

The Black Box

Obscurity and Transparency in
the Dutch Coal Supply Chain

**SOMO**

January 2012 (Updated March 2013)

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Every year more than 50 million tonnes of coal flow into the Netherlands, destined either for combustion in coal-fired power plants in this country or for re-export to other European countries for electricity generation there. The capacity to generate electricity from coal in the Netherlands will more than double if the four new coal-fired power plants currently being planned in the Netherlands go forward as envisioned. Much of that coal comes from countries like Colombia, Russia, and South Africa, where sub-standard social and environmental conditions often prevail. A lack of transparency about the origin of coal used in the Netherlands has allowed the electricity companies responsible for importing irresponsibly mined coal to avoid public and political pressure for improving conditions in their supply chain. Increasing transparency in the coal supply chain is an important first step toward improving the sub-standard conditions at coal mines around the world.

This report details the functioning of the coal supply chain and provides a thorough overview of all publicly available information on the origin of coal used in Dutch power plants. The report identifies critical gaps in public knowledge resulting from the lack of transparency provided by electricity companies operating in the Netherlands and analyses whether the degree of transparency provided by electricity companies is in line with international standards.



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SOMO is an independent, non-profit research organisation. SOMO was founded in 1973 to provide civil society organizations in the global South and North with essential knowledge on the structure and activities of multinational corporations by conducting independent research. SOMO's expertise spans a wide range of industrial sectors, including the energy and power sectors, as well as various thematic areas such as sustainable development, corporate accountability and corporate social responsibility, and the national and international normative and regulatory frameworks associated with these themes.

Colophon

The Black Box
Obscurity and Transparency in the Dutch Coal Supply Chain
January 2012 (Updated March 2013)

Authors: Joseph Wilde-Ramsing, Tim Steinweg, Kristof Racz and
Fleur Scheele

Cover layout: Frans Schupp

ISBN: 978-90-71284-93-9

This publication has been made possible with financial assistance from the Dutch Ministry of Foreign Affairs and Greenpeace. The content of this publication is the sole responsibility of SOMO and can in no way be taken to reflect the views of The Dutch Ministry of Foreign Affairs or Greenpeace.

Published by:



Stichting Onderzoek Multinationale Ondernemingen
Centre for Research on Multinational Corporations

Sarphatistraat 30
1018 GL Amsterdam
The Netherlands
Tel: + 31 (20) 6391291
Fax: + 31 (20) 6391321
E-mail: info@somo.nl
Website: www.somo.nl

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Acknowledgements

The authors would like to thank the following individuals for their input and help in the researching and writing of this report: Rolf Schipper, Hans Alders, Florian van Olden, and Albert ten Kate (Greenpeace Nederland); Janine de Vries and Fulco van Deventer (Cordaid); Egbert Wesselink and Marianne Moor (IKV/Pax Christi); Bas Bijlsma, Gerno Kwaks and Anneke Galama (NiZA); Marleen van de Kerkhof and Lex de Ridder (Port of Amsterdam); Jana Kravčíková (Advokátní kancelář Šikola a partneři, s.r.o. / Attorneys at Law); Suzan van der Meij, Iris van Oort, Marije Brouwer, and Lysanne Rinzema (SOMO); Ed van Oosterhout (Lefte Goldstein); and representatives from the electricity and mining companies that provided input for the report in the form of completed questionnaires and comments on draft versions of the company profiles (E.ON, Vattenfall/Nuon, GDF Suez/Electrabel, RWE/Essent, DONG Energy, DELTA, Anglo American, Rio Tinto, and Xstrata). Greenpeace Nederland also provided financial support, for which the authors are grateful.

