.competition-regulation.org.uk/publications/working_papers/wp16.pdf> (6 Nov 2008).

²¹² AES, "The AES Values: From Words to Action, AES Code of Conduct," (Washington, D.C.: 2007), <<http://www.aes.com/pub-sites/sites/AES/content/live/0201391d47b2b0113038d998a0069dd/1033/AES%20Code%20of%20Conduct.pdf>> (7 Sept 2008). p.9.

²¹³ BNA, "Ex jefes de BNDES acusados en caso de privatización de AES-Eletropaulo " Business News Americas, 9 February 2007.

²¹⁴ S. Lilley, "AES Backs Out of Bujagali Dam Project," Corpwatch website, 28 August 2003, <<http://www.corpwatch.org/article.php?id=8250&printsafe=1>> (6 November 2008).

²¹⁵ Ibid. p.7.

²¹⁶ UBD, "AES-Kyivoblenergo Recognizes Inobservance Of Anti-monopoly," Ukraine Business Daily, 14 December 2007.

supply system exclusively using its own affiliated company NurEnergoService, portioned out the power market, and limited access for consumers to their power.” The result of AES’ anti-monopoly actions was a 27% increase in electricity prices for consumers, leading the Kazakh government to express its disbelief and discontent with AES behaviour: “It’s amazing that AES corporation [sic], which is listed on the New-York Stock Exchange and declares itself a public company, keeps ignoring the Kazakhstan law”.²¹⁷

Approach to cross-cutting issues

□ *Product chain management*

In addition to outlining the company’s values and expectations of its own employees, AES’ Code of Conduct also communicates its expectations for suppliers, consultants, agents, business partners, and others who perform work on behalf of the company.²¹⁸ The company notes that it seeks to do business with contractors and suppliers that follow the highest standards of integrity and business conduct and that these must comply with AES policies. That said, environmental and social concerns seem to be on the back burner when selecting business partners, as AES explains, “We will make purchasing and procurement decisions that achieve the best value for AES, including price, quality, performance, and suitability”.²¹⁹

□ *Transparency and provision of information*

AES pledges that it will “provide full, fair, accurate, timely, and understandable disclosures about financial and operational issues to investors and government agencies”.²²⁰ The company makes no mention of any policy for providing information to the communities and other stakeholders affected by its operations in developing countries.

The company further promises not to engage in “manipulation, concealment, abuse of privileged information, misrepresentation of material facts, or any other unfair dealing practices”.²²¹ However, after being fined by the government of Kazakhstan for violation of anti-monopoly laws in 2007, the head of the Kazakh Competitiveness Protection Committee accused AES of deliberately trying to conceal information from the public, noting, “Representatives from [AES] contacted me and attempted to convince me not to reveal [the anti-monopoly violations] to journalists, as it could affect their shares and cause problems for them on the New York Stock Exchange”.²²²

4.4. Company approach conclusions

The analysis of the three companies’ CSR policies, strategies, practices, and management styles reveals that although all of the companies claim in one way or another that sustainable development and poverty reduction through electricity provision are among their top priorities, their conceptualisation of CSR and their approach to sustainable electricity provision in developing countries vary widely. Endesa’s approach is highly reliant on international standards and norms,

²¹⁷ KGN, “Government fines AES for \$200 over antimonopoly law violations,” Kazakhstan General Newswire, 5 October 2007.

²¹⁸ AES website, “Alternative Energy,” (2008), <http://aes.com/aes/index?page=alternative_energy> (12 November 2008).

²¹⁹ AES, “The AES Vaules: From Words to Action, AES Code of Conduct,” (Washington, D.C.: 2007), <<http://www.aes.com/pub-sites/sites/AES/content/live/0201391d47b2b0113038d998a0069dd/1033/AES%20Code%20of%20Conduct.pdf>> (7 September 2008). p.9.

²²⁰ Ibid. p.9.

²²¹ Ibid. p.6.

²²² KGN, “Government fines AES for \$200 over antimonopoly law violations,” Kazakhstan General Newswire, 5 October 2007.

while SN Power's model appears to be more based on a deeply-ingrained, old fashioned conceptualisation of sustainable development. AES, on the other hand, puts less emphasis on CSR and sustainable development than the other two companies, focusing primarily on the hard economic realities of the industry. More discussion of and conclusions from the analysis of company approaches can be found below in Chapter 6.

The following section seeks to move beyond an analysis of the three companies' CSR policies to the ground in developing countries where the companies' CSR practices, and their impact on local communities, ecosystems, and economies, are observed and investigated through empirical field research in four concrete case studies: AES in Argentina, Endesa in Argentina, Endesa in Peru, and SN Power in Peru.

5 Impacts on the ground: case studies in Argentina and Peru

The case studies presented below are based on empirical field research in Argentina and Peru. In Argentina, researchers focused on AES' Central Dique electricity generation station and its Edelap distribution company, as well as on Endesa's Central Dock Sud and Central Costanera, both generation stations.

The Peruvian case studies consist of Endesa and SN Power, both of which have invested in electricity generation, transmission and/or distribution companies in Peru. For Endesa, researchers focused on the local generation subsidiary Edegel and specifically on four of Edegel's power plants: Huinco, Matucana, Chimay, and Ventanilla. With regard to SN Power, the research investigated two power plants (Cahua and Pacasmayo) of the company's Cahua subsidiary and two plants (Malpaso and Pachachaca-La Oroya) of the company's ElectroAndes subsidiary. More information on the methodology used for the field research can be found in Section 1.4.

5.1. AES in Argentina

AES has been active in Argentina since the country liberalised its electricity sector in the early 1990s. With 3,506 MW of installed electricity generation capacity, the company currently accounts for 12% of the total capacity in Argentina through a number of Argentine generation subsidiaries including AES Gener, Central Térmica San Nicolás S.A., Hidroeléctrica Río Juramento S.A., TermoAndes S.A., AES Caracoles S.R.L., and AES Parana. The fossil fuel-based TermoAndes plant is located in Argentina but produces electricity primarily for export to the Chilean market.²²³ Table 10 lists the company's generation facilities in Argentina.

Table 10: AES installed generation capacity in Argentina, 2007

Facility name (and location)	AES subsidiary	Fuel type	Capacity (MW)	AES share (%)
Paraná (Buenos Aires)	AES Paraná SA	Natural gas (CCGT)	845	100
CT San Nicolás (Buenos Aires)	San Nicolás Thermal Station	Coal, natural gas & oil	675	96
Central Dique (Buenos Aires)	Central Dique	Natural gas (98%) & diesel (2%)	68	51
TermoAndes		Fossil fuel	643	91
Sarmiento (San Juan)	AES Caracoles SRL	Natural gas	33	98
Total fossil fuel			2,264	
Quebrada de Ullum (San Juan)	AES Caracoles SRL	Hydro	45	Operate only
Ullum (San Juan)	AES Caracoles SRL	Hydro	45	98
Alicura (Río Negro)	AES Alicura SA	Hydro	1,040	96
Cabra Coral (Salta)	AES Juramento SA	Hydro	102	98
El Tunal (Salta)	AES Juramento SA	Hydro	10	98
Total hydro			1,242	
TOTAL			3,506	

Based on: AES224

²²³ AES, "AES 2006 Fact Book," (Arlington, VA: AES Corporation, 2006). p.62.

²²⁴ AES website, "Global Presence," (2008), <http://aes.com/aes/index?page=global_presence> (24 October 2008).

In addition to its generation activities, AES owns the distribution company Empresa Distribuidora La Plata (Edelap). In 2007, Edelap served 295,572 customers and sold 2,450 GWh of electricity in the Buenos Aires region, including La Plata, Berisso, Ensenada, Brandsen, Magdalena and Punta Indio. The company also owns the distribution company Edes, which serves 150,000 customers in the area south of Buenos Aires province. Empresa Distribuidora Electrica Norte SA, another AES distribution project, was sold in June 2007.²²⁵ InterAndes is an AES transmission company that operates a 345 kV transmission line from the TermoAndes plant to the Chilean border.

5.1.1. Local management approach to CSR

AES' Edelap has a brief CSR section on its website that lists the company's environmental policy and has a link to a Spanish version of AES' code of ethics.²²⁶ However, there is little information available regarding how local AES management implements the company's CSR policies. The Argentine subsidiaries do not communicate their approach to corporate responsibility and sustainable electricity provision frequently to the public. According to a local AES manager, this is because the company is against using CSR material for marketing purposes. Despite not publishing CSR information and despite the lack of a clear, detailed CSR policy from the headquarters, local AES management insists that they implement CSR policies "in a way that respects the culture of each of the places in which it operates".²²⁷

In this context, AES Argentina indicates that the objective of its CSR programmes is to contribute to the development of the communities where it operates, with particular focus on education, cultural development and satisfaction of unfulfilled basic needs, primarily among children. AES contributes labour, services, materials and monetary donations through 10 CSR programmes that seek to, for example, improve nutrition among school-age children and contribute to the development of the arts. Thus, as already indicated by the analysis of AES' headquarter-level CSR policies in Section 4.3.3, the company's interpretation of, and thus programmes for, CSR seems to be oriented toward philanthropic activities rather than core-business impacts and the critical issues outlined in this report.

AES does, however, have one CSR programme that teaches children about how to use energy more efficiently and responsibly and provides education in electrical safety and rational energy use. Also, Edelap has recently sought to improve its service by incorporating quality management systems, such as ISO 9001 certification for both its High-Tension Transmission System and its Meter reading, Billing and Collection System, as well as external certification of its Public Safety System.²²⁸ In 2004, Edelap signed up to the UN Global Compact.

5.1.2. Social issues

▣ Affordability

AES' Edelap was the first energy company to reach an agreement with the Argentine Government in the context of the renegotiation of utility rates in Argentina following the economic crisis of 2001-2.²²⁹ The agreement, signed in 2004, included an increase in the average electricity tariff (of no

²²⁵ AES, "AES 2006 Fact Book," (Arlington, VA: AES Corporation, 2006).

²²⁶ Edelap website, "Responsibilidad social", no date, <<http://www.edelap.com.ar/social.htm>> (2 April 2009).

²²⁷ AES Argentina manager, Buenos Aires, 5 September 2008, interview by FARN.

²²⁸ Edelap website, "Empresa, Calidad y seguridad", no date, <<http://www.Edelap.com.ar/empresa/empresa-calidad.htm>> (19 August 2008).

²²⁹ ENRE, "2004-2005 Annual Report: Las tarifas del servicio de Distribución", 2005, <<http://www.enre.gov.ar>> (25 July 2008).

more than 15%); the payment, in instalments, of the penalties imposed by ENRE on Edelap; and the suspension and withdrawal of lawsuits filed by Edelap against the government with the Arbitration Court of the International Centre for Settlement of Investment Disputes (ICSID). In addition, the agreement stipulated that increase in distribution tariffs should not affect residential user rates, but apply only to the remaining user categories (e.g. industrial, commercial). The contract renegotiation also included an 18 million Argentine peso (US\$ 6 million) investment plan for 2005 aimed at improving the quality of the service provided to users in Edelap's concession area.²³⁰

□ Labour issues

In addition to the National Labour Law and electricity sector-wide collective bargaining agreement mentioned in Section 3.1, labour relations between Edelap and its workers are regulated by the Edelap-specific collective agreement *Convenio Colectivo de Trabajo (CCT) N° 860/07 "E"*, which is applicable to all Edelap workers except senior staff, professionals with specific functions, legal representatives, and contracted and sub-contracted personnel. The Agreement was signed by Edelap and the Buenos Aires power sector trade union, *Sindicato de Luz y Fuerza de Capital Federal*, and ratified by the national Ministry of Labour and Social Security by means of Resolution 277/07, on 28 March 2007. It will be in force until 30 June 2009.²³¹

Edelap's CCT 860/07 "E" includes six chapters and a supplementary statement. One of the most important issues it addresses is that of working hours. The Agreement stipulates a maximum working day of 8 hours and 12 minutes (41 weekly hours), with continuous or discontinuous work days. On continuous work days, workers are entitled to a 12-minute break, whereas on discontinuous work days they work 8 hours and have a 1-hour break, with food expenses covered by the company. Shift personnel working in teams active 24 hours per day work 6-hour daily shifts and a maximum of 36 weekly hours. In addition, those working between 21:00 and 6:00 are paid an extra 30% per work hour (article 20). A union official noted, "We had raised this issue for years and never gotten a positive response [from AES]. After great pressure...surveillance personnel began working 6 hours once again. As for maintenance work at the generation stations, they are working 7 hours, 12 minutes. Basically, we gained back what we had before privatisation".²³²

With regard to occupational health and safety, one of the workers' key concerns, Edelap committed to providing ongoing training to ensure safety at work (Article 22) and to creating a capacity building, prevention, hygiene and safety commission to be comprised of representatives from both the trade union and the company (Article 12). The workers' concern stems from the significant number of work-related accidents and deaths in the past years. Of the 605 worker deaths at work reported in Argentina in 2006, 129 (21.6%) occurred in the electricity sector.²³³ According to an electricity union official 4 Edelap workers died in the period 2000-2007.²³⁴

²³⁰ EDELAP, "Nuestra Empresa, Renegociación del contrato de concesión", no date, <http://www.Edelap.com.ar/empresa_contrato.htm> (4 September 2008).

²³¹ MEyOSP, Subsecretaría de Administración y Normalización Patrimonial, Dirección de Normalización Patrimonial, "Memoria de las Privatizaciones, Reseña Histórica de Edelap", no date, <<http://mepriv.mecon.gov.ar/segba/Personal.htm>> (26 July 2008).

²³² D. Fernández, Subsecretary of Culture, Training and Scholarships, Sindicato de Luz y Fuerza de Capital Federal, Buenos Aires, 15 August 2008, interview by FARN.

²³³ Superintendencia de Riesgos de Trabajo, Publications, "Anuario Estadístico 2006. Accidentabilidad y Cobertura", no date, <<http://www.srt.gov.ar/publicaciones/anuario2006/Anuario2006.pdf>> (20 August 2008), p. 28, 30.

²³⁴ D. Fernández, Subsecretary of Culture, Training and Scholarships, Sindicato de Luz y Fuerza de Capital Federal, Buenos Aires, 15 August 2008, interview by FARN.

The collective agreement also stipulates that Edelap should reduce the use of contractors and sub-contractors (Article 23). In 1997, before the company was bought by AES, less than 2% of the workforce was contracted or outsourced personnel.²³⁵ Outsourcing increased markedly after privatisation, but the unions have been fighting to reduce this practice. A union official notes:

There was a shift from state-owned companies to privatised companies using a good deal of contracted labour. But the union has been pressuring [Edelap] to stop this practice and focus again on having a company workforce made up of its own personnel, workers actually doing their own tasks directly. We have been successful in getting [Edelap] to backpedal on outsourcing and contract labour, because the model didn't work."

Daniel Fernández, Sindicato de Luz y Fuerza de Capital Federal²³⁶

Although negotiations are currently underway between AES and union representatives, workers at AES' Central Dique currently lack a collective agreement to protect their rights. Central Dique's workers are still covered by the National Labour Law, but the lack of a company-specific agreement means that they enjoy less rights than their colleagues at other plants.

□ Public health and safety

Residents of La Plata, one of AES' Edelap's principal areas of operation, have complained of dilapidated and dangerous electricity infrastructure with frequent reports of electricity poles falling on cars and houses and explosions of transformers and at electricity sub-stations.²³⁷ After one event a local resident exclaimed, "I was grilling and suddenly I saw flames, I went to check but it wasn't my barbecue, it was the power sub-station. And then it blew up; it was terrible, everything exploded".²³⁸

ENRE has fined Edelap four times for public safety violations and anomalies since AES took over the company.²³⁹ The fines related to the company's failure to comply with Article 16 of Law 24065 regarding proper maintenance of electricity infrastructure so as not to cause a danger or threat to public health and safety. According to local government officials, the dangerous health and safety situation and accidents with electricity infrastructure are due to "a lack of investment" on the part of AES and Edelap.²⁴⁰ The company's use of low-quality electricity poles and insufficient investment in low and medium-tension power cables threatened public safety and led ENRE to require Edelap to purchase 20,000 new poles in 2008.²⁴¹

²³⁵ MEyOSP, Subsecretaría de Administración y Normalización Patrimonial, Dirección de Normalización Patrimonial, "Memoria de las Privatizaciones, Reseña Histórica de Edelap", no date, <<http://mepriv.mecon.gov.ar/segba/Personal.htm>> (26 July 2008).