Abbreviations and terminology

ARA	Amsterdam-Rotterdam-Antwerp, one of Europe's and the Atlantic market's most important coal hubs
CSR	Corporate social responsibility
DCD	Dutch Coal Dialogue
EC	European Commission
ECJ	European Court of Justice
EEX	European Energy Exchange
FLA	Fair Labor Association
GDP	Gross Domestic Product
ILO	International Labour Organization
kt	kilotonne (one thousand (1,000) tonnes)
Mt	Megatonne (one million (1,000,000) tonnes)
NGO	Non-governmental organisation
OECD	Organisation for Economic Co-operation and Development
OTC	Over the counter
RBCT	Richards Bay Coal Terminal (South Africa's primary coal port and the largest coal export terminal in the world)
SOMO	Centre for Research on Multinational Corporations
t	tonne (1,000 kg)
TFEU	Treaty on the Functioning of the European Union
UN	United Nations
USA	United States of America
WOB	Wet Openbaarheid van Bestuur (Dutch Freedom of Information Act)

Executive summary

Every year more than 50 million tonnes of coal flow into the Netherlands, destined either for combustion in coal-fired power plants in this country or for re-export to other European countries for electricity generation there. The capacity to generate electricity from coal in the Netherlands will more than double if the four new coal-fired power plants currently being planned by E.ON, GDF Suez/Electrabel, RWE/Essent, and C.GEN go forward as envisioned. Much of that coal comes from (and is likely to continue to come from) countries like Colombia, Russia, and South Africa.

The research detailed in this report takes place in the context of recent revelations about human rights abuses and other sub-standard social and environmental conditions at coal mines in Colombia and South Africa. A lack of transparency about the origin of coal used in the Netherlands has allowed the electricity companies responsible for importing irresponsibly mined coal to avoid public and political pressure for improving conditions in their supply chain. Increasing transparency in the coal supply chain is thus an important first step toward improving the sub-standard conditions at coal mines around the world.

This research report's primary objective is to improve the transparency of the coal supply chain. In so doing, the report aims to increase the public and political pressure on electricity companies that import coal mined under sub-standard social and environmental conditions to take responsibility for improving those conditions. Based largely on the results of a questionnaire sent to six electricity companies operating in the Netherlands (E.ON, Vattenfall/Nuon, GDF Suez/Electrabel, RWE/Essent, DONG Energy, and EPZ), interviews with key officials and experts, and a request through the Dutch Freedom of Information Act (WOB), the report details the functioning of the coal supply chain and provides a thorough overview of all publicly available information on the origin of coal used in Dutch power plants. The report identifies critical gaps in public knowledge resulting from the lack of transparency provided by electricity companies operating in the Netherlands. The report also analyses whether the degree of transparency provided by electricity companies is in line with international standards, examines the differences in the degree of transparency provided by various companies, and investigates whether the reasons that electricity companies give for not providing more transparency are legitimate.

The global supply chain for thermal coal is complex, often involving physical and financial trading of coal by third parties, but it is not as complex or as long as supply chains in other industries, such as the consumer electronics and garments industries. Broadly speaking, four different categories of players involved in the international thermal coal trade can be distinguished by their core business: mining companies, logistics companies, traders, and electric utilities. The Netherlands, particularly the Dutch ports of Rotterdam and Amsterdam, is an important coal import hub that plays a key role in supplying the rest of north-western Europe with coal.

The five largest countries of origin of coal that entered the Netherlands in 2011 were Colombia (42%), the United States (16%), Australia (10%), South Africa (8%) and Russia (7%). Although Indonesian coal represented a significant share just a few years ago, no Indonesian coal reached Dutch ports in 2010 or 2011. The importance of South African coal for the Netherlands has also seen a sharp decline in recent years.

A lack of transparency on the part of the electricity companies makes it impossible to fully determine the origin of coal used in the Netherlands to a greater degree of specificity than the country level. Nevertheless, based partly on results of a request through the Dutch Freedom of Information Act (WOB), SOMO was also able to identify some of the specific mines that supply coal to the Netherlands. For example, at least 3.2 million tonnes of coal from the Cerrejón mine in Colombia

arrived at the Port of Amsterdam in 2010. This represents approximately 24% of all the coal that arrived at the Port of Amsterdam in 2010. SOMO also discovered that coal from the Drummond mine in Colombia was used in the Netherlands in 2009-2011, imported almost exclusively through the Port of Rotterdam.

Despite the creation of a Dutch Coal Dialogue – a multi-stakeholder among multinational electricity and mining companies, Dutch civil society organisations, and Dutch government representatives – and pledges by the companies to “improve transparency in the coal supply chain” in the summer of 2010, power companies operating in the Netherlands continue to provide only a limited degree of transparency about the origin of the coal they consume. As a result, relying solely on the information provided by the electricity companies, it is still largely impossible to know where the coal used by power companies operating in the Netherlands comes from and whether coal-based electricity consumption in the Netherlands is connected to poor human rights or environmental conditions at specific coal mines in supplier countries like Colombia, South Africa and Russia.

Despite some differences among the various electricity companies regarding the degree of transparency they provide on the origin of coal, the overall low level of supply chain transparency provided by the electricity companies suggests that these companies are out of line with the leading international standards on supply chain transparency and responsibility. For example, the OECD Guidelines for Multinational Enterprises encourage companies to publicly disclose, rather than withhold, information about their relationships with suppliers and potential adverse impacts caused by those suppliers. In refusing to be transparent about the names of the mines and mining companies that provide them with coal, the electricity companies are not fully following the recommendations provided by these standards.

Electricity companies insist that information about the coal mines and mining companies from which they source their coal is “confidential” or “sensitive” for competition reasons, preventing them from providing more transparency. However, an analysis of EU competition law reveals that the law cannot be interpreted as preventing electricity companies from being transparent about the coal mines and mining companies from which they source their coal. Electricity companies’ insistence that so-called ‘non-disclosure clauses’ be inserted into contracts with suppliers appears to be largely designed to shield the electricity companies from the public and political fall-out that may arise should any human rights or environmental atrocities occur at mines from which they source their coal.

The report thus concludes that electricity companies operating in the Netherlands must do more to increase transparency in their supply chain if they are to be in line with international standards and demands by Dutch politicians and civil society organisations. Providing transparency about the origin of coal is the first step toward genuinely addressing human rights and environmental problems at coal mines. The report recommends that, in line with international standards, electricity companies publicly disclose information about their suppliers and the mines from which they source their raw materials. The report also recommends that the Dutch government and the European Commission draft and implement legislation that requires companies to do so.

1. Introduction

1.1. Context

Every year more than 50 million tonnes (Mt) of coal¹ flow into the Netherlands, destined either for combustion in coal-fired power plants in this country or for re-export to other European countries such as Germany and France.² The quantity of coal used to generate electricity in the Netherlands each year will more than double if the four new coal-fired power plants currently being planned by E.ON, GDF Suez/Electrabel, RWE/Essent, and C.GEN go forward as envisioned.³ Much of that coal comes from (and is likely to continue to come from) developing countries like Colombia and South Africa.⁴

Civil society organisations have long warned that social and environmental conditions at coal mines in these countries often fail to meet international standards for the protection of workers, communities and the environment.⁵ In recent years, numerous reports documenting atrocities at coal mines in developing countries have made it clear that the problems have not been addressed and that that environmental pollution and human right violations in the coal supply chain are still taking place.⁶

The issue exploded onto the Dutch political agenda in the summer of 2010 after atrocities related to coal mining in Columbia and South Africa were portrayed and linked to the Netherlands in a documentary by the television programme *Netwerk*.⁷ The political fallout of the revelations in the documentary was significant. In July of 2010, Dutch parliamentarians posed questions to the Dutch government about what the government was doing about electricity companies “that import irresponsibly-mined coal”.⁸ On 18 November 2010 a hearing was held in the Dutch Parliament on the topic of ‘Blood Coal’ in developing countries and the link with electricity generation in the Netherlands. Politicians and civil society groups demanded that the electricity companies responsible for importing the ‘blood coal’ into the Netherlands be held responsible. There was only one problem – the electricity

¹ The term ‘coal’ as used here refers to ‘thermal coal’ – hard, bituminous coal, which is the primary type of coal used for steam-based electric power generation. Thermal coal is often also referred to as ‘steam coal’, and is distinguished from coking coal, lignite and sub-bituminous coal. See section 2 for details.

² Energie-Nederland, Internal presentation to the Dutch Coal Dialogue, Den Haag, November 2011.

³ Vattenfall/Nuon also has plans to build a new coal-fired power plant in the Netherlands, but these plans are currently on hold. See T. Steinweg, K. Racz, A. ten Kate, Sustainability in the Power Sector 2010, November 2010, <http://somo.nl/publications-en/Publication_3598/view> (13 January 2012).