²³⁶ D. Fernández, Subsecretary of Culture, Training and Scholarships, Sindicato de Luz y Fuerza de Capital Federal, Buenos Aires, 15 August 2008, interview by FARN.

²³⁷ "Sin luz en la 116 y 95 al caer poste sobre auto", El Día, 10 January 2008, <<http://www.eldia.com.ar/catalogo/20080110/laciudad24.htm>> (24 April 2009); "Vecina lucha contra Edelap para que retiren un poste de su casa", El Día, 3 July 2008, <<http://www.eldia.com.ar/catalogo/20070703/laciudad18.htm>> (24 April 2009).

²³⁸ Néstor, La Plata resident, La Plata, 2 September 2008, interview by FARN.

²³⁹ Based on ENRE, "Resoluciones, Edelap", no date, <www.enre.gov.ar> (26 July 2008).

²⁴⁰ P. Bruera, Municipality of La Plata, quoted in F. Debasa, "Le piden al Gobierno nacional que baje el contrato con Edelap", Clarín, 26 March 2006, <<http://www.clarin.com/diario/2008/03/26/laciudad/h-03801.htm>> (22 April 2009).

²⁴¹ A. Galinski, Head of the ENRE's La Plata office, La Plata, 2 September 2008, interview by FARN.

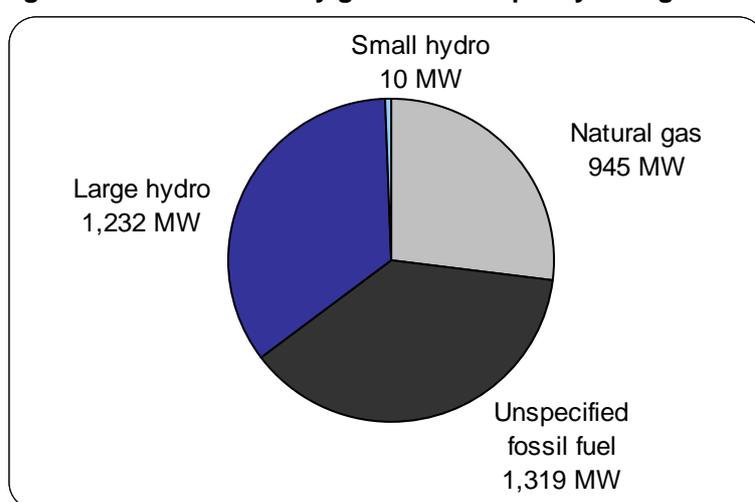
5.1.3. Environmental issues

Both Edelap and Central Dique have ISO 14001-certified environmental management systems.

□ Renewable sources of energy for electricity

Despite Argentina's huge potential for renewable electricity (see Section 3.1), more than two-thirds of AES Argentina's electricity generation capacity (2,264 MW) is based on fossil fuels. Less than 1% of the company's capacity (10 MW) is based on sustainable sources of energy (small-scale hydro). The rest of its hydropower (1,232 MW, 35% of total capacity) is generated in large-scale hydroelectric facilities.²⁴² Figure 12 illustrates AES' electricity generation capacity in Argentina based on fuel source.

Figure 12: AES' electricity generation capacity in Argentina by fuel source, 2007



Based on: AES²⁴³

While AES does have a global policy to increase investment in renewable energy, the company does not have an Argentina-specific plan or policy. When asked whether the company had plans to increase the share of sustainable energy in its fuel mix, a local AES manager responded, "The company does not disseminate information about its projects until they are firm".²⁴⁴

□ Waste and pollution

ENRE's Resolution 555/2001 requires that electricity companies submit their environmental management plans to the regulator in order for it to monitor the stations' emissions (among other environmental issues). In 2006 ENRE fined AES' Central Dique for its failure to comply with Resolution 555/2001, despite being given a deadline extension for the implementation and certification of an EMS. In addition, a 16 May 2006 ISO 14001 report cited Central Dique for not anticipating certain potential accidents, such as those that could result from loading fuel in gas oil tanks. The report also mentioned the company's failure to establish and reprogram devices to test

²⁴² As explained in Section 2.2.2, although hydro is a renewable source of energy, large-scale hydro is generally not considered sustainable because of the significant negative environmental impacts of large dams and reservoirs. Small-scale hydro, while also not necessarily free of negative impacts, is generally considered more sustainable, but it must be undertaken in combination with proper needs assessment and thorough evaluation of risks and alternatives.

²⁴³ AES website, "Global Presence," (2008), <http://aes.com/aes/index?page=global_presence> (24 October 2008).

²⁴⁴ AES Argentina manager, Buenos Aires, 5 September 2008, interview by FARN.

the methods used in case of emergencies (emergency drills). Both AES' Edelap and Central Dique now have ISO 14001-certified environmental management systems, but a random audit carried out by ENRE on 27 March 2008 indicated that while Central Dique does have an EMS, it must also implement additional activities and corrective actions to be in full compliance with Resolution 555/2001. ENRE also fined Edelap in 2003 for non-compliance with environmental safety requirements in its Resolution 403/03, specifically for not presenting its environmental management plan within the allowed timeframe.

No information could be found on whether AES' Argentine generation units, such as Central Dique, have set voluntary targets for reducing CO₂ emissions or whether the company has a policy or plan to combat climate change. The CO₂ emissions of the Central Dique, are listed in Table 11.

Table 11: CO₂ emissions from AES' central dique, 2006

Electricity Generation (MWh)	Emissions from natural gas (TCO ₂)	Emissions from gas oil (TCO ₂)	Total Emissions (Tonnes CO ₂)
1,383	1,389	51	1,440

Based on: Argentine Ministry of Energy²⁴⁵

5.1.4. Economic issues

□ Reliability of supply and local economic development

The Argentine electricity regulator ENRE fined AES' Central Dique thermal generation station 20 times between 1999 and 2008.²⁴⁶ Eighty percent of these fines were due to the station's inability to provide an adequate level of electricity required by the regulated wholesale electricity market (MEM), i.e. a lack of capacity. The remaining fines were due to AES' failure to report system disturbances, i.e. power cuts, to the relevant authority, or to their untimely reporting. According to the electricity workers' trade union, Central Dique's failure to provide adequate levels of electricity on such numerous occasions is a result of the station's "lack of infrastructure" and the company's "reluctance to invest in [expanding the capacity of] the station".²⁴⁷

ENRE has also issued 42 fines against AES' distribution company Edelap since the unit was purchased by AES in 1998. Of these fines, 19, or 45%, were due to the company's inability to provide electricity to the national grid when required, a situation similar to that of the Central Dique. A further 14 fines were issued for breaches related to the technical quality of the company's commercial and residential service and failing to meet requirements for the collection and processing of data concerning service quality.²⁴⁸

The local press in the city of La Plata publishes (almost) daily articles concerning the quality of the electricity service provided by Edelap.²⁴⁹ Most articles address the length of the planned and unplanned power cuts and the fact that both of these types of cuts continue to occur. Many articles also cite the plethora of complaints from citizens about power drops or surges causing damages to

²⁴⁵ Energy Ministry of Argentina, "Cálculo del Factor de Emisiones de CO₂ de la Red Argentina de Energía Eléctrica", 2006, p.8, <http://energia3.mec.gov.ar/contenidos/archivos/Reorganizacion/informacion_del_mercado/publicaciones/mercado_el_electrico/FE%20instructivo%20para%20calcular%2006-07.pdf> (30 August 2008).

²⁴⁶ Based on ENRE, "Resoluciones por empresas del sector, Central Dique", no date, <www.enre.gov.ar> (26 July 2008).

²⁴⁷ D. Fernández, Subsecretary of Culture, Training and Scholarships, Sindicato de Luz y Fuerza de Capital Federal, Buenos Aires, 15 August 2008, interview by FARN.

²⁴⁸ Based on ENRE, "Resoluciones, Edelap", no date, <www.enre.gov.ar> (26 July 2008).

²⁴⁹ La Plata's *El Día* newspaper publishes frequent articles. See <www.eldia.com.ar>.

electrical devices and merchandise losses.²⁵⁰ For example, a local butcher shop owner commented, “The explosion of the electricity transformer at the crossing of streets 25 and 61 caused us to lose more in meat than what a new generator costs”.²⁵¹ Citizens’ complaints about the poor quality of Edelap’s service were corroborated by complaints from the municipal authorities of La Plata about the company’s failure to invest adequately in electricity infrastructure. A local official noted of AES’ behaviour, “There was a lack of investments. The company committed to setting up three sub-stations to provide more energy to the system. Residents’ claims were not attended to during the 12 hours following the storms. And we have detected street light blackouts, which [caused] 500,000-pesos fine”.²⁵² Residents were left without service for approximately 30 hours. The complaints about the company’s poor quality of service became so frequent that on 29 April 2008 ENRE opened an office in La Plata to handle customer complaints. During its first three months of operation, the La Plata office received a whopping 574 complaints – 10 per day – related to the poor quality of Edelap’s service.²⁵³

AES acknowledges that its investments in electricity infrastructure in Argentina have “probably not met its clients’ expectations”.²⁵⁴ However, the company claims that since it began operating in Argentina in 1993, it has invested more than US\$1 billion in the Argentine power generation and distribution segments²⁵⁵ and that “in 2007, the agreement with ENRE was to invest 20 million pesos [US\$5.4 million], but [AES] in fact invested 30 million pesos [US\$8.1 million]”.²⁵⁶ A local AES manager explained that, apart from the 15% average increase in electricity tariffs in 2005, Argentine electricity rates have been largely frozen since 2002, but that the company has continued to invest in the country despite losses.²⁵⁷

However, in December 2008, an investigation by the Argentine electricity regulator ENRE revealed “serious irregularities” in the accounting practices of AES’ electricity distributor Edelap.²⁵⁸ ENRE alleged fraud in connection with Edelap’s presumed losses of 55.3 million Argentine pesos (US\$16 million). The alleged fraud comprised a debt restructuring process carried out by AES that left Edelap unfunded, Edelap’s outsourcing of management services (to the company Luz del Plata S.A.) and alleged tax evasion. According to the Argentine Planning Minister, who raised the issue directly with the US ambassador to Argentina, the company’s irregular accounting practices “directly benefit AES” but “significantly deteriorate” Edelap’s ability to make “necessary investments” in distribution infrastructure in Argentina. Because the practices “put at risk the investment necessary to supply electricity, ... ENRE and the Planning Ministry are evaluating corrective measures for this irregular practice, as well as civil and penal actions that might be appropriate”. Edelap denies that its accounting practices are inappropriate and asserts that it has fulfilled “all its obligations under its concessionary agreement and with the regulator”.²⁵⁹ The company further claims that it invested US\$7.6 million in Argentina between January and

²⁵⁰ See, for example, “Power surge ruins the equipment of Radio Universidad” (“Un golpe de tensión arruinó los equipos de Radio Universidad”), *El Día*, 8 December 2005, <<http://www.eldia.com.ar/catalogo1/20051208/laciudad0.asp>> (22 April 2009).

²⁵¹ Rocío, Owner of a butcher shop in La Plata, La Plata, 2 September 2008, interview by FARN.

²⁵² P. Bruera, Municipality of La Plata, quoted in F. Debesa, “Le piden al Gobierno nacional que baje el contrato con Edelap”, *Clarín*, 26 March 2006, <<http://www.clarin.com/diario/2008/03/26/laciudad/h-03801.htm>> (22 April 2009).

²⁵³ ENRE La Plata office, “Cantidad de atenciones en la Delegación Provincia”, no date.

²⁵⁴ AES Argentina manager, Buenos Aires, 5 September 2008, interview by FARN.

²⁵⁵ AES, “La Corporación AES”, no date, <http://www.Edelap.com.ar/empresa_aes.htm> (4 September 2008).

²⁵⁶ AES, quoted in F. Debesa, “Le piden al Gobierno nacional que baje el contrato con Edelap”, *Clarín*, 26 March 2006, <<http://www.clarin.com/diario/2008/03/26/laciudad/h-03801.htm>> (22 April 2009).

²⁵⁷ AES Argentina manager, Buenos Aires, 5 September 2008, interview by FARN.

²⁵⁸ Quoted in F. Olivera, “Advierte el Gobierno que Edelap habría cometido irregularidades,” *La Nación* online, 3 Dec 2008, <http://www.lanacion.com.ar/nota.asp?nota_id=1076834&pid=5466471&toi=6269> (6 December 2008).

²⁵⁹ Quoted in *Ibid.*

September 2008. As this report went to press the case was still pending. The case could result in the Argentine government forcing AES to sell Edelap.

In response to the filing of the case, AES and the Ministry of Planning reached an agreement in which AES acknowledged problems with the quality of its service and announced plans to invest 300 million Argentine pesos (US\$88 million) in Edelap between 2009 and 2013. The government, in turn, agreed to a revision of the distributor's rates, in order to enable the company to make these investments. The investment plan would include the construction of three sub-stations in Brandsen, southern La Plata and Berisso, the revamping of other high tension sub-stations, network extensions in the city of La Plata and surrounding areas, and the updating of 190 medium and high tension transformation facilities.²⁶⁰

□ *Demand-side initiatives*

One of AES Argentina's CSR programmes, *Aprendiendo con Edelap*, teaches children about how to use energy more efficiently and responsibly and provides education in electrical safety and rational energy use. A similar programme has not yet been implemented at Central Dique.²⁶¹

5.1.5. Cross-cutting issues

□ *Transparency and provision of information*

When asked about the company's plans for new renewable energy projects, a local AES manager responded, "The company does not disseminate information about its projects until they are firm".²⁶² This seems to contradict the notion of early provision of information and meaningful engagement of stakeholders with regard to project planning and execution.

5.2. Endesa in Argentina

Endesa's operations in Argentina began in 1996 when it acquired the Central Dock Sud thermal generation station, which had been recently privatised (in 1992) and which is located only four kilometres from the city of Buenos Aires. In total, 7% of Endesa's Latin American assets are located in Argentina, where the company employs 3,127 people. Endesa's electricity generation activities in Argentina include a 69.99% stake in Central Dock Sud, an 870 MW two-turbine CCGT and gas oil plant; a 69.77% share in Costanera, a 2,324 MW conventional thermal plant; and a 67.67% stake in El Chocón, a 1,320 MW hydro plant.²⁶³ Table 12 lists Endesa's electricity generation facilities in Argentina.

Endesa also owns Edesur, a distribution company that provides electricity to 2.2 million people south of the Buenos Aires area, and holds a minority stake (22.2%) in Yacylec, a transmission company that operates a 282 km-long electricity transmission line and a switching station.

²⁶⁰ F. Olivera, "Privatizadas en conflicto / El caso de la distribuidora eléctrica de La Plata: EDELAP busca acordar con el Gobierno", *La Nación*, 15 Diciembre 2008, <http://www.lanacion.com.ar/nota.asp?nota_id=1080784&high=edelap> (17 Diciembre 2008).

²⁶¹ AES Argentina manager, Buenos Aires, 5 September 2008, interview by FARN.

²⁶² AES Argentina manager, Buenos Aires, 5 September 2008, interview by FARN.

²⁶³ Endesa, "Endesa Annual Report 2007," (Madrid: Endesa, 2008), <http://www.endesa.es/Portal/en/investors/annual_reports/memorias_2/2007/annual_report_2007.htm> (29 April 2009), p.100.

Table 12: Endesa installed generation capacity in Argentina, 2007

Facility name	Fuel type	Total capacity (MW)
Costanera turbine 1*	Gas oil	1,138.1
Costanera turbine 2*	Natural gas (CCGT)	859
CBA	Natural gas (CCGT)	321.6
Dock Sud turbine 1*	Natural gas (CCGT)	797.5
Dock Sud turbine 2*	Gas oil	72
Total Fossil Fuel		3,188.2
El Chocón	Hydro	1,200
Arroyito	Hydro	120
Total Hydro		1,320
TOTAL		4,508.2

Based on: Endesa²⁶⁴ * = stations included in the empirical research

This case study will focus on the conditions around the Central Dock Sud thermal plant, and to a lesser degree the Central Costanera plant. More information about the methodology used is described in Section 1.4. It should be noted that for some of the issues described in this case study, information was difficult to gather because of ongoing legal procedures and the consequent confidentiality of a number of documents. Because of these proceedings, a number of the residents interviewed during the field visit were cautious about speaking out on these issues and requested that their identities be protected. Out of respect for this wish, some names have been kept confidential.

Figure 13: Endesa's Dock Sud Thermal Plant



Photo by: Agustina Chiodi, 2008

5.2.1. Local management approach to CSR

In addition to Endesa's general sustainability policies, which are applicable for all subsidiaries and which are described in more detail in section 4.1.3, the Central Dock Sud power plant publishes its

²⁶⁴ Ibid.

own sustainability report.²⁶⁵ An initial assessment of this report indicates that Dock Sud takes an approach to CSR that is similar to its parent company in that it is very thorough and highly reliant on international standards. Dock Sud's CSR report references the GRI reporting guidelines, the ten principles of the UN Global Compact, and Endesa's SA8000 certification. Dock Sud has also obtained the ISO 9001 quality management certification, the ISO 14001 certification for environmental management, and the OHS 18001 certification of its occupational health and safety management system. Despite these certifications, Central Dock Sud has been fined by ENRE three times since 2003 for failing to submit its Environmental Management Plans or due to their untimely submission. One of the sanctions resulted from the company's failure to submit the documentation proving the authorisation granted to the station's operators.²⁶⁶

Dock Sud claims that its CSR strategy is focused on three commitments:

- Education development in the community where the company operates
- Social and cultural development of the community's families
- Protection of the environment in the area where the generation plant operates

The company's website boasts an extensive environmental policy that is centred around its commitment to "act beyond strict compliance with the legislation in force, intensifying the necessary efforts and establishing adequate procedures to ensure both rational use of resources and minimisation of residues, and contributing to the extent possible to the sustainable development expected by society".²⁶⁷

Central Costanera also has an extensive, ISO 14001-certified Environmental Management System. Costanera's approach to CSR is focused on the company's commitment to "1) a proactive attitude in terms of prevention and anticipation with regard to the protection of humans, nature and the environment and 2) seeking continuous advice on ways to reduce or eliminate the environmental impacts they could generate, adopting the cleanest, most efficient and economically sustainable technology in order to prevent air, water or soil pollution".²⁶⁸

5.2.2. Social issues

- *Community lifestyle impact*

As mentioned above, in Argentina, Endesa's CSR policies include fostering development and protecting the environment in the communities adjacent to its facilities. In Dock Sud, the company has implemented these policies by making donations at schools, organising fundraisers for the community, and supporting a number of social and environmental programmes. However, according to many local residents, such programmes have not contributed to a structural or sustainable improvement in the conditions of the community closest to the Central Dock Sud plant.²⁶⁹ The *Villa Inflamable* ("Inflammable Town") community is home to over 10,000 residents and borders directly on the Dock Sud petrochemical hub, an industrial area housing dozens of companies and a range of industries. According to a survey carried out by Japan International

²⁶⁵ Central Dock Sud S.A., "Informe de Sostenibilidad", 2007, <http://www.cdssa.com.ar/politica_sostenibilidad.asp> (6 May 2009).

²⁶⁶ ENRE, "Resoluciones, Central Dock Sud", no date, <www.enre.gov.ar> (26 July 2008).

²⁶⁷ Central Dock Sud S.A. website, "Corporate values (*Valores corporativos*)", no date, <http://www.cdssa.com.ar/dimension_ambiental.asp> (19 August 2008).

²⁶⁸ Central Costanera, "Nuestro Compromiso", no date, <<http://www.endesacostanera.com/sitio/contenido.asp?page=DimAmbiental>> (19 August 2008).

²⁶⁹ Residents of *Villa Inflamable*, Dock Sud, Buenos Aires, 22 August 2008, interview by FARN.

Cooperation Agency (JICA) in 2002, there are over one thousand storage tanks in the hub with a capacity to store 1,500,000 cubic metres of fuel and other chemical substances. In the event of a chain reaction, the shock wave would span a radius of three kilometres, and the dispersion of the toxic cloud would reach 60 km. This risk adds to the exasperating pollution levels, extreme poverty, and precarious living situation in which the area's residents find themselves. Cases of respiratory, skin and blood contamination problems are frequent and often chronic.²⁷⁰ The situation in *Villa Inflamable* has received attention in national and international media, as the pollution of the area has made the living conditions of its residents almost unbearable.²⁷¹

"For us, the elderly, it's not 'Villa Inflamable', it's 'La Costa' ('The Coast'), because it used to be possible to ride your boat here, go fishing, we used to eat from that place; try eating from that place now."

Brites Mari Carmen, resident of *Villa Inflamable*²⁷²

Figure 14: Waste heap and houses in *Villa Inflamable*



Photo by: FARN, 22 August 2008

Many companies in the Dock Sud area have been criticised by the Argentine government as well as international environmental and human rights organisations for the negative environmental and health impacts of the hub on the local population.²⁷³ While it cannot be said that Endesa or Central Dock Sud is responsible for having created this lamentable situation, the context in which Central Dock Sud operates strongly influences the effects that its CSR policies have on its neighbouring communities. While Central Dock Sud affirms that it implements its CSR policies, the real social, environmental and economic conditions are visibly critical. Furthermore, residents of *Villa Inflamable* complain that Central Dock Sud aggravates rather than improves the local conditions.²⁷⁴

²⁷⁰ JICA, "Estudio Línea de Base de Concentración de Gases Contaminantes en Atmósfera en el Area de Dock Sud", 2002.

²⁷¹ M. Valente, "ARGENTINA: An flammable neighbourhood", IPS, September 2006, <<http://ipsnews.net/print.asp?idnews=34722>> (29 April 2009).

²⁷² M.C. Brites, resident of *Villa Inflamable*, interviewed by FARN, 22 August 2008.

²⁷³ See, for example, the OECD Guidelines complaint against Shell Capsa from June 2008, available at the OECD Watch website, <http://oecdwatch.org/cases/Case_141> (11 May 2009).

²⁷⁴ Resident of *Villa Inflamable*, Dock Sud, Buenos Aires, 22 August 2008, interview by FARN.

Central Dock Sud has been in direct conflict with the local residents. In early 1999, the power station decided to construct several high-tension towers with power lines carrying 132,000 volts. The cabling route was planned to run directly through the *Villa Inflamable* neighbourhoods. Residents were concerned about the potential health effects of large electro-magnetic fields that these towers would create, and there were numerous protests calling on the company to change the cabling route. A legal suit was also filed, and the case remains pending at the time of this report's publication.

Figure 15: High-tension Electricity Cables in *Villa Inflamable*



Photo by: Agostina Chiodi, 2008

Despite the community's protests and the court case, Central Dock Sud went ahead with the construction of the high-tension towers. When the construction of the power lines was finished, the only seemingly possible option to solve the difficulties experienced by *Villa Inflamable's* residents was limited to resettling the families. Due to the ongoing court cases, no resettlements of families affected by the power lines has yet taken place.

□ *Access to electricity*

Central Dock Sud provides energy to the larger Buenos Aires Province, where over 96.7% of all households and industries have access to electricity, including the Avellaneda municipality where Central Dock Sud is located.²⁷⁵ *Villa Inflamable*, one of the poorest dwellings in the Avellaneda municipality, also has high levels of access to electricity from the public grid due to its proximity Central Dock Sud.

²⁷⁵ INDEC website, "Censo 2001, Resultados Definitivos, Resultados Publicados Provinciales, 24 partidos del Gran Buenos Aires", 2002, <http://www.indec.gov.ar/censo2001s2_2/ampliada_index.asp?mode=04> (7 August 2008).

“...everyone [in Villa Inflamable] has access to power, and they’re not illegally connected to the system (dubbed “colgados” or “hangers”), that is, they’re not clandestine users but supplied by regular service; however, they don’t pay for it because their lots are not properly divided, which hinders issuing invoices corresponding to the service provided”.

Facundo Villar, FOCO²⁷⁶

□ Labour issues

Just before the company was privatised in 1996, Central Dock Sud employed a staff of 75 workers. Of these, 24 left the company within the first year of privatisation through a voluntary early retirement and pension programme.²⁷⁷ Further staff adjustments left just 55 employees in 1997, of which 21 were newly hired. This means that 55% of the original staff had been made redundant in the first two years after privatisation. Currently, the plant employs 65 people, including management.²⁷⁸ Labour relations are determined by a collective agreement between the company and the workers.

A key topic in this agreement is staff training and the issue of safety and hygiene at work; therefore, the energy-sector trade union carries out staff training activities jointly with the company. In addition, a permanent OHS commission, comprised of both worker and management representatives, was established for the protection of workers’ health and safety. Another innovative element of the most recent collective agreement is a specific complaint procedure for Dock Sud’s workers, enabling them to contest management decisions and/or file claims about the interpretation of the agreement with assistance and advice from the permanent commission.

□ Public health and safety

The 2002 JICA report on the health impacts on the area’s residents due to their exposure to pollution generated by the Dock Sud petrochemical hub indicates that the *Villa Inflamable* community is under high risk due to the constant presence of 17 toxic gases in the area. The pollutants emanating from the hub tend to combine into a chemical substance “cocktail” that disperses into the atmosphere and is easily ingested and inhaled by humans. The toxins and their various combinations trigger a series of negative health effects on the lungs, the skin and other exposed organs, as well as complications during pregnancy and metabolism problems in children, which leads to lower than average height and weight and decreases the average intelligence quotient.²⁷⁹

María del Carmen Brites, a *Villa Inflamable* resident, showed researchers the medical reports and clinical records of her daughter, Camila, whose optic nerves were “strangled” since birth. Doctors gave the child the following diagnosis: “Intoxication by inhalation of acids. Chronic foetal distress”,

²⁷⁶ F. Villar, FOCO, Buenos Aires, 15 August 2008, interview by FARN.

²⁷⁷ Ministerio de Economía y Producción (MEyOSP, Ministry of Economy and Public Works and Services), Subsecretaría de Administración y Normalización Patrimonial, Dirección de Normalización Patrimonial, “Memoria de las Privatizaciones, Personal Central Dock Sud”, no date, <<http://mepriv.mecon.gov.ar/segba/Personal.htm>> (26 July 2008).

²⁷⁸ Central Dock Sud, “Informe de Sostenibilidad 2007”, <http://www.cdssa.com.ar/CDSSA_IDSE_2007.pdf> (29 April 2009).

²⁷⁹ FOCO, “Programa de vigilancia social de las empresas transnacionales petroleras. Reportes del observatorio de las empresas trasnacionales”, <www.inpade.org.ar/oet-documentacion%20y%20base%20de%20datos/oet-reportes/Reporte.04.Shell.pdf> (24 August 2008).

probably due to a toxic gas escape in the hub during her gestation period. Camila was born with only 10% of her vision. María laments, “All children here are either asthmatic or have skin diseases”.²⁸⁰

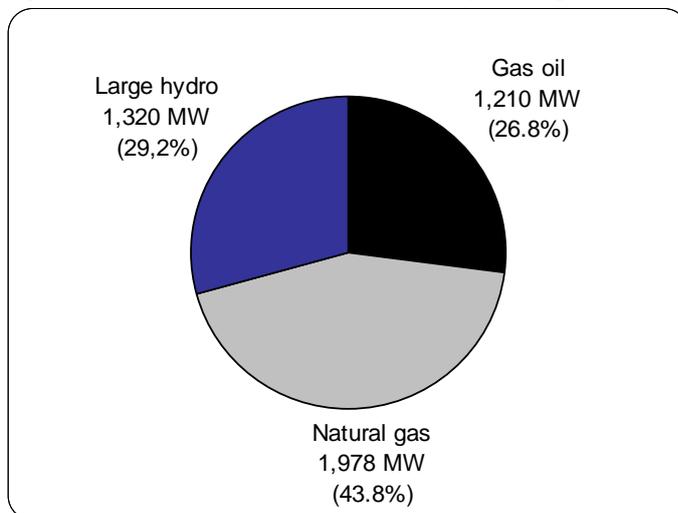
The 2002 JICA report demonstrated that corporations in the Dock Sud area have evaded and violated the most basic environmental protection norms.²⁸¹ Again, Central Dock Sud cannot be held solely responsible for the situation; however, the electricity company is one of the 44 companies being sued in the court case for pollution of the Matanza Riachuelo River.²⁸² The exact nature of Central Dock Sud’s responsibility in this case has not yet been established, but the situation casts doubt on whether the company is truly contributing to the social and environmental well-being of the local residents as it pledges to do in its CSR documents.

5.2.3. Environmental Issues

□ Renewable sources of energy for electricity and natural resource depletion

As is revealed in Table 12, Endesa’s electricity generation capacity in Argentina is fully based on unsustainable sources of energy. The company does have 1,320 MW of hydroelectric generation capacity, but this is from large-scale hydro facilities.²⁸³ Endesa does have a considerable capacity (1,978 MW) from relatively efficient combined cycle natural gas turbines, but at the same time much of its capacity relies on less efficient gas oil turbines. Figure 16 reveals the fuel mix of Endesa’s electricity generation capacity in Argentina.

Figure 16: Endesa’s installed capacity in Argentina by fuel type, 2006



Based on: Endesa²⁸⁴

²⁸⁰ M.C. Brites, resident of Villa Inflamable, interviewed by FARN, 22 August 2008.

²⁸¹ JICA, “Estudio Línea de Base de Concentración de Gases Contaminantes en Atmósfera en el Area de Dock Sud”, 2002.

²⁸² For more information see FARN website, <<http://www.farn.org.ar/participacion/riachuelo/index.html>>.

²⁸³ As explained in Section 2.2.2, although hydro is a renewable source of energy, large-scale hydro is generally not considered sustainable because of the significant negative environmental impacts of large dams and reservoirs. Small-scale hydro, while also not necessarily free of negative impacts, is generally considered more sustainable, but it must be undertaken in combination with proper needs assessment and thorough evaluation of risks and alternatives.

²⁸⁴ Endesa, “Endesa Annual Report 2007,” (Madrid: Endesa, 2008), <http://www.endesa.es/Portal/en/investors/annual_reports/memorias_2/2007/annual_report_2007.htm> (29 April 2009), p.100.

An indicative example of the company's Argentine facilities, Central Dock Sud is a thermal cogeneration plant fuelled by natural gas and gas oil. In 2006, the facility consumed approximately 756 million cubic metres of natural gas and nearly 5,000 tonnes of gas oil.

▣ *Climate change and GHG emissions*

Endesa's heavy reliance on fossil fuels for electricity generation results in a high level of CO₂ emissions. Endesa's Central Dock Sud and Costanera thermal facilities are two of the country's three largest emitters of the greenhouse gas.²⁸⁵ Table 13 details the CO₂ emissions from Central Dock Sud in 2006.

Table 13: CO₂ Emissions from Endesa's Central Dock Sud, 2006

Electricity Generation (GWh)	Emissions from natural gas (Tonnes CO ₂)	Emissions from gas oil (TCO ₂)	Total Emissions (Tonnes CO ₂)
4,001,831	1,484,137	15,178	1,499,316

Based on: Argentine Ministry of Energy²⁸⁶

Argentina lacks specific legislation concerning CO₂ emissions, but it has adhered to the UN Framework Convention on Climate Change and the Kyoto Protocol to the Convention, although it is not among the countries compelled to limit CO₂ emissions. No information is available about the existence of voluntary actions or commitments by Central Dock Sud to reduce greenhouse gas emissions.