⁴ Port of Amsterdam, figures per country of origin, 2009 and 2010, information received through FOI/WOB request, 28 April 2011. Port of Rotterdam, “Goods Grouped by Origin and Destination”, 2009 and 2010, <http://www.portofrotterdam.com/de/Hafen/Hafen%20Statistiken/Documents/goods_grouped_by_commodity_2010.pdf> (17 November 2011).

⁵ See, for example, Greenpeace, *De wereld achter kolenstroom* (Amsterdam, 2008), <<http://www.greenpeace.nl/Global/nederland/report/2010/5/de-wereld-achter-kolenstroom.pdf>> (14 January 2012) and Greenpeace, *The True Cost of Coal* (Amsterdam, 2008), <<http://www.greenpeace.org/international/Global/international/planet-2/report/2008/11/cost-of-coal.pdf>> (14 January 2012).

⁶ See, for example, P. Smolders, “Brandbaar spul uit Colombia”, *Vrij Nederland*, 15 March 2011, <<http://www.vn.nl/Archief/Politiek/Artikel-Politiek/Brandbaar-spul-uit-Colombia.htm>> (14 January 2012) and Both ENDS, *A Burning Issue* (Amsterdam, March 2011), <http://www.bothends.org/uploaded_files/Both_ENDS_Briefing_Paper_A_Burning_Issue.pdf> (14 January 2012).

⁷ *Netwerk*, “Factsheet steenkool” (document accompanying *Netwerk* report “Energiebedrijven medeplichtig aan moord”, <<http://www.netwerk.tv/data/files/factsheet%20steenkoolwinning.pdf>> (22 November 2011). *Netwerk* claims that a “high level” E.ON manager made this admission to them but wanted his identity to be kept confidential. When SOMO asked E.ON to verify the assertion, the company would neither confirm nor deny its accuracy.

⁸ Tweede Kamer der Staten Generaal, *Handelingen*, 16 July 2010, <<https://zoek.officielebekendmakingen.nl/handelingen/TK/2009-2010/92/h-tk-20092010-92-7594?resultIndex=1&sorttype=1&sortorder=4>> (18 January 2012).

companies would not identify the coal mines from which they source their coal, so it was impossible to know who was responsible for importing the irresponsibly-mined coal. The lack of transparency in the coal supply chain thus allowed the power companies to avoid having a direct link made between the coal that they use and the sub-standard social and environmental – and avoid having to take responsibility for improving those conditions.

Increasing transparency in the coal supply chain is thus an important first step toward improving poor social and environmental conditions at coal mines around the world. Indeed, the political pressure following the airing of the *Network* documentary resulted in the formation of a ‘Dutch Coal Dialogue’ (DCD) between multinational electricity and mining companies, Dutch civil society organisations, and Dutch government representatives, which has as its primary aims to increase transparency in the coal supply chain.⁹ The electricity companies taking part in the DCD pledged to provide more information about the origin of their coal, and upon being named Chairman of the DCD former Dutch Minister of Foreign Trade Frank Heemskerk even declared that the most concrete result of the DCD will be to increase transparency to such a degree that consumers of electricity in the Netherlands will be able to choose between electricity generated from responsibly and electricity from irresponsibly-mined coal.¹⁰

Important initiatives aimed at improving transparency in supply chains are also underway at the European and international levels. Various sets of recently-released normative guidelines and standards have furthered the debate and have specified in more detail what is expected of companies with respect to supply chain responsibility and transparency. Such initiatives include the 2011 Communication on CSR by the European Commission¹¹, the 2011 update of the Organisation for Economic Cooperation and Development’s (OECD) Guidelines for Multinational Enterprises¹², and the 2011 United Nations (UN) Guiding Principles on Business and Human Rights¹³. These internationally-recognised standards and recommendations provide guidance for companies and can be used as a benchmark for their performance on supply chain responsibility and transparency. The standards insist that companies should identify, prevent and mitigate negative impacts in their supply chain¹⁴ and encourage companies to disclose information about their relationships with suppliers.¹⁵

This research report is part of SOMO’s on-going work on ‘energy supply chains’, which includes investigations into sustainable development and corporate social responsibility (CSR) aspects of energy commodities such as uranium, oil, biomass, and coal, as well as the supply chains of renewable energy technologies such as solar panels (photovoltaics).