▣ *Waste and pollution*

In 2006, residents of the Buenos Aires neighbourhoods of Belgrano, Colegiales, Palermo, Recoleta and Retiro appeared before the city's Ombudsman to complain about stains that would appear on sidewalks on rainy days. According to their statements, these stains "have features similar to those produced by the action of an acid agent. In addition, on dry days, a dark dust with greasy characteristics settles on external surfaces".²⁸⁷ According to the Office of the Ombudsman, the most likely cause for these stains is the use of fuel oil with high content levels of sulphur at Endesa's Central Costanera power plant:

"When we began investigating this, we found out: we knew that fuel oil was used, but ignored the background of its dreadful quality, with sulphur contents exceeding the levels allowed by domestic legislation as well as internationally...It's a fuel oil with sulphur levels sometimes reaching 3%, [which] is above any specified limit. Then they managed to lower the fuel's sulphur level to a maximum of 1%, but that still means that legal limits are exceeded in some cases."

Atilio Alimena, Deputy Ombudsman²⁸⁸

²⁸⁵ AES' Parana plant is also among the top three CO₂ emitters in the country.

²⁸⁶ Energy Ministry of Argentina, "Cálculo del Factor de Emisiones de CO₂ de la Red Argentina de Energía Eléctrica", 2006, p.8, <http://energia3.mecon.gov.ar/contenidos/archivos/Reorganizacion/informacion_del_mercado/publicaciones/mercado_el_electrico/FE%20instructivo%20para%20calcular%2020-06-07.pdf> (30 August 2008).

²⁸⁷ Office of the Ombudsman of the City of Buenos Aires, Resolution 1140/07, April 2007, <www.defensoria.org.ar/institucional/resoluciones/r1140-07.doc> (8 May 2009).

²⁸⁸ A. Alimena, Deputy Ombudsman, Office of the Ombudsman for the City of Buenos Aires, Buenos Aires, 14 August 2008, interview by FARN.

The levels of sulphur dioxide (SO₂) in the plant's fuel oil exceed the national regulatory standard, which sets the maximum relative content at 0.5%.²⁸⁹ The fuel oil is imported from Venezuela, a result of the Argentine energy crisis discussed in Section 3.1 and a subsequent agreement between the Argentine and Venezuelan governments regarding the import of Venezuelan fuel oil for use in Buenos Aires.

The Argentine government has a clear responsibility for having chosen to import fuel with high sulphur content and the consequent air pollution. The Ombudsman states that the use of fuel oil with high sulphur content is partially due to the Argentine government's non-compliance with its own regulations. However, Central Costanera also has a responsibility to minimise the negative effects of its electricity generation operations. When asked by the Ombudsman whether Central Costanera uses catalysts to reduce the sulphur content of its emissions, the company responded that they believe there is no need for such measures: They are provided with fuel oil conditional to approval by the Secretary of Energy and the Secretary of Planning, and the company believes that it acts within the regulatory limits.²⁹⁰ Such statements indicate that the company is not willing to make efforts beyond the legal requirements in order to reduce pollution and hazardous emissions.

In addition, Central Costanera is in a conflict with the city of Buenos Aires regarding jurisdiction for regulation of emissions and EIAs. Central Costanera has argued that, since it is located on national territory, it is only accountable to the national regulators, and not to the city of Buenos Aires.²⁹¹ The company has failed to submit an EIA, as required by Law 123 of the city of Buenos Aires.²⁹² The failure to fulfil this requirement constitutes a violation of local legislation, and the situation is exacerbated by the fact that Central Costanera's activities are considered to have "significant environmental impact" due to air pollution caused by the use of high-sulphur fuel.

5.2.4. Economic issues

□ Reliability of supply

Central Dock Sud has been fined by ENRE four times between 2003 and the present in relation to the technical quality of electricity generation. Specifically, the sanctions are due to the company's failure to notify (either completely or within the required time frame) the regulator about disturbances in power supply and power cuts.²⁹³

5.2.5. Cross-cutting issues

□ Precautionary principle and evaluation of risks and alternatives

Resolution SE 15/92 of Central Dock Sud's Environmental Management Manual standardises procedures for laying and operating extra-high tension transmission lines and for the construction of transforming and/or compensating substations.²⁹⁴ The Manual provides methodological guidelines for both the environmental impact assessment of new projects and the Environmental Management Plan that shall cover all project phases (from feasibility studies to construction). The

²⁸⁹ Secretary of Energy, Resolution 108/01, examined by FARN, August 2008.

²⁹⁰ A. Alimena, Deputy Ombudsman, Office of the Ombudsman for the City of Buenos Aires, Buenos Aires, 14 August 2008, interview by FARN.

²⁹¹ Ibid.

²⁹² Documents provided by the Ministry of Environment of the City of Buenos Aires to the Ombudsman of Buenos Aires, examined by FARN, August 2008.

²⁹³ ENRE, "Resoluciones, Central Dock Sud", no date, <www.enre.gov.ar> (26 July 2008).

²⁹⁴ Central Dock Sud, "Environmental Management Manual", (Central Dock Sud S.A.: Buenos Aires).

relevant Resolutions compel project managers to comply with these guidelines as well as with established pollution limits and specific measurements in all activities. In this context, it is significant that the company's environmental policies include "Integrating environmental management into the corporate strategy, using environmental criteria in planning and decision-making processes".²⁹⁵

In the late 1990s, Central Dock Sud S.A. and Edesur S.A. began work on a 132,000 Volt transmission line to connect the transformer stations at Dock Sud, Don Bosco and Sobral, located in the Avellaneda and Quilmes municipalities (Buenos Aires Province). Central Dock Sud needed these power lines to transmit the electricity produced by the new power generator it intended to build. ENRE granted the authorisations relevant for the project's implementation, but the company's engagement and communication with the nearby communities regarding the environmental and health effects of the power lines activities have been criticized by residents of *Villa Inflamable*.

The residents of *Villa Inflamable* began a legal battle against Central Dock Sud and Edesur for potential health damages resulting from the laying of high tension cables in 1999 along Sargento Ponce Street in the Dock Sud locality (Avellaneda municipality) as well as next to the neighbouring houses in the Sarandí municipality.²⁹⁶ In addition to seeking compensation for the damages derived from the construction of the high-tension power lines, the lawsuit also requested the cessation of pollution and environmental harm, demanding the prohibition of the use of power transmission lines as well as the removal of existing towers and cables located in front of or above their homes.

Figure 17: House Under High-tension Electricity Cables in *Villa Inflamable*



Photo by: Agostina Chiodi, 2008

²⁹⁵ Ibid.

²⁹⁶ F. Alarcón et al vs. Central Dock Sud SA et al., lawsuit seeking damages and cessation of pollution and environmental harm, <http://www.jose-esain.com.ar/index.php?option=com_content&task=view&id=105&Itemid=2> (27 August 2008).

The companies denied the charges filed by the residents, stating that they had been granted authorisation to build the power lines by the relevant public authorities and that they complied with the relevant regulations.

The residents requested a preliminary injunction based on their need to avoid further health damages from their exposure to the diverse harmful elements generated by the industrial hub and which could be aggravated with the construction of the lines. They argued that lines above or in front of their houses would expose them to risks of electrocution, fires, explosions and, in particular, the threat of diseases derived from exposure to the potentially-carcinogenic electromagnetic fields (EMFs) generated by these works. The difficult issue at trial is the uncertainty around the problem of EMFs generated by high tension cables, which remains complex even when exposure is within legally established limits but prolonged in time. The issue is currently the subject of ongoing scientific research around the globe, but in 2008 Swiss researchers found a statistically-significant link between living close (within 50 metres) to high-tension power lines and deaths related to Alzheimer's disease. A similar statistical link has been made with regard to proximity to high-tension power lines and leukaemia in children.²⁹⁷ It should be noted that in neither case is there proof that the high-tension cables are the direct cause of the disease.

Figure 18: Children Play Under High-Tension Cables in *Villa Inflamable*



Photo by: Agostina Chiodi, 2008

In view of the scientific uncertainty about the negative effects of EMFs on human health, the residents requested that the companies apply the precautionary principle and take on the costs of laying the cables in an alternative location. In 2006, the court rejected the preliminary injunction, arguing that “the precautionary principle cannot prevail, due to the real damage that would be generated by interrupting the essential electricity service for the users alien to this process”.²⁹⁸ Despite the court's decision, residents feel that that Central Dock Sud and its parent company Endesa should apply the precautionary principle as established in the OECD Guidelines for Multinational Enterprises as well as various other international standards.

²⁹⁷ J. Wanders, “Gevaar straling hoogspanningskabels erkend”, Volkskrant, 14 May 2009, <http://www.volkskrant.nl/binnenland/article1197901.ece/Gevaar_straling_hoogspanningskabels_erkend> (14 May 2009).

²⁹⁸ F. Alarcón et al vs. Central Dock Sud SA et al., lawsuit seeking damages and cessation of pollution and environmental harm, <http://www.jose-esain.com.ar/index.php?option=com_content&task=view&id=105&Itemid=2> (27 August 2008).

It should be noted that a draft bill submitted in 2006 by the Energy and Fuel Commission of the national House of Deputies states:

“The lines leaving the Dock Sud thermal power station carry 132,000 volts, although the company declares that it projects to transport 320,000...It is worth highlighting that the station’s aerial cabling runs over houses, over the streets on which between 400 and 500 fuel transportation trucks circulate daily and at a few metres distance from the petrochemical hub (fuel storage). The trucks circulate underneath sagging high tension cables that hang at a distance lower than one metre from the trucks’ roof. Therefore, the available options are either transferring the station or evacuating the population”.

National House of Deputies²⁹⁹

5.3. Endesa in Peru

Eleven percent of Endesa’s Latin American assets are located in Peru, making it an important area of operation for the company. Endesa operates in Peru through three electricity distribution subsidiaries: Etevensa, Piura, and Edelnor, which supplies 986,000 customers in Lima’s northern area. The company also controls a sizeable electricity generation capacity in Peru through its subsidiaries Edegel (in which Endesa owns 61.06% of shares) and Empresa Eléctrica de Piura (Eepsa, in which Endesa owns 60%). In three thermal power plants and eight hydroelectric stations, the company controls 1,574 MW of electricity generation capacity in Peru. Edegel S.A.A. is Peru’s largest private electricity generation company. Table 14 reveals Endesa’s installed capacity for electricity generation in Peru.

Table 14: Endesa installed generation capacity in Peru, 2007

Subsidiary	Plant	Total capacity (MW)	Output (GWh)	Fuel type
Edegel	Ventanilla*	457	2,919,241	Fuel oil/Gas (CCGT)
Edegel	Santa Rosa	229.1	425,224	Fuel oil/Gas
Eepsa	Piura (Malacas)	146	n/a	Fuel oil/Gas
	Total fossil fuel	832.1	3,344,465	
Edegel	Huinco*	247.3	1,141,566	Hydro
Edegel	Matucana*	128.6	862,849	Hydro
Edegel	Callahuanca	75.1	614,105	Hydro
Edegel	Moyopampa	64.7	531,652	Hydro
Edegel	Huampaní	30.2	238,034	Hydro
Edegel	Yanango	42.6	206,757	Hydro
Edegel	Chimay*	150.9	848,457	Hydro
Edelnor	Edelnor	2.3	n/a	Hydro
	Total hydro	741.7	4,443,420	
	TOTAL	1,573.8	7,787,885	

Based on: Endesa³⁰⁰ * = stations included in the empirical research

²⁹⁹ National House of Deputies, 2006, <<http://www1.hcdn.gov.ar/dependencias/ceycombust/proyectos/textos/2006/3411-D-06.htm>> (20 August 2008).

³⁰⁰ Endesa, "Endesa Annual Report 2006," (Madrid: Endesa, 2007), <http://www.endesa.es/Portal/en/investors/annual_reports/annual_report/default.htm> (20 September 2008).

5.3.1. Local management approach to CSR

Endesa's heavy reliance on and reference to international standards is reflected in Edegel's many standardised certifications, including the SA 8000 Social Accountability and Social Responsibility standard, an ISO 9001 quality management certification, and an OHSAS 18001 certification of its occupational health and safety management system. Edegel maintains a well-updated website outlining these initiatives and a separate page on its CSR programmes.³⁰¹ Many of Endesa's local subsidiaries in Latin America, including Edegel, are signatories to the UN Global Compact. It should be noted, however, that Endesa's Edelnor subsidiary is currently listed as a non-reporting member of the Global Compact.³⁰²

According to local Edegel management, the company's approach to CSR is focused on fostering sustainable development in the communities in which it operates. An Edegel executive has noted, "We introduce [the communities] to improved management tools that can build their capacity to generate their own vision of development and plan a strategy for long-term sustainable development, in which they have adequate education, good basic infrastructure, and dignified and productive jobs".³⁰³ However, these good intentions contrast sharply with claims by local municipal authorities and community residents that Edegel does not seek out meaningful and participatory relationships with the towns and communities adjacent to its generation facilities.³⁰⁴ The company's CSR initiatives are perceived by locals as being more focused on philanthropic activities and gift-giving in the communities rather than sustained engagement with communities and governments on local planning and development issues. Residents of a community adjacent to the Ventanilla power station told researchers that there is no engagement with their community other than a Christmas present (chocolate) offered by the company to the community's children.³⁰⁵ The fact that Edegel management ultimately declined to speak to local researchers or provide any input or information for this study, despite repeated requests and ample time, indicates an unwillingness to engage with civil society on critical issues in the sector.

5.3.2. Social issues

□ Access to electricity

Access to electricity is extremely low in some of the districts in which Endesa's Edegel operates. For example, in the rural Monobamba district of the Junín province, where Edegel's Chimay power station is located, only 22% of households have access to electricity.³⁰⁶ The small number of households that do have electricity in this district are supplied by a municipal station rather than by Edegel. This situation has created an atmosphere of distrust and uneasiness toward the company among local government officials, who oppose the fact that a power plant established in the area does not supply electricity to the district. While Edegel is not legally required to supply electricity to the local community, municipal authorities feel that it is the company's responsibility to do so.³⁰⁷ Company representatives have stated that Edegel is arranging to transfer one of its transmission lines to Electrocentro, the public company that supplies electricity in the area, in order to serve a small village of 12 households.

³⁰¹ Edegel website, "Responsibilidad Social Empresarial", no date, <<http://www.edegel.com/>> (7 May 2009).

³⁰² Global Compact website, "Non-communicating business participants", no date, (22 April 2009) <http://www.unglobalcompact.org/COP/non_communicating.html?submit_x=page&pc=100&pn=3>.

³⁰³ A. Prieto, Sub-Gerente Comunicaciones, Edegel, Lima, 7 August 2008, interview by PLADES.

³⁰⁴ A. Mungi, Monobamba municipal official, Monobamba, Junín, 15 August 2008, interview with PLADES.

³⁰⁵ Ventanilla resident 1, Ventanilla, 25 August 2008, interview with PLADES.

³⁰⁶ Instituto Nacional de Estadística e Informática del Perú, "X Censo de Poblacion, V de Vivienda: Censo 2005 Resultados Definitivos", 2005.

³⁰⁷ A. Mungi, Monobamba municipal official, Monobamba, Junín, 15 August 2008, interview with PLADES.

□ *Labour issues*

With regard to freedom of association and collective bargaining, leaders of the Edegel workers' union (Sindicato de Trabajadores de Empresa-Edegel) noted that while the company maintains good relations with the union and enables it to carry out its activities, company management does sometimes put pressure on workers to prevent them from joining the union.³⁰⁸ A collective agreement is currently in force for all permanent Edegel workers, but it will expire at the end of 2009. Negotiations are currently underway to establish a new collective agreement. The workers contracted by Edegel for maintenance and other tasks are not unionized, nor do they enjoy the benefits under the collective agreement. Workers also reported high health and safety standards at Edegel, and the company has an OHSAS 18001 certification.³⁰⁹

Edegel employs a total of 223 workers in Peru, but workers and union officials claim that the company is constantly seeking to reduce the number of permanent employees. This, according to a worker representative, has led to a precarious situation for both the workers and the quality of the electricity:

"...in the case of the Huampaní [power station], there is only one operator who doesn't have an assistant or anything. And if he needs to use the restroom or eat, he calls the guard and asks him to stay for a little while. But this is harmful for both the worker and the station; he could faint, or get sick right there, and there's no help. [An Edegel] manager insisted that one could approach the guard again, but that is not right because the guard is not trained to do the operator's job".