⁹ Energie-Nederland website, “Verantwoord inkopen en winnen van kolen”, <<http://www.energie-nederland.nl/nieuws/verantwoord-inkopen-en-winnen-van-kolen/>> (11 November 2011).

¹⁰ F. Heemskerk, interviewed by M. Persson, “Interview Frank Heemskerk, Voorzitter Commissie Bloedsteenkolen: ‘Er is een veelbelovend zaadje geplant’”, *Volkscrant*, 1 March 2011, p.24.

¹¹ European Commission, A renewed EU strategy 2011-14 for Corporate Social Responsibility, Brussels: EC, October 2011, <http://ec.europa.eu/enterprise/newsroom/cf/_getdocument.cfm?doc_id=7010> (14 December 2011).

¹² OECD, OECD Guidelines for Multinational Enterprises: 2011 Edition, 25 May 2011, <http://www.oecd.org/document/28/0,3746,en_2649_34889_2397532_1_1_1_1,00.html> (1 December 2011).

¹³ UN Human Rights Council, Guiding Principles on Business and Human Rights: Implementing the United Nations “Protect, Respect and Remedy” Framework, Geneva: UN, March 2011 <<http://www.business-humanrights.org/media/documents/ruggie/ruggie-guiding-principles-21-mar-2011.pdf>> (14 December 2011).

¹⁴ OECD, OECD Guidelines for Multinational Enterprises: 2011 Edition, Chapter II, paragraphs 10 and 12, 25 May 2011, <http://www.oecd.org/document/28/0,3746,en_2649_34889_2397532_1_1_1_1,00.html> (1 December 2011).

¹⁵ OECD, OECD Guidelines for Multinational Enterprises: 2011 Edition, Chapter III, paragraph 3e and Commentary paragraph 33, 25 May 2011, <http://www.oecd.org/document/28/0,3746,en_2649_34889_2397532_1_1_1_1,00.html> (1 December 2011).

1.2. Aims and objectives

The primary aim of the present report is to improve the transparency of the coal supply chain. In so doing, the report aims to increase the public and political pressure on electricity companies that import coal mined under sub-standard social and environmental conditions to take responsibility for improving those conditions. In order to achieve this aim, the present report has as its specific objective to gain further insight into the origin of the coal being imported into the Netherlands and used by electricity companies operating coal-fired power plants. The report seeks to provide a thorough overview of all publicly available information on the origin of coal used in Dutch power plants and identify critical gaps in public knowledge. Initiatives such as the Dutch Coal Dialogue will then be able to focus on those gaps in their efforts to further increase transparency in the coal supply chain. In addition, the present report has as its objectives to determine the current state of affairs with regard to the functioning and transparency of the coal supply chain, and to ascertain whether some companies provide more transparency than others and, if so, why.

1.3. Research questions

In order to achieve these specific objectives and the overall aim, this report seeks to answer the following research questions:

- What is the structure of the global coal market and supply chain, and who are the major corporate players involved in the market?
- What role does the Netherlands play in the global coal market, and what are the quantities and the origins of coal flowing into the Netherlands?
- To what degree do the electricity companies operating in the Netherlands provide transparency about the origin of the coal purchased and used in their power plants? Are there differences in the degree of transparency provided by individual companies?
- Are there differences in the supply chain responsibility policies of the electricity companies operating coal-fired power plants in the Netherlands?
- The Dutch Coal Dialogue was initiated one-and-a-half years ago with the aim to “improve transparency in the coal supply chain”.¹⁶ Has the general degree of transparency provided by companies increased since the start of the DCD?
- Is the degree of coal supply chain transparency provided by electricity companies operating in the Netherlands in line with relevant international standards?
- Do electricity companies have legitimate reasons for not providing more transparency regarding their coal supply chain? Specifically:
 - Do European competition laws or rules prevent electricity companies from being transparent about their supply chain relationships and the exact origin of their coal?
 - Is the coal supply chain prohibitively complex for electricity companies to determine for themselves the origin of their coal?

1.4. Target groups

The primary intended beneficiaries of this research report are the individuals and communities that work in and are impacted by coal mining. The report aims to provide them and the civil society

¹⁶ Dutch Coal Dialogue, “Dutch Coal Dialogue: working on trust and contributing to improvements”, 4 February 2011, <http://www.bothends.org/uploaded_files/Dutch_Coal_Dialogue_February_2011.pdf> (7 December 2011).

organisations that represent their interests with critical knowledge that can assist them in improving their living standards and livelihoods. The report also targets those actors able to most directly and quickly improve the overall poor degree of transparency in the coal supply chain: managers of the electricity companies responsible for importing coal into the Netherlands and the Dutch and European policy makers. The report's recommendations are primarily addressed to these two target groups.

1.5. Methods

The research and drafting of this report was conducted during 2011 using various methods, including both desk research and empirical research. The desk research involved analysis of company websites, policy documents, and CSR policies. Media coverage, non-governmental organisation (NGO) and trade union reports, the websites of important coal ports such as the ports of Amsterdam and Rotterdam, and company information databases were reviewed and analysed to give further insight into the companies' sourcing of coal. In addition, a questionnaire on the origin of fuels (see Annex 2) was sent to all six of the electricity companies mentioned in the report: EPZ (DELTA), DONG Energy, E.ON, GDF Suez/Electrabel, RWE/Essent, and Vattenfall/Nuon in 2011.

All of the companies except DELTA filled in the questionnaire (with varying degrees of completeness and information provided), and returned it to SOMO in the period May-June 2011. Delta responded with an e-mail indicating that it was unwilling to cooperate in the research.¹⁷ Face-to-face and telephone interviews were conducted with company managers and procurement officers, as well as with a number of key officials involved with the coal import and trade at Dutch ports. In addition, SOMO asked legal experts Advokátní kancelář Šikola a partneři, s.r.o. / Attorneys at Law to research the implications of EU competition law for supply chain transparency. This legal analysis is principally based on relevant EC legislation, guidelines and recommendations, as well as other academic and legal literature.

One of the most interesting and fruitful research methods employed in this study was a request filed under the Dutch Freedom of Information Act (Wet Openbaarheid van Bestuur – WOB) to the Port of Amsterdam. The request returned a wealth of information on the names, tonnage, and country of origin of coal-laden ships that had entered the port in recent years (see section 0 and Annex 1). This allowed SOMO to determine with a high degree of accuracy the national origin of the vast majority of the coal entering the Netherlands in 2009 and 2010. In addition, by running the names of the coal-laden ships through a global ship-tracking database, SOMO was able to determine the actual port of origin, in some cases even the mine of origin, of coal shipments.

The current version of this report (March 2013) was updated with information on coal shipments to the ports of Rotterdam and Amsterdam for the year 2011.¹⁸ The updated figures have been incorporated in paragraphs 0 and 5.2.

Finally, all of the companies profiled in this report (i.e. the six electricity companies EPZ (DELTA), DONG Energy, E.ON, GDF Suez/Electrabel, RWE/Essent, and Vattenfall/Nuon, as well as the four coal mining companies Anglo American, BHP Billiton, Rio Tinto, and Xstrata) were given the opportunity to review a draft of their company's profile and to provide comments and corrections of factual errors. All ten companies made use of the opportunity to review the draft and provided comments that have been incorporated into the final versions of the company profiles in Chapter 3.

¹⁷ DELTA e-mail to authors, 13 May 2011.

¹⁸ Information received through personal communication with the port authorities of Rotterdam, e-mail received 23 January 2013 and the port authorities of Amsterdam, e-mail received 11 March 2013.

1.6. Structure of the report

This report is structured as follows. Chapter 2 details the functioning of the global coal market, the major corporate actors involved in the coal trade, and the role of the Netherlands as a major coal import hub for Europe. Chapter 3 is divided into individual corporate profiles of the six power companies: E.ON, Vattenfall/Nuon, GDF Suez/Electrabel, RWE/Essent, EPZ (DELTA), and DONG Energy. Each corporate profile provides an overview of the origin of the coal used by the company as a whole and the coal used in the company's coal-fired power plant in the Netherlands (except for DONG). In addition, each company profile details the degree of transparency into the coal supply chain provided by the company and the company's broader policies and initiatives on supply chain responsibility. Chapter 4 presents a summary of a legal analysis into whether electricity companies' arguments for not providing more transparency are legitimate. Chapter 5 analyses and discusses the key findings in the previous chapters, focusing the analysis on the information in the company profiles in Chapter 3. Finally, Chapter 6 answers each of the report's research questions by drawing conclusions based on the research results and analysis. Chapter 6 also provides a number of recommendations for electricity companies, the Dutch government, the European Commission to improve transparency in the coal supply chain.