Darío Jica, Edegel worker representative³¹⁰

At the same time that the company is reducing the number of permanent employees, the number of outsourced and contracted personnel is on the rise. While permanent workers are generally assigned to administrative and operational tasks, almost all of the maintenance work done on Edegel's power plants is outsourced to contract labourers. According to the Edegel union, there are five outsourced contract labourers for every one employee in permanent service with the company. Contract workers are entitled to fewer benefits than permanent workers and receive on average 50% less pay.³¹¹ Nevertheless, Edegel claims that its contractors are required to comply with all applicable occupational health and safety legislation, and in 2007, the company announced that it was extending the principles of the SA 8000 Social Accountability and Social Responsibility³¹² standard as a requirement for its contractors in order to ensure their compliance with legally established labour conditions. The company also reported that the OHS management systems of the three contractor companies it works with are certified under OHSAS 18001.³¹³

³⁰⁸ D. Jica, Edegel worker representative, Planta Santa Rosa – Lima, August 2008, interview with PLADES.

³⁰⁹ Ibid.

³¹⁰ Ibid.

³¹¹ Ibid.

³¹² Edegel was the first company in Peru to achieve SA 8000 certification.

³¹³ Edegel S.A.A., "Memoria Anual 2007: Informe de Sostenibilidad", 2008, <<http://www.edegel.com/memoria2007/index.htm>> (6 May 2009).

5.3.3. Environmental issues

□ Renewable sources of energy for electricity and climate change and GHG emissions

As can be seen in Table 14 above, approximately 47% of Edegel's generation capacity is based on hydraulic resources and 53% on fossil fuels, mainly natural gas. Nearly all of the company's hydroelectric capacity comes from large-scale hydro facilities.³¹⁴

Edegel was the first company in Peru to invest in electricity generation from natural gas. Its investment in the combined cycle gas turbine in Ventanilla turned it into the country's most efficient and most potent power generation station. However, its thermal generation stations still operate as dual stations, using both gas and oil, and recently, as a result of the energy crisis that began in September and a spike in the price of natural gas, the company has been relying more heavily on oil-firing. The company has also invested heavily in the enlargement of the Santa Rosa thermal station, which has also shifted from using natural gas to using more CO₂-intensive fuel oil. The recent increase in generation from and investment in thermal power stations seems to be at odds with the company's commitments to combat climate and to contribute to long-term sustainable development.

5.3.4. Economic issues

□ Local economic development

The vast majority of the workers at the four Edegel power stations investigated for this study are not from the local communities or even districts in which the stations are located. For example, residents and local authorities in Monobamba claim that the Chimay power station employs only two workers from the district; these are employed as guards. A Monobamba official observed, "[Edegel] has been laying off its local personnel and only keeping the minimum. Those workers never become part of the population or participate in common activities, they are very distant. They come and go in trucks that they rent".³¹⁵

Furthermore, as mentioned above, Edegel has done little to improve local infrastructure and access to electricity in districts where its power plants are located. Edegel's recent move to transfer one of its transmission lines to Electrocentro in order to serve a small village adjacent to one of its plants is a welcome initiative, but local authorities and community residents feel that more should be done.

□ Reliability of supply

In 2006, Edegel experienced 43 involuntary failures or forced power cuts. Of these, 26 were due to failures in the protection system (FEC), 10 due to unidentified causes and 3 due to human error.³¹⁶

³¹⁴ As explained in Section 2.2.2, although hydro is a renewable source of energy, large-scale hydro is generally not considered sustainable because of the significant negative environmental impacts of large dams and reservoirs. Small-scale hydro, while also not necessarily free of negative impacts, is generally considered more sustainable, but it must be undertaken in combination with proper needs assessment and thorough evaluation of risks and alternatives.

³¹⁵ A. Mungi, Monobamba municipal official, Monobamba, Junín, 15 August 2008, interview with PLADES.

³¹⁶ Comité de Operación Económica del Sistema Interconectado Nacional (COES-SINAC), "Estadística de operaciones 2006", (Lima, Peru: 2007).

□ *Taxation*

According to the Law on Electricity Concessions, Edegel is required to pay taxes and other obligatory duties, the total of which cannot exceed 1% of its annual revenues. It also pays an amount of up to 1% of the average electricity price at generation level, calculated in accordance with the Law on Electricity Concessions, as a one-time compensation for the use of water resources for power generation.

5.3.5. Cross-cutting issues

□ *Stakeholder engagement and public participation in decision making*

Citizens and local officials confirmed that Edegel does maintain relations with the communities neighbouring its power plants. However, in a reflection of Edegel's approach to CSR, local government officials explain that these relations generally consist of financial support and other philanthropic activities toward the communities rather than a relationship based on critical issues such as meaningful engagement and participatory decision making. For example, Edegel financially supports schools in the Ventanilla and Monobamba regions and promotes the development of productive activities, such as fish farming. However, as mentioned above, communities in these areas lack access to basic levels of electric service, and local authorities complain that they are not consulted on the company's plans or decisions, nor is there any community participation in decision making processes. One official from the town of Monobamba noted that Edegel's power plants are "closed and fortified spaces [that] are highly differentiated from their surroundings and contrast with the nearest villages and communities".³¹⁷ Residents of a community adjacent to the Ventanilla power station told researchers that there is no engagement with their community other than a Christmas present (chocolate) offered by the company to the community's children.³¹⁸

□ *Product chain responsibility*

As mentioned above, Edegel claims that its contractors are required to comply with all applicable environmental and occupational health and safety legislation. In 2007, the company announced that it was extending the principles of the SA 8000 Social Accountability and Social Responsibility standard as a requirement for its contractors and suppliers in order to ensure their compliance with legally established labour conditions. The company also reported that the quality management and OHS management systems of the companies it works with are certified under ISO 9001 and OHSAS 18001, respectively.³¹⁹

□ *Transparency and provision of information*

Edegel produces an annual sustainability report according to the GRI reporting guidelines.³²⁰ This is complemented by a high level of transparency regarding the technical aspects of its generation operations, with much information available on its website. However, these practices contrast with the company's unwillingness to provide any information on its CSR policies and practices for this study.

³¹⁷ A. Mungi, Monobamba municipal official, Monobamba, Junín, 15 August 2008, interview with PLADES.

³¹⁸ Ventanilla resident 2, Ventanilla, 25 August 2008, interview with PLADES.

³¹⁹ Edegel S.A.A., "Memoria Anual 2007: Informe de Sostenibilidad", 2008, <<http://www.edegel.com/memoria2007/index.htm>> (6 May 2009).

³²⁰ Ibid.

5.4. SN Power in Peru

SN Power has two major subsidiaries in Peru, Cahua S.A. and ElectroAndes S.A., both of which are involved in the generation of electricity from primarily small-scale hydroelectric facilities. In 2008, these two subsidiaries were combined to form SN Power Peru (SNPP). SN Power acquired Cahua S.A. from American NRG Energy in November 2006 and bought ElectroAndes S.A. from the US group PSEG Global for US\$390 million in September 2007. Together, the companies have a total of 270.8 MW of installed capacity and a mean annual output of 1,597GWh of electricity.

Table 15: SN power's electricity generation units in Peru, 2008

Subsidiary	Project	District	Capacity (MW)	Mean annual output (GWh)	Fuel
Cahua S.A.	Arcata	Cayarani	5.4	37	Hydro
	Cahua*	Manás	43	280	Hydro
	Pariac	Huaraz	4.9	24	Hydro
	Gallito Ciego	Yonan	37	150	Hydro
	Pacasmayo	Pacasmayo	n/a	0	Thermal
ElectroAndes	Malpaso*	Paccha	54.5	207	Hydro
	Pachachaca*	La Oroya	9	45	Hydro
	La Oroya	La Oroya	9	65	Hydro
	Yaupi	Ulcumayo	108	789	Hydro
Total			270.8	1,597	Hydro

Based on: SN Power³²¹ * = stations included in the empirical research for this study

In June 2007, SN Power withdrew the thermal station C.T. de Pacasmayo from the national interconnected system (from commercial operations), and the station is currently no longer generating any electricity.

5.4.1. Local management approach to CSR

SNPP's CSR policies are primarily focused on its relations with communities "with whom it shares an interest".³²² These policies are applied to all the communities that are located in the direct area of the company's plants and projects. While there might be regional differences in the approach towards culturally diverse communities, the policies are based on five principles:

- ❑ The generation of clean energy
- ❑ Permanent care for the environment and worker safety
- ❑ Fluent communication and mutual collaboration with communities in the areas where it operates
- ❑ Implementation of CSR policies through the activities that are in the interest of the community and aimed at promoting their sustainable development
- ❑ Continuous staff capacity-building

SNPP has created a conceptual framework to implement these principles. With regard to the company's relations with communities, its first steps are to map stakeholders, the socio-economic context, and the most urgent needs. On the basis of this mapping, a work plan is developed to address issues such as community capacity building and sustainable development. According to

³²¹ SN Power website, "Our Business," (2008), <http://www.snpower.no/Our_business> (11 September 2008).

³²² M.L. Kopstad, External Affairs Manager, SN Power, 28 May 2009, email contact in response to a draft version of this report.

SN Power representatives, ElectroAndes has mapped 28 relevant communities this way, while Cahua has mapped 21.

SN Power states that: “[w]ith this framework SNPP develops the idea of ‘working together with the communities of our areas of influence’ as a facilitator in order to reinforce the strengths of the local stakeholders so that they become key actors of their sustainable development process”.³²³

ElectroAndes’ 2007 annual report includes a description of the company’s CSR activities, but it does not specify when these took place. These activities include school campaigns, building infrastructure for risk prevention and social support through donations to institutions. The company also undertakes Christmas campaigns in remote communities as well as health campaigns. Since 2006 ElectroAndes has collaborated with United Way International in supporting social investment projects.³²⁴

5.4.2. Social issues

□ Access to electricity

SN Power Perú claims that the company “realizes that the access to electricity is a right for all communities”. However, the Manás district, in which SN Power’s Cahua hydroelectric plant is located, has an electrification rate of just 53%.³²⁵ The rural areas of the district are not supplied with any basic public services. The situation is similar in the regions where ElectroAndes is active, where most rural households are not connected to the electricity grid. The investments required to increase rural electrification rates are so high that neither the provincial nor the regional governments are willing to invest. According to a representative of the provincial government of La Oroya, SN Power is also unwilling to take up the costs required for greater rural electrification.³²⁶ In response to a draft version of this report, SN Power Peru acknowledged this unwillingness, but added:

“SNPP is a hydroelectric generation company not involved in the distribution business. As such, the company’s Commercial team in cooperation with the CSR team has mapped the rural clients under its area of influence to which it distributes energy directly... As such, CSR policies regarding these communities are geared to help the communities prepare a rural electrification project profile in order to present it to the Rural Electricity Direction (RED) of the Ministry of Energy – the government office in charge of implementing the rural electrification projects - (The case of the community of San Pedro the Pari), or to help the communities organize themselves in a communal distribution company in order to access the local energy distributor (a work in progress in the community of Macashca).”

SN Power Peru³²⁷

³²³ Ibid.

³²⁴ ElectroAndes, “Annual Report2007”, (Lima: Electroandes, 2008).

³²⁵ National Institute of Statistics and Information (ICEI), “X Population Census, Section V: Housing”, 2005.

³²⁶ La Oroya municipal official, La Oroya, Junín, 14 August 2008, interview by Plades.

³²⁷ M.L. Kopstad, External Affairs Manager, SN Power, 28 May 2009, email contact in response to a draft version of this report

□ *Affordability*

While much of the Manás district is not supplied with electricity, the communities that do have access appear to be satisfied with SN Power's programmes to make electricity affordable for the locals. One resident from the Pacasmayo district pointed out that the Cahua power station "supports" the farming community through a low price on electricity and the maintenance activities it undertakes.³²⁸ Another resident claimed that the community pays nothing for the electricity service because the company maintains high tension towers on the community's territory.³²⁹ A third resident corroborated this, noting that the company and the farming community have reached an agreement by which the company supplies free electricity to the community in exchange for the use of community land as well as for the potential health impacts that the community's inhabitants are exposed to as a result of their proximity to the high tension towers.³³⁰ In response to a draft version of this report, SN Power explained that the agreements to provide the communities with free electricity were made decades ago, and that although it is not the company's policy to honour these agreements, it has decided to continue doing so because of the company's belief that surrounding communities have a right to electricity.³³¹

□ *Labour issues*

The Cahua power station employs 30 permanent workers, but they are not organised in a trade union. In fact, none of Cahua S.A.'s employees are member of a trade union. The former trade union was closed when the company was privatised, and no new trade union has since been established.³³² Employees of ElectroAndes are organised in a union affiliated with the national power sector trade union. Union leaders have indicated that their trade union rights have been respected since the merger in 2007.³³³ The union primarily represents workers employed directly by ElectroAndes, but some contract workers are also members.

The union played a strong role during SN Power's acquisition of ElectroAndes and the consequent restructuring, a time when there were worries about lay-offs and redundancies. At one point, ElectroAndes employees were forced to take 15-20-day holidays. Upon return, no employees were made redundant, but many were transferred to other positions. However, workers did indicate that they were forced to work overtime hours without compensation during the restructuring process.³³⁴ The threat of future redundancies also still looms, and workers continue to worry about their job safety. One worker stated:

³²⁸ Pacasmayo resident 1, Pacasmayo, 5 August 2008, interview by Plades.

³²⁹ Pacasmayo resident 2, Pacasmayo, 5 August 2008, interview by Plades.

³³⁰ Pacasmayo resident 3, Pacasmayo, 5 August 2008, interview by Plades.

³³¹ M.L. Kopstad, External Affairs Manager, SN Power, 28 May 2009, email contact in response to a draft version of this report.

³³² Cahua employee 1, Manás, 27 August 2008, interview by Plades.

³³³ E. Mayo, Secretary-General, ElectroAndes Workers' Union, La Oroya, Junín, 15 August 2008, interview by Plades.

³³⁴ ElectroAndes employee 1, La Oroya, Junín, 15 August 2008, interview by Plades.

“...nowadays in a technological world a machine does what 10 people used to, and I have heard that only a few would remain in the power station while the rest would later be fired...It is not a large staff, and we’ve been informed that it will be reduced even more, because of the new owners and the new technology; there will be too many workers, that is the last information we have, and many people are extremely worried...”

ElectroAndes employee³³⁵

In 2007, Cahua S.A. developed capacity building programmes for its staff in the fields of leadership and safety.³³⁶ It also developed two employment programmes: a permanent employment programme giving preference to workers who reside in the areas where the company operates, and a temporary employment programme through which it hires qualified and non-qualified personnel for the power station’s operation and maintenance. This policy is also applied to the contractors who provide services to the power stations.

With regard to occupational health and safety, Cahua S.A. achieved OHSAS 18001:2000 certification for all its production facilities and administrative offices in 2007, and the company has implemented new OHS indicators in coordination with SN Power’s HSE Management in Norway. The company has established a Safety Committee consisting of both worker and company representatives. In 2007, the accident frequency rate in 2007 was 0.01 accidents per 226,800 yearly hours worked in its production facilities.³³⁷ At the time of this research, the Cahua power station had reached a half-million man-hours without accidents. Workers confirmed that Cahua S.A. follows rigorous OHS methods and regulations.³³⁸

Workers employed by ElectroAndes indicated that the company provides the required safety equipment and uniforms. ElectroAndes experienced two work-related accidents in 2007, both of which occurred with subcontracted personnel. It should also be noted that the subcontracted workers who perform outsourced tasks, and who are not members of the union, work under different conditions from directly employed workers, as they have to bring their own clothing, tools and materials.³³⁹

5.4.3. Environmental issues

▣ Renewable sources of energy for electricity

In May 2007, Cahua S.A. announced the withdrawal of its only fossil fuel-based generation facility, Central Térmica de Pacasmayo, from the network for commercial electricity distribution. The company is currently in the process of fully shutting down the plant. According to SN Power, the plant was taken out of service because it was no longer profitable.³⁴⁰ After this withdrawal, SN

³³⁵ ElectroAndes employee 1, La Oroya, Junín, 15 August 2008, interview by Plades.