2. The global coal supply chain

The global production, transport, trade and use of coal to generate electricity power plants is a complex system. There are many factors that play a role in shaping the global coal supply chain and the role of the Netherlands in that chain. This chapter provides a basic overview of that supply chain, including a description of the major countries and corporate players involved.

2.1. Definitions and types of coal

Coal is not a homogenous product. There are several different types of coal, and each type of coal has various characteristics, depending on its origin and physical-chemical composition. This report focuses on what is known as ‘thermal coal’ – hard, bituminous coal that is the primary type of coal used for steam-based electric power generation. Thermal coal is often also referred to as ‘steam coal’. On the other hand, ‘coking coal’ – also known as ‘metallurgical coal’ – is the type of coal that is suitable for use in blast furnaces and is primarily used in steel factories such as the Corus plant in IJmuiden, the Netherlands.¹⁹ Thermal coal and coking coal are both forms of ‘hard’ coal, which can be distinguished from other types of ‘low rank’ coal such as lignite and sub-bituminous coal. Unless otherwise specified, the general term ‘coal’ used in this report refers to thermal coal used in coal-fired power plants.

In addition to the different types of coal, coal from different sources (i.e. each coal mine) has different physical-chemical characteristics that make it unique and that make it suitable or unsuitable for use in electric power generation. The most important characteristics examined by traders and users of coal are the energy value, the sulphur content, the CO₂ content, the moisture content and the quantity of ash.²⁰ In general, hard coal has a higher energy value and lower moisture content than low rank coal.

2.2. Global coal production and export

Most of the coal produced globally is consumed in the country where it is mined. This is because several of the world’s largest coal producers are also among its largest economies (e.g. USA, Russia, Canada, Australia, China, India).²¹ These countries hold large domestic coal reserves that are exploited primarily for the internal market. As a result, only approximately 17% of all the coal consumed in the world is traded internationally.²² However, there are a few coal-rich countries where domestic consumption is relatively low and which produce a large amount of coal for export. These include Colombia, South Africa and Indonesia.²³ As we will see in section 2.4.1, Colombia and South Africa are by far the most important sources of coal flowing into the Netherlands, comprising 33% and

¹⁹ OECD, “Glossary of Statistical Terms”, OECD, <<http://stats.oecd.org/glossary/detail.asp?ID=4592>> (17 November 2011).

²⁰ E.ON Sales & Trading, THW Lars Wlecke, “Trading Coal”, Powerpoint presentation, <http://www.isda.org/c_and_a/ppt/5-LarsWlecke-CoalMarketandTrading.pdf> (17 November 2011).

²¹ World Coal Association, “Coal Statistics”, World Coal Association, <<http://www.worldcoal.org/resources/coal-statistics/>> (17 November 2011).

²² World Energy Council, 2010 Survey of Energy Resources, World Energy Council, <http://www.worldenergy.org/documents/ser_2010_report_1.pdf> (17 November 2011), p.4.

²³ World Coal Association, “Coal Statistics”, World Coal Association, <<http://www.worldcoal.org/resources/coal-statistics/>> (17 November 2011).

22%, respectively, of Dutch coal imports in 2009.²⁴ The coal production in these two countries is thus profiled in greater detail in the following sections.

2.2.1. Colombia

With annual exports of over 70 Mt, Colombia is one of the largest coal exporting countries in the world.²⁵ Coal mining activities are intensifying due to increasing global demand.²⁶ Whereas most of the world's 50 coal-producing countries use coal for domestic energy production, Colombia is relatively unique as it exports over 90% of its coal.²⁷ The USA and Europe are the most important buyers of Colombian coal. In 2008, exports to the Netherlands accounted for 22% of all Colombian coal exported.²⁸

Major multinational coal mining companies active in Colombia include Anglo American, BHP Billiton, Rio Tinto, Xstrata, Drummond, and Glencore International. The country's largest mines are the Cerrejón open pit mines, which produce 32 Mt of coal annually and are owned by the consortium of BHP Billiton, Anglo American and Xstrata, which each hold 33.33% of shares.²⁹ More information on the coal mining operations of these three mining companies (plus Rio Tinto) can be found in Section 2.3.1. American coal mining company Drummond, with its mines in the La Guajira and El Cesar regions, is Colombia's second largest exporter of coal.