³³⁶ SN Power Perú website, “Responsabilidad Social Corporativa”, no date, <<http://www.cahua.com.pe/responsabilidad-social-corporativa.php>> (12 May 2009).

³³⁷ SN Power Perú website, “Responsabilidad Social Corporativa”, no date, <<http://www.cahua.com.pe/responsabilidad-social-corporativa.php>> (12 May 2009).

³³⁸ Cahua employee, Manás, 27 August 2008, interview by Plades.

³³⁹ E. Mayo, Secretary-General, ElectroAndes Workers’ Union, La Oroya, Junín, 15 August 2008, interview by Plades.

³⁴⁰ SN Power, “Annual Report 2007”, <http://www.snpower.no/Finacial_information/Reporting/info4/SN_Power_Annual_Report_2007.pdf>, (8 May 2009). p.36.

Power now relies primarily on hydroelectric power plants in Peru. Four of these facilities are smaller than 10 MW and thus classify as sustainable “small-scale” hydroelectric facilities.³⁴¹ The company’s four other Peruvian hydro stations range from 37 MW to 108 MW and are thus considered large scale. As is revealed in Table 15, the company thus has a total of 28.3 MW of sustainable small-scale hydroelectric generation capacity and 242.5 MW of large scale hydro capacity.

□ *Waste and pollution*

Cahua S.A. states that it reports on the monitoring of air quality, liquid effluents, noise, lighting and electromagnetic fields for all of its hydroelectric stations.³⁴² These reports are submitted to the Ministry of Energy and Mining, along with an annual statement on solid waste management, the Environmental Management Plan and the Contingency Plan. The company also claims all its production facilities and administrative offices are implementing an Environmental Programme for Waste Control, which involves waste transportation and final disposal through authorised contractors. Cahua S.A. has also developed environmental programmes such as the improvement of canal reservoirs and related structures, reforestation and maintenance of green spaces, and environmental training, but little information was available as to exactly where these training programmes took place.³⁴³

ElectroAndes’ Centro Hydroelectrico (CH) Pachachaca and CH Malpaso draw water from Lake Pomacocha and Lake Mantaro, respectively, both in Peru’s Junín region. Junín a mining region where copper and lead are mined. The La Oroya district, in which CH Pachachaca is located, is one of the world’s top ten most polluted places according to the Blacksmith Institute.³⁴⁴ Doe Run Peru, a subsidiary of one of the largest global mining companies, is active in this region and holds concession rights to almost 20% of the land in the Yauli province. This has led to conflicts with local communities and authorities in which environmental problems are central. One recent conflict centres around the farming community of San Pedro de Pari, in the Junín region, whose inhabitants seek compensation for the damages generated by a large number of mining and electricity companies, including ElectroAndes. The main issues at stake involve socio-spatial aspects related to the pollution of Lake Chinchaycocha. The crisis reached its peak when community residents seized the Upamayo dam in September 2008. Pollution caused by ElectroAndes is thus difficult to assess, as its plants are mostly located in areas of large scale mining, which in itself already creates large environmental pollution. In general terms, the mining operations, not electricity generation, appear to be the major factor in the pollution and related social unrest, but these issues indicate the troublesome context in which SN Power operates in Peru. According to an ElectroAndes Workers’ Union leader, the company maintains very precise regulations and procedures to ensure environmental protection.³⁴⁵

5.4.4. Economic issues

□ *Reliability of supply*

Cahua S.A. experienced 19 involuntary or forced power cuts in 2006, of which 10 were due to failures in the protection system, 3 to natural or environmental phenomena and 3 to human error.

³⁴¹ According to the United Nations Environment Programme (UNEP), 10 MW is the upper limit of what can be termed “small hydro”. See <<http://www.unep.org/ENERGY/information/publications/factsheets/pdf/hydro.PDF>> (12 May 2009).

³⁴² SN Power Perú website, “Responsibilidad Social Corporativa”, no date, <<http://www.cahua.com.pe/responsabilidad-social-corporativa.php>> (12 May 2009).

³⁴³ Ibid.

³⁴⁴ Blacksmith Institute website, no date, <<http://www.blacksmithinstitute.org/>> (12 May 2009).

³⁴⁵ E. Mayo, Secretary-General, ElectroAndes Workers’ Union, La Oroya, Junín, 15 August 2008, interview by Plades.

Additionally, there was 1 external failure and 1 failure with an unidentified cause. Of these 19 failures, 2 occurred at the C.H. Cahua plant, both due to failures in the protection system.³⁴⁶ From the perspective of both local residents and authorities, the electricity service was deemed “regular” for households receiving electricity services. Sudden interruptions were resolved by the company within in a short time span, although their causes remained unclear to many residents.³⁴⁷

ElectroAndes experienced 69 involuntary failures or forced power cuts in 2006; 10 were due to failures in the protection system, 16 to external causes, 17 to environmental or natural phenomena, 1 to human error and 23 to unidentified causes.³⁴⁸

³⁴⁶ Comité de Operación Económica del Sistema Interconectado Nacional (COES-SINAC), “Estadística de operaciones 2006”, 2007.

³⁴⁷ C. Descalzi, Economic Promotion and Social Development division of the Municipality of Pacasmayo, Pacasmayo, 5 August 2008, interview by Plades.

³⁴⁸ Comité de Operación Económica del Sistema Interconectado Nacional (COES-SINAC), “Estadística de operaciones 2006”, 2007.

6 Discussion and conclusions

This final chapter first discusses the three companies' CSR policies, strategies, and management styles based on the analysis of the companies' responses to the questionnaires, CSR websites and publications, and desk research into news and reports that provide insight into the companies' approach in instances not related to the case studies researched in this report. The policy analysis is followed by a discussion of the results of the empirical field research in the four case studies. On the basis of both analyses, the final section draws some general conclusions, a number of recommendations for policy-makers and TNCs are made, and some areas for further research are suggested.

6.1. Variation in CSR policies and approaches

The analysis of the three companies' CSR policies, strategies, and management styles reveals that, although all of the companies claim in one way or another that sustainable development and poverty reduction through electricity provision are among their top priorities, their conceptualisation of CSR and their approach to sustainable electricity provision in developing countries vary greatly. It should be noted that an analysis of a company's policies only gives limited information about the company's actual performance on CSR and sustainable development issues in developing countries, as there are many other determining factors. As the case studies in Chapter 5 illustrate, a sound CSR policy that addresses all critical issues is no guarantee for problem-free business practices. Good policies must be accompanied by thorough implementation and monitoring mechanisms to be effective. In fact, a good CSR policy that is not properly implemented can often function as a smokescreen for practices that negatively affect the social, economic and environmental conditions on the ground in developing countries.

Perhaps the most important conclusion one can draw from the analysis of Endesa's approach to sustainable electricity provision is that the company's approach is characterised by a thoroughly developed CSR policy and is largely based on existing international standards and norms. Endesa makes reference to more international standards than either of the other two companies analysed in this study. At the headquarters level Endesa also exhibits a willingness to engage with civil society organisations on the topic of sustainable development and CSR. However, Endesa is involved in a number of major critical-issue controversies surrounding its operations both at home, where it has been fined for failures in safety procedures and reporting at its nuclear power stations, and in developing countries such as Chile, where it faces fierce opposition to its plans for large-scale hydroelectricity projects from indigenous peoples, environmentalists and a range of other stakeholders. These examples indicate that Endesa may be having trouble translating its CSR standards and policies into practice.

For a company as young and as small as it is (compared to the other TNCs in this report), SN Power has a remarkably well-developed CSR policy. Although it does make reference to a number of international standards in critical issue areas, SN Power's conceptualisation and implementation of CSR is not as defined by these standards as is, for example, Endesa's approach. Instead of being defined by international standards, SN Power's approach to sustainable electricity provision seems to be based more on an old-fashioned, possibly deeply ingrained conception of (sustainable) development. SN Power's operations are located exclusively in developing countries, and the company is committed to developing solely renewable sources of energy for electricity

generation. In addition, SN Power frequently cites the fact that the company was created not only as a profit-making enterprise, but was also founded with the aim of making a positive contribution to sustainable development.

However, SN Power's use of hydro power is not necessarily always sustainable, especially given the fact that its hydro plants are increasingly large-scale facilities (see Table 8) that can have significant impacts on communities and biodiversity, and can be a significant source of greenhouse gases. The company's decision to withdraw from its planned development in Africa also puts into question its ability and willingness to put development before profits. The deaths of nearly a dozen workers in the past three years at the company's Allain Duhangan hydro plant in India also reveals that SN Power has not been able to implement international health and safety standards at all of its projects. Furthermore, the conflict with the Mapuche Indians over the company's Trayenko project in Chile raises questions about the company's engagement with affected stakeholders and its commitment to the native peoples' right to free, prior and informed consent.

AES' approach to electricity provision in developing countries seems to be less motivated by CSR concerns or issues than by the hard business imperative of profit (or at least AES is more up front about this reality than Endesa and SN Power). Many of AES' decisions on climate change and other environmental issues are based on the fact that a certain decision may be a "strategic business opportunity", "a growth area", "a low-cost" solution, or "economically advantageous" rather than the fact that a certain decision may be good for the environment. In fact, the environment generally seems to be a secondary consideration; a bonus if a profit-motivated business decision can "also be good for the environment". This is also the case when the company chooses suppliers, where it notes that first and foremost it will make "procurement decisions that achieve the best value for AES".

For AES, a highly developed CSR policy seems to be less important than for the other two companies in this analysis. Although the company does claim on its website that sustainable development and corporate responsibility are an integral part of its operations, AES does not produce an annual CSR report, which is rare for a company of its size, does not have a CSR department or manager, and did not respond to numerous requests for information on its approach to sustainable electricity provision. Much of the information that AES does publish about CSR is more related to the company's broad principles and philanthropic activities than any of the specific critical issues in

Figure 1. AES does mention on numerous occasions that its CSR policies are based on international standards, but it only rarely actually identifies which international standards it is referring to. Furthermore, AES' fuel mix at its developing country electricity generation plants is far less sustainable than that of the other companies, indicating less concern for environmental issues. AES' strategy on climate change is focused less on reducing GHG emissions and more on lobbying for financial incentives for offset schemes to compensate for the company's increasingly coal-based generation capacity.

6.2. Analysis of case studies

Conclusions from the empirical research conducted on the four case studies described in Chapter 5 are presented below and are structured around the **critical issues for sustainable electricity provision** discussed in Chapter 2.

- *Many communities adjacent to electricity infrastructure benefit little from proximity to TNC operations.*

Many of the communities situated near or adjacent to electricity infrastructure (i.e. power plants, transmission lines, etc.) in Argentina and Peru live in precarious situations and benefit little from their proximity to electricity operations, putting into question the commitment of TNCs to **local economic development** and the effectiveness of their CSR policies aimed at fostering sustainable development in the communities in which it operates.

The case of *Villa Inflamable*, the community adjacent to Endesa's Central Dock Sud in Argentina, is perhaps the most striking example. While it cannot be said that Endesa's operations are solely responsible for the poverty, pollution, and precarious living conditions of the community, Endesa's CSR policies and practices do not appear to be contributing to **poverty reduction and meeting basic needs** such as having a safe and healthy living environment. In fact, community members in *Villa Inflamable* expressed their belief that their situation is worsened by the presence of Endesa's power plant and the company's construction of high-tension power lines through their neighbourhood. The community's opposition has culminated in legal action against the company for pollution from the power plant and the potential negative health impacts of the power lines. The community claims that by going forward with construction of the high-tension cables despite scientific uncertainty about the health impacts of exposure to electromagnetic fields, Endesa has ignored the **precautionary principle**, even though the company has committed (through its endorsement of the UN Global Compact) to abide by this internationally recognized standard. However, here again, the local community seems to be incurring the negative impacts for the benefit of others far away when a court ruled against the community, stating "the precautionary principle cannot prevail due to the real damage that would be generated by interrupting the essential electricity service for the users alien to this process".

Regarding **access to electricity** and **affordability**, the case studies show that, by and large, TNCs are not serving the communities closest to their electricity generation facilities, despite touting CSR policies that claim to support and develop local communities. Although there are a few exceptions, such as Dock Sud's (Endesa) provision of basic electric services in *Villa Inflamable*, Cahua's (SN Power) initiative to provide cheap electricity to communities in Peru, and AES' agreement with the Argentine government not to raise electricity rates for residential users in response to the crisis, much of the electricity generated in the TNCs' plants is sent to high-density population centres or large industrial users, such as the mining industry, leaving rural villages adjacent to the power plants without access. It should be noted here that electrifying rural areas is a complex problem that requires investment and commitment from both governments and electricity companies, both of which, in these case studies, seem unwilling to assume the necessary costs. The Endesa plants in rural Peru do not supply the small communities scattered around the facilities, a fact that has caused consternation and dismay among local authorities. This appears to be out of line with the company's policy to "[develop] infrastructure...paying attention to more vulnerable communities". Similarly, SN Power's subsidiary ElectroAndes seems to be unwilling to incur the costs for connecting the rural households in the vicinity of its hydroelectricity plants, where electrification rates are often below 50%, despite the company's commitment to help develop local communities. Instead of financing rural electrification schemes, SN Power has indicated that its CSR programme is focused on assisting communities in approaching the government to request implementation of such schemes.

Another crucial aspect of **local economic development** is hiring local labourers, but that also seems to seldom be the case at the facilities studied in Argentina and Peru. Companies were

generally found to employ only a very small percentage of local community members at its plants, and given the downsizing and layoffs that have taken place since privatisations, the result has been scarcely any job creation in the communities around the power plants. SN Power is the only company of the three studied here that has an employment programme favouring local residents.

□ *Lack of investment in infrastructure endangers public health and safety and disrupts supply.*

AES has received particularly harsh criticism for its lack of investment in infrastructure, which has endangered **public health and safety** in Argentina. AES seems to have been reluctant to invest in the distribution networks, due to such investments not being economically viable in the company's assessment. As a result, local residents have complained about electricity poles falling down, sub-stations exploding, and transformers short-circuiting. Local authorities blame the situation directly on AES' failure to invest in replacing dangerous, dilapidated infrastructure. Argentina's electricity regulator has fined AES for this lack of investment and even forced the company to invest in new electricity poles. AES' lack of investment in generation capacity in Argentina has also impacted negatively on **reliability of supply**. Power cuts caused by the company's lack of generation capacity have drawn considerable local and national media attention, and there have been frequent complaints by consumers. The negative effects on **local economic development** are clear, as many businesses suffer from the sudden and unannounced power cuts. The 20 times that the company has been fined in recent years related to inadequate supply stands in stark contrast with Endesa's 4 fines. AES has now pledged to invest in electricity sub-stations and the distribution network, but only after reaching an agreement with the Argentine government following the latter's initiation of legal proceedings against the company. It should be noted that the Argentine economic crisis in 2001 and the government's subsequent macroeconomic policies, such as devaluation of the Argentine currency, made it difficult for TNCs to profit from their investments. Indeed, AES management in Argentina admits that investment in electricity infrastructure has been insufficient, but argues that the company has continued to make some investments even when these were not profitable.

□ *Working conditions are generally good, but concerns about outsourcing and job security remain.*

Workers affirmed that there are no major problems with **labour issues** at Endesa's Argentine and Peruvian power plants investigated in this report, as sufficient occupational health and safety measures seem to be in place. SN Power's subsidiaries in Peru also have a good record regarding workplace health and safety. AES workers expressed their general contentment with the working conditions, but some concerns were raised about the OHS situation at Edelap, as there have been several work-related deaths in recent years. AES has attempted to address this issue by implementing training programmes and OHS inspection bodies in cooperation with the union.

With regard to freedom of association and unionisation, a significant portion of workers at Endesa's facilities in Argentina and Peru are unionised, and the relationship between local management and the unions is deemed positive by workers and union leaders. Of all the facilities examined in this report, only SN Power's Cahua station lacks a union for its workers. The fact that Cahua workers had a union before the company was privatised is perhaps cause for slight concern, particularly within the context of the upcoming merger between Cahua and ElectroAndes. Leaders of the ElectroAndes union have expressed concerns about job security and the consequences of this merger for layoffs and redundancies, and the Cahua workers' lack of a union could work to their disadvantage in the merger negotiations.

There were in fact a large number of lay-off, redundancies, and forced retirements following Endesa's purchase of privatised electricity companies in Argentina and Peru. While it can be argued that there were significant inefficiencies in the state-owned electricity companies that Endesa was seeking to address, the large scale of the lay-offs has created a situation of uncertainty and unease among the company's remaining employees. There has also been a continuing overall trend toward outsourcing of personnel. Outsourcing is particularly common for maintenance tasks, but some companies have also begun to contract out operational duties. Interviews with workers and union leaders revealed that contracted workers receive less pay and benefits, are not unionised, and in general endure poorer working conditions than workers employed directly by the companies. The majority of recent work-related accidents among electricity employees in Argentina and Peru have occurred among contracted employees. In order to improve conditions among contractors, Endesa has extended SA8000 standards to its contracted employees in Peru, thereby in principle establishing equal health and safety standards. And at AES' operations in Argentina, the union appears to have been successful in convincing the company to limit the use of contract labour.

- *Countries' high potential for clean, sustainable energy generally left untapped by TNCs, who instead rely heavily on fossil fuels and large-scale hydro.*

Both Argentina and Peru have high potentials for **renewable sources of energy for electricity**. However, this potential is left largely untapped by the local electricity generation units of AES and Endesa, who make widespread use of fossil fuels. Endesa's efforts to increase its use of sustainable sources of energy are more focused on its operations in Europe than in Latin America, although this seems to contradict somewhat the company's pledge to focus its own efforts more on addressing **climate change and GHG emissions** in developing countries because of the lack of emissions-reducing regulations there. The company's only generation activities using renewable sources in Argentina and Peru are large hydroelectric dams, which in general are not considered to be sustainable. A large share of Endesa's capacity in Argentina and Peru does make use of natural gas, the least polluting of the 'grey' fuels, and the company has upgraded many of its natural gas facilities to more efficient combined cycle gas turbines, but the company is also increasingly using fuel oil, especially after the natural gas price hike in September 2008. At the global level, Endesa claims to be combating climate change by halving its GHG emissions by 2012; however, it is not clear how the company intends to implement this aim in Peru or Argentina, where the company controls two of the country's most GHG-emitting plants. While AES also has a global policy to increase investment in sustainable energy, this policy does not seem to be implemented in Argentina, where only 10MW, less than 1% of the company's generation mix, is based on sustainable sources of energy. Although the company proclaims its intention to develop solar and wind power globally, this is not reflected in its strategy in Argentina.

SN Power stands out against the other companies with regard to renewable energy, as it has pledged only to develop renewable hydraulic sources of energy (and has a much smaller scale of operations). The shutting of a recently-purchased fossil fuel plant in Peru indicates that the company is sticking to this policy. However, while SN Power does currently have a mix of large-scale and small-scale hydropower facilities in Peru, its plans for expansion (in Peru and globally) exclusively involve large-scale plants (see Table 8). Hydropower, especially if it involves large reservoirs but also smaller run-of-river projects, can be a significant source of **GHG emissions** through the submersion and subsequent rotting of CO₂-absorbing plants, and it is not clear whether and how SN Power measures these emissions. In fact, the operation of several large-scale hydroelectric plants by all three companies in both Argentina and Peru should raise warning flags for **biodiversity and ecosystem impact**, as well as for **indigenous rights** and **community**

lifestyle impact. Although the empirical research conducted for this study did not investigate these issues in detail in Argentina and Peru, it should be noted that all three companies are involved in controversies related to their construction of or plans to construct large-scale hydroelectric facilities in other countries, namely Chile and Panama. As identified by Wilde-Ramsing³⁴⁹ and others, hydropower, both large and small-scale, can be part of sustainable energy solutions, but governments and electricity TNCs must address issues of integrating hydropower into overall energy and water planning, applying the **precautionary principle and evaluating risks and alternatives**, and prioritising impact avoidance over impact minimisation. Even small-scale hydro can have considerable negative impacts on ecosystems, communities and local economies if these issues are not addressed.

Although all three companies generally had policies and procedures in place to minimise **waste and pollution**, AES and Endesa's heavy reliance on fossil fuels has also led to negative environmental impacts, particularly with regard to the increased use of fuel oil. One example is Endesa's Central Costanera in Argentina. Despite the fact that the facility is ISO 14001 certified, communities in the Buenos Aires area and the local Office of the Ombudsman have complained about negative environmental impacts associated with the plant's use of fuel oil with high sulphur content. Thus far, however, Costanera has failed to take steps, such as installing catalysts to decrease SO₂ emissions and reduce pollution. Doing so would seem appropriate given the ISO 14001 requirements, but the local management seems only concerned with meeting the lowest local legal requirements. Waste and pollution is also clearly an issue at Endesa's Dock Sud given the complaints from the local community and the legal action against the company (and others) for pollution of the Riachuelo River. Both Endesa and AES have been fined several times by Argentina's electricity regulator for discrepancies in and failure to comply with regulations regarding the companies' environmental management system. No major pollution-related environmental problems were reported at Endesa's or SN Power's operations in Peru, although it should be noted that several of the latter's facilities are located in a region that has experienced severe environmental degradation due to mining activities, for some of which the company supplies power.

- *Electricity TNCs generally recognize responsibility for occupational health and safety among contractors, but product chain responsibility goes little beyond that.*

When questioned about **product chain responsibility**, Endesa responded that the company embraces what it calls a "trend" in CSR for corporations to extend their social responsibilities to suppliers and contractors. In order to do so, Endesa employs different strategies to help suppliers and contractors incorporate the company's standards on CSR issues into their own policies and practices. In addition, Endesa includes CSR criteria when contracting suppliers and contractors and monitors business partners in countries and on issues where there exists an elevated risk of non-compliance. Due to the importance of OHS throughout the electricity supply chain, Endesa has implemented a policy of providing all subsidiaries with country-specific OHS operating guidelines to be distributed to all contractors. This policy was confirmed by the field research in Peru, where Endesa's Edegel recently announced that it was extending the principles of the SA 8000, ISO 9001, and OHSAS 18001 standards as requirements for its contractors and suppliers in order to ensure their compliance with the company's policies on working conditions, quality management, and OHS.

³⁴⁹ J. Wilde-Ramsing, *Quality Kilowatts: A normative-empirical approach to the challenge of defining and providing sustainable electricity in developing countries* (Amsterdam and Oslo: SOMO and ProSus/SINTEF, 2009, forthcoming) <www.somo.nl>. See Annex 2 for the executive summary.

SN Power also acknowledges the importance of addressing CSR issues when selecting contractors and suppliers, and the company claims to pay particular attention to the health and safety record of potential business partners. The company admits, however, that price and technical quality remain key criteria for choosing suppliers and contractors. SN Power includes sustainability clauses in contracts with its business partners and conducts periodic internal audits of some of its business partners. AES' Code of Conduct also addresses the company's expectations for suppliers, contractors, and others who perform work on behalf of the company. The company notes that it seeks to do business with contractors and suppliers that follow the highest standards of integrity and business conduct and that these must comply with AES policies. That said, environmental and social concerns seem to play second fiddle when selecting business partners, as AES explains, "We will make purchasing and procurement decisions that achieve the best value for AES, including price, quality, performance, and suitability".

The three TNCs thus generally seem to acknowledge and accept their responsibility for ensuring good environmental and labour practices among their direct contractors, which is certainly a positive development given the increase in outsourcing and use of contract labour in the industry. However, little evidence was found to indicate that the companies' concern for product chain responsibility extends beyond this first step to a more thorough evaluation of the impacts of the full electricity production chain. For example, none of the companies has in place policies to address the potential environmental and social impacts of upstream product chain activities such as sourcing (e.g. mining and extraction) and transport of fuels and construction materials.

- *The "engagement" of TNCs with communities is often limited to charity and philanthropic activities rather than meaningful engagement that addresses critical issues.*

In addressing the critical issues mentioned above, the TNCs investigated in this report all claim to place high value on **stakeholder engagement and public participation in decision making**. However, what companies put forth in policy often contrasts with claims by local municipal authorities and community residents that, in practice, companies seldom seek out meaningful and participatory relationships with the towns and communities adjacent to electricity provision facilities. This was particularly the case with Endesa's local subsidiaries in Argentina and Peru where the company's CSR initiatives are perceived by locals as being more focused on philanthropic activities and gift-giving in the communities rather than sustained engagement with communities and governments on local planning and development issues. While citizens and local officials confirmed that Endesa's Edegel does maintain relations with the communities neighbouring its power plants, they explain that these relations generally consist of financial support and other philanthropic activities toward the communities rather than a relationship based on meaningful engagement, participatory decision making, and helping the community meet basic needs by improving access to and affordability of electricity. Residents of a community adjacent to an Endesa power station in Peru told researchers that there is no engagement with their community other than a Christmas present (chocolate) offered by the company to the children in the community. Furthermore, local authorities complain that they are not consulted on the company's plans or decisions, nor is there any community participation in decision making processes. One official noted that Edegel's power plants are "closed and fortified spaces [that] are highly differentiated from their surroundings and contrast with the nearest villages and communities". A similar situation seems also to be the case in Argentina, where the *Villa Inflamable* community has complained about Endesa's lack of consultation and engagement with regard to the construction of high-tension power lines in the community. This lack of consultation and engagement is one of the reasons the community decided to take legal action against the company.

As an overall comment on TNCs' engagement with communities in Argentina, one electricity union official ironically stated:

"What is corporate social responsibility? ... If doing corporate social responsibility means donating candy bars, then the companies are] doing a good job".

Daniel Fernández, Sindicato de Luz y Fuerza de Capital Federal³⁵⁰

SN Power Perú's engagement policies fared somewhat better among local citizens, and the company has a clear policy of fostering "fluent communication and mutual collaboration with the communities in the areas where it operates" and "implementation of social responsibility policies through activities in the interest of the community and aimed at promoting their sustainable development", but the company also engages in many philanthropic activities such as Christmas gift-giving in remote communities and health campaigns. However, the fact that SN Power Perú, as well as the Argentine and Peruvian subsidiaries of Endesa and AES, declined to speak to local researchers or provide any input or information for this study, despite repeated requests and ample time, indicates an unwillingness to engage with civil society on critical sustainable development issues at the local level. While there is nothing wrong with TNCs undertaking philanthropic and charitable activities in affected communities and among its stakeholders, these activities all too often take the place of or distract from meaningful stakeholder engagement and public involvement in decision making when critical issues are at stake.

6.3. Conclusions and recommendations

The debate around sustainable development in electricity provision is clearly heating up, and the past few years have seen a sharp increase in interest in the topic of CSR in electricity provision from governments, multi-stakeholder groups, unions and civil society, as well as businesses themselves. Yet despite the increased interest, there remains a lack of clear normative standards for sustainable electricity provision. Wilde-Ramsing³⁵¹ recently conducted a wide survey of relevant literature, standards, and norms and identified the critical social, environmental, economic, cross-cutting issues and criteria that must form the basis for such normative guidelines. That framework of critical issues for sustainable electricity provision in developing countries, presented in Section 2.2, was used as a reference for this study, which sought to explore the policies and practices of three TNCs on the critical issues through case studies in Argentina and Peru. Knowledge about how and why TNCs approach and apply CSR and the critical issues is highly relevant for both governments and stakeholders in efforts to improve the quality of electric services in the Global South, especially given that governmental protection for electricity consumers and workers in developing countries remains weak and poorly enforced.

The analysis of corporate policies and practices revealed that the approach to and implementation of corporate social responsibility in developing countries by electricity TNCs varies widely, from highly developed CSR policies by some companies to a cursory approach to corporate

³⁵⁰ D. Fernández, Subsecretary of Culture, Training and Scholarships, Sindicato de Luz y Fuerza de Capital Federal, Buenos Aires, 15 August 2008, interview by FARN.

³⁵¹ J. Wilde-Ramsing, *Quality Kilowatts: A normative-empirical approach to the challenge of defining and providing sustainable electricity in developing countries* (Amsterdam and Oslo: SOMO and ProSus/SINTEF, 2009, forthcoming) <www.somo.nl>. See Annex 2 for the executive summary.

responsibility by others, and from best practices in some critical issue areas to complete negligence of, and major problems with, others. In general, the study found that when a TNC had a well-defined policy and implementation mechanism for a particular issue, the company tended to perform better on that issue in practice on the ground, although it should be noted that there were some important exceptions to this generalisation.

The major areas of concern identified by this study's field research on TNC policies and practices in Argentina and Peru, summarized in the previous section, substantiate Wilde-Ramsing's normative framework of social, environmental, economic and cross-cutting issues, revealing that these are indeed critical issues for the electricity industry. Those areas of concern that were expressed by local communities, workers and other stakeholders fit clearly into the framework. It should be noted, however, that it was beyond the scope and resources of this study to investigate the impact of TNCs on every critical issue identified in the framework, and the fact that not all critical issues emerged in the analyses does not necessarily mean that problems in those issue areas do not exist. Further research should focus on the TNCs policies and practices with regard to critical issues that could not be addressed in this report.

As stated in the introduction, this report does not deal with the issue of whether or not private ownership of electricity provision is positive or negative for developing countries and their citizens, although that discussion is ongoing and highly relevant. This report assumes that the majority of developing countries currently find themselves in a context of TNC ownership of electricity provision operations, and that the quality and contribution to sustainable development of that provision can be improved. Such being the case, the analysis of the policies of the TNCs and their practices and impacts in the Argentine and Peruvian case studies leads to a number of recommendations aimed at improving the quality, the poverty-reducing capability, and the contribution to sustainable development of electricity provision in developing countries.

The lack of clear criteria for sustainable electricity provision and the inconsistent application of the various social, environmental and economic standards by TNCs in both policy and practice reveal a clear need for external standard-setting and monitoring at the international level. Some initiatives, such as the UN IAEA's effort to develop criteria for "sustainable energy development" and the GRI's recent development of an "Electric Utilities Sector Supplement" for sustainability reporting by companies in electricity provision, but neither of these attempts to develop normative-practical standards for sustainable electricity provision in developing countries. The labour movement has developed normative standards on labour-related critical issues for the electricity industry, but these do not thoroughly address other social, environmental and economic issue areas. Governments and intergovernmental bodies, in consultation with all stakeholders, should strive toward developing comprehensive normative-practical standards for the industry.

In the absence of such international normative standards for electricity provision, TNCs should develop policies on all the critical issues in the framework used in this study, along with programmes for ensuring and monitoring the implementation and translation of the policies into practice on the ground in developing countries. Such monitoring should involve representatives of key stakeholder groups, particularly unions, local communities, and local energy planners. It is crucial that TNCs report according to the GRI G3 guidelines and the recently-developed Electric Utilities Sector Supplement so that information on companies' performance on critical issues is available to stakeholders in a timely and transparent manner. Further, Wilde-Ramsing's³⁵²

³⁵² J. Wilde-Ramsing, *Quality Kilowatts: A normative-empirical approach to the challenge of defining and providing sustainable electricity in developing countries* (Amsterdam and Oslo: SOMO and ProSus/SINTEF, 2009, forthcoming) <www.somo.nl>. See Annex 2 for the executive summary.

compilation of critical issues provides a wealth of issue-specific recommendations for TNCs active in electricity provision in developing countries.

Electricity TNCs should also take note of the specific stakeholder concerns identified in the case study research and analysis and undertake concrete steps to address these concerns. Principal among these recommendations is that TNCs engage with local workers and communities in a meaningful way, throughout all stages of project planning, implementation and operation.