There are various coal ports in Colombia. Puerto Bolivar is situated 150km from Cerrejón and exports all coal produced in the Cerrejón mine. The port is also owned by the consortium of multinational mining companies that owns the mine. All of the coal produced by Drummond is exported through Puerto Drummond. As we will see in Section 0, the fact that these two ports exclusively export coal from one specific mine/company facilitates the tracing of the coal that eventually ends up in power plants in Europe. Other major coal ports in Colombia are Buenaventura and Cartagena.

2.2.2. South Africa

South Africa's economy has a long history of mining and is strongly connected to the country's coal mining industry. The coal sector accounted for 5.9% of South Africa's exports and 3% of Gross Domestic Product (GDP) in 2010.³⁰ In 2010, 214 Mt of coal were produced in the country's approximately 49 mines.³¹ Although the South African government has expressed interest in nationalising mines, the major coal producers are all privately owned companies, including BHP Billiton, Sasol Mining, Anglo American Thermal Coal, Exxaro Resources, Xstrata Coal, Shanduka Resources and Total Coal South Africa. Each of these corporations owns and operates one or more underground or open pit mines.

²⁴ In the past, even up until just a few years ago, Indonesia was an important source of coal for the Netherlands. However, Indonesia is now producing primarily for the Chinese market. In 2010, exports to the Netherlands were negligible.

²⁵ International Energy Agency, *Coal and Peat in Colombia in 2008*, (Paris: IEA, 2008), <http://www.iea.org/stats/coaldata.asp?COUNTRY_CODE=CO> (23 November 2011).

²⁶ World Coal Institute, *The Coal Resource: A Comprehensive Overview of Coal*, (London: World Coal Institute, 2005), <www.worldcoal.org> (12 December 2011).

²⁷ World Coal Institute, *The Coal Resource: A Comprehensive Overview of Coal*, (London: World Coal Institute, 2005), <www.worldcoal.org> (12 December 2011).

²⁸ International Energy Agency's Coal Industry Advisory Board, *International Coal Market & Policy Developments in 2010*, (Paris: IEA, February 2011), <http://www.iea.org/ciab/ciabmark_2010.pdf> (23 November 2011).

²⁹ Cerrejón website, "Our company", no date, <<http://www.cerrejon.com/site/english/our-company.aspx>> (16 November 2011).

³⁰ Chamber of Mines South Africa, "Facts and Figures 2010", <<http://www.bullion.org.za/Publications/Facts&Figures2010/F%20and%20F%202011-small.pdf>> (15 November 2011).

³¹ Forbes & Manhattan Coal Corporation website, "About South Africa", <<http://www.forbescoal.com/Projects/About-South-Africa/default.aspx>> (30 November 2011).

Nearly all South African coal destined for export is exported through the Richards Bay Coal Terminal (RBCT). 2010 exports amounted to 63.4 Mt, making RBCT the largest coal export terminal in the world.³² Of 2010 exports, 65% of coal leaving RBCT was destined for Asia, while 30% was shipped to the European and Mediterranean region.³³ RBCT's shares are owned by various mining companies, of which no company possesses a majority of shares. Shareholders include Anglo Operations Ltd., BHP Billiton Energy Coal South Africa Ltd., and Xstrata SA (Pty) Ltd.³⁴ More information on the coal mining operations of these three mining companies (plus Rio Tinto) can be found in Section 2.3.1. Negligible amounts of South African coal are exported through the port of Durban. In the future, South African coal may also be exported from Maputo, Mozambique.³⁵

2.3. Global coal trade and key corporate players

As mentioned above, approximately 17% of all the coal consumed in the world is traded internationally.³⁶ The international trade in coal has steadily increased over the last two decades, with