Finally this study brings to light a number of areas that require further research. The debate around overall governance of electricity as a key public service and the question of private vs. public ownership of electricity provision has not been thoroughly addressed by this report, but that debate is crucial and cannot be separated from the recommendations for improving the quality and sustainability of electricity provision made by this report. Further research should link this study into that very important debate. Furthermore, this study has investigated the policies and practices of TNCs from developed countries (Europe and the United States), but TNCs based in emerging economies are playing an increasingly important role in electricity provision in developing countries. The South African company Eskom, for example, is active in a dozen countries in sub-Saharan Africa, where it is frequently the dominant player in regional markets. Similarly, Chinese power companies have expanded their operations beyond Chinese borders into South-East Asia, particularly the Mekong Delta region, and more recently have ventured into Africa. Given the current global economic crisis, the activities of energy TNCs from emerging economies can play a significant role in future North-South relationships. Further research should focus on examining these TNCs' approach to and impact on the critical issues for sustainable electricity provision in developing countries.

7 Annex 1: Sustainable electricity provision company questionnaire

Sent by SOMO to AES, Endesa, and SN Power May 2008

General

1. Please give a brief description of the company's conceptualization of and commitment to CSR in generating, transmitting and/or distributing electricity.
2. To which international standards does the company adhere with regard to environment, social/human rights and labour rights?
3. Please indicate the company's primary goals with regard to CSR.
4. Please indicate how the company's CSR goals and policies in developing countries differ from those in industrialized countries. For example, are there specific areas of focus for CSR (beyond or distinct from the company's overall CSR policies) or areas that require special attention in developing countries and regions?
5. What implementation strategies does the company employ to achieve the abovementioned goals and standards? How do implementation strategies differ in developing country contexts?
6. How is performance on achieving these goals monitored in developing countries?
7. Please indicate how operational responsibility for environment, social/human rights and labour rights is organized at your company. For example, what is the most senior position in the company with operational responsibility for environment, social/human rights and labour rights?
8. How is responsibility for CSR at your company's operations in developing countries structured and linked to those responsible for CSR at the headquarters?
9. Is the company concerned about CSR issues at suppliers and contractors and, if so, how is performance on CSR issues among suppliers and contractors measured and monitored?
10. Is the company concerned about CSR issues when assets are sold or transferred to another company and, if so, what measures does the company undertake to ensure that standards of CSR and quality are maintained when it sells or transfers assets?

Human rights and social issues

The following questions about social sustainability refer to the impact that a power company's operations have on the social well-being of a country or community.

11. **Access to electricity in rural and low-income urban areas.** Access to electricity is a crucial factor for meeting the first Millennium Development Goal of halving the proportion of people living in poverty by 2015, yet delivering electricity to rural populations is often a challenging task because it involves remote areas with dispersed customers whose consumption is low.
 - a. Please indicate the company's conceptualization of this issue and guiding policy.
 - b. To what extent is this issue given special concern in developing countries?
 - c. Please indicate the number of and spending on initiatives to extend electricity services to unserved and underserved communities in developing countries.
 - d. Please give an example of how this policy is employed in practice in a developing country (preferably in Latin America).
 - e. If your company has encountered difficulties or problems in the practical application of the policy in developing countries, please give an example (preferably in Latin America).
12. **Affordability of electricity.** Even in places where the power grid is accessible, electricity prices are often beyond the financial means of large portions of the population.
 - a. Please indicate the company's conceptualization of this issue and guiding policy.
 - b. To what extent is this issue given special concern in developing countries?
 - c. Please give an example of how this policy is employed in practice in a developing country (preferably in Latin America).
 - d. Please indicate the number of and spending on programmes to assist low-income customers in developing countries (specific to Latin America if possible).
 - e. If your company has encountered difficulties or problems in the practical application of the policy in developing countries, please give an example.
13. **Participatory decision making.** Meaningful stakeholder consultation and participation in decision making processes.
 - a. Please indicate the company's conceptualization of this issue and guiding policy.
 - b. To what extent is this issue given special concern in developing countries?
 - c. Please give an example of how this policy is employed in practice in a developing country (preferably in Latin America).
 - d. If your company has encountered difficulties or problems in the practical application of the policy in developing countries, please give an example.

14. **Community health and safety.** Community health risks from electricity infrastructure can include exposure to radiation and electro-magnetic fields, accidental electrocution from power lines, noise and diseases from toxic emissions and waste.
 - a. Please indicate the company's conceptualization of this issue and guiding policy.
 - b. To what extent is this issue given special concern in developing countries?
 - c. Please give an example of how this policy is employed in practice in a developing country (preferably in Latin America).
 - d. If your company has encountered difficulties or problems in the practical application of the policy in developing countries, please give an example.
15. **Displacement.** Electricity infrastructure projects can lead to physical, economic and cultural displacement of people, sometimes involuntarily.
 - a. Please indicate the company's conceptualization of this issue and guiding policy.
 - b. To what extent is this issue given special concern in developing countries?
 - c. Please give an example of how this policy is employed in practice in a developing country (preferably in Latin America).
 - d. If your company has encountered difficulties or problems in the practical application of the policy in developing countries, please give an example.
16. **Community impact of electricity infrastructure projects.** In addition to displacement, electricity projects can affect communities in a number of ways such as land use changes, influx of workers into communities, changes in the aesthetics of the landscape.
 - a. Please indicate the company's conceptualization of this issue and guiding policy.
 - b. To what extent is this issue given special concern in developing countries?
 - c. Please give an example of how this policy is employed in practice in a developing country (preferably in Latin America).
 - d. If your company has encountered difficulties or problems in the practical application of the policy in developing countries, please give an example.

Labour Issues

17. **Core ILO conventions** on freedom of association and collective bargaining, non-discrimination, child labour, and forced labour.
 - a. Please indicate the company's conceptualization of these issues and guiding policy(ies).
 - b. To what extent are these issues given special concern in developing countries?
 - c. Please give an example of how this policy is employed in practice in a developing country (preferably in Latin America).
 - d. If your company has encountered difficulties or problems in the practical application of the policy in developing countries, please give an example.
18. **Right to strike.** Due to the power industry's need to ensure continuous provision of services, electricity workers' right and ability to strike may be at greater risk than in other industries.
 - a. Please indicate the company's conceptualization of this issue and guiding policy.
 - b. To what extent is this issue given special concern in developing countries?
 - c. Please give an example of how this policy is employed in practice in a developing country (preferably in Latin America).
 - d. If your company has encountered difficulties or problems in the practical application of the policy in developing countries, please give an example.
19. **Occupational health and safety.** Work in the electricity industry can be highly dangerous, often involving high voltage wires, confined spaces or high altitudes.
 - a. Please indicate the company's conceptualization of this issue and guiding policy.
 - b. To what extent is this issue given special concern in developing countries?
 - c. Please give an example of how this policy is employed in practice in a developing country (preferably in Latin America).
 - d. If your company has encountered difficulties or problems in the practical application of the policy in developing countries, please give an example.
20. **Dialogue with workers**
 - a. Please indicate the company's conceptualization of this issue and guiding policy.
 - b. To what extent is this issue given special concern in developing countries?
 - c. Please give an example of how this policy is employed in practice in a developing country (preferably in Latin America).
 - d. If your company has encountered difficulties or problems in the practical application of the policy in developing countries, please give an example.
21. **Outsourcing.** The use of contractors and subcontractors at various stages of the product chain is extensive in the industry, and the performance of contractors can have a significant impact on the quality of electricity services.
 - a. Please indicate the company's conceptualization of this issue and guiding policy.
 - b. To what extent is this issue given special concern in developing countries?

- c. Please give an example of how this policy is employed in practice in a developing country (preferably in Latin America).
- d. If your company has encountered difficulties or problems in the practical application of the policy in developing countries, please give an example.

Environmental sustainability issues

22. **Greenhouse gas emissions.** Climate change due to the greenhouse gas effect has become the pre-eminent environmental problem of our time, and the power industry is one of the world's largest emitters of greenhouse gasses.
 - a. Please indicate the company's conceptualization of this issue and guiding policy.
 - b. To what extent is this issue given special concern in developing countries?
 - c. Please give an example of how this policy is employed in practice in a developing country (preferably in Latin America).
 - d. If your company has encountered difficulties or problems in the practical application of the policy in developing countries, please give an example.
23. **Use of renewable sources of energy.** Increasing the percentage of renewable sources of energy in a company's fuel mix can reduce CO₂ emissions and pollution. Countries' theoretical renewables potentials are often grossly underutilized.
 - a. Please indicate the company's conceptualization of this issue and guiding policy.
 - b. To what extent is this issue given special concern in developing countries?
 - c. Please give an example of how this policy is employed in practice in a developing country (preferably in Latin America).
 - d. If your company has encountered difficulties or problems in the practical application of the policy in developing countries, please give an example.
24. **Pollution control.** If not properly addressed by companies, electricity infrastructure and generation activities can diminish soil, water and air quality.
 - a. Please indicate the company's conceptualization of this issue and guiding policy.
 - b. To what extent is this issue given special concern in developing countries?
 - c. Please give an example of how this policy is employed in practice in a developing country (preferably in Latin America).
 - d. If your company has encountered difficulties or problems in the practical application of the policy in developing countries, please give an example.
25. **Biodiversity.** Electricity infrastructure and assets are often located near or in sensitive ecological areas that are high in biodiversity and which can be damaged by power operations.
 - a. Please indicate the company's conceptualization of this issue and guiding policy.
 - b. To what extent is this issue given special concern in developing countries?
 - c. Please give an example of how this policy is employed in practice in a developing country (preferably in Latin America).
 - d. If your company has encountered difficulties or problems in the practical application of the policy in developing countries, please give an example.

Economic sustainability issues

26. **Operational efficiency.** Power companies can reduce overall resource consumption and emissions by improving efficiency of energy conversion in generation (employing the most efficient technologies and fuels available) and reducing losses in transmission and distribution
 - a. Please indicate the company's conceptualization of this issue and guiding policy.
 - b. To what extent is this issue given special concern in developing countries?
 - c. Please give an example of how this policy is employed in practice in a developing country (preferably in Latin America).
 - d. If your company has encountered difficulties or problems in the practical application of the policy in developing countries, please give an example.
27. **Improvement of local electricity infrastructure and institutional capacity.** Companies can contribute to improving local capacity by hiring local managers, using local suppliers, ensuring that fair taxes are paid in the host country, and ensuring that new technology is transferred to the host country.
 - a. Please indicate the company's conceptualization of this issue and guiding policy.
 - b. To what extent is this issue given special concern in developing countries?
 - c. Please give an example of how this policy is employed in practice in a developing country (preferably in Latin America).
 - d. If your company has encountered difficulties or problems in the practical application of the policy in developing countries, please give an example.
28. **Reliability of supply.** Adequate, secure and uninterrupted supply of electrical energy is important for economic as well as health and safety reasons.
 - a. Please indicate the company's conceptualization of this issue and guiding policy.
 - b. To what extent is this issue given special concern in developing countries?

- c. Please give an example of how this policy is employed in practice in a developing country (preferably in Latin America).
 - d. If your company has encountered difficulties or problems in the practical application of the policy in developing countries, please give an example.
29. **Demand-side initiatives** (e.g. to reduce consumption, encourage efficiency in use, etc.)
- a. Please indicate the company's conceptualization of this issue and guiding policy.
 - b. To what extent is this issue given special concern in developing countries?
 - c. Please give an example of how this policy is employed in practice in a developing country (preferably in Latin America).
 - d. If your company has encountered difficulties or problems in the practical application of the policy in developing countries, please give an example.
30. **Research and development for sustainable power.** Development of new technologies can improve efficiency, reduce emissions and pollution, facilitate greater use of renewable fuels, and make electricity infrastructure safer for workers and the public.
- a. Please indicate the company's conceptualization of this issue and guiding policy.
 - b. To what extent is this issue given special concern in developing countries?
 - c. Please give an example of how this policy is employed in practice in a developing country (preferably in Latin America).
 - d. If your company has encountered difficulties or problems in the practical application of the policy in developing countries, please give an example.

8 Annex 2: Quality Kilowatts executive summary

Full reference: J. Wilde-Ramsing, Quality Kilowatts: A normative-empirical approach to the challenge of defining and providing sustainable electricity in developing countries (Amsterdam and Oslo: SOMO and ProSus, 2009, In press) <www.somo.nl> and <<http://www.prosus.uio.no/publikasjoner/>>.

Increasing access to affordable electricity is vital for eradicating poverty, improving human welfare and raising living standards, and achieving sustainable development in accordance the Millennium Development Goals. However, most current patterns of electricity provision and consumption around the world are unsustainable (UN 2001). While one-third of the world's population, primarily in developing countries, has no access to adequate and affordable electricity, environmental degradation and emissions associated with electricity production and utilisation in other areas inhibits sustainable development (SD). The electricity industry is a major source of air and water pollution and, due to its continued heavy reliance on fossil fuels, one of the world's largest emitters of greenhouse gasses that are causing irreversible climate change (IPCC, 2007). In fact, there is hardly another industrial sector that has such potential to contribute to economic development, poverty alleviation, and improved living standards that at the same time can potentially have such negative impacts for people and planet. A rapidly changing climate and steeply rising electricity demand in the developing world underline the urgency of addressing the general absence of normative standards for sustainable electricity provision by identifying the critical issues and criteria that must form the basis for more transparent and effective normative-practical guidelines for providing "quality kilowatts".

After the wave of liberalization and privatization in the 1990s, transnational corporations began playing an increasingly important role in the electricity systems of developing countries. While a great deal of optimism abounded about the unlimited positive impact of foreign direct investment (FDI) from TNCs in developing countries and about FDI as "an engine of development" (UNCTAD 1992) in the 1990s, it is now generally recognised that the positive developmental impacts of FDI are not automatic, particularly when it comes to investment in infrastructure, and that some current TNC strategies are actually having a "negative effect on the development of infrastructure in developing countries" (Yamin and Sinkovics 2008). In fact, there is little empirical knowledge as to how the corporate responsibility (CR) policies of electricity TNCs are developed and implemented in developing countries. The issue has recently emerged as increasingly acute as governmental protection for electricity consumers and workers in developing countries remains weak and poorly enforced.

The present report's overall aim is to improve the quality, poverty-reducing capability, and contribution to sustainable development of electricity provision in developing countries. The study is carried out in an applied-science mode, using strategic research to build knowledge that can be used for positive change by promoting sustainable and equitable energy systems. The basic approach is "normative-empirical analysis", whereby the initial phase comprises a clarification of the normative premises and analytic categories by which an empirically-based assessment of the provision of electricity in a manner that is consistent with SD can be carried out. Acknowledging a general absence of normative standards for sustainable electricity provision, the report surveys relevant literature to identify the critical issues and criteria that must form the basis for more

transparent and effective normative-practical guidelines. The critical social, environmental and economic issues for sustainable electricity provision in developing countries mentioned throughout the literature are identified and distilled into six cross-cutting issues that represent bottom-line “quality kilowatts”: respect for human rights, poverty reduction and the satisfaction of basic needs, observance of the precautionary principle and focused evaluations of risks and alternatives, transparency and adequate provision of information, stakeholder engagement and participatory decision-making, and assuming product-chain responsibility.

Given current variations in how different TNCs conceptualize and implement CR and normative standards for sustainable development, it is important to investigate how such variation comes into play for the electricity sector. The report proposes the use of models of home-country business culture to identify systematic, problem-relevant (SD-related) differences within the general category of TNCs providing electricity to developing countries. Through qualitative interviews with corporate managers and analysis of corporate CR materials, the research documents and evaluates how “quality kilowatts” are being conceived and implemented in three TNC case studies: Endesa as an example of the European model, SN Power as an example of the Nordic model, and AES as an example of the US model. Although all of the companies claim in one way or another that SD and poverty reduction through electricity provision are among their top priorities, their conceptualisation of and approach to sustainable electricity provision in developing countries vary widely and appear to be a result of regional differences in the regulatory framework and general culture of politics and business in their countries of origin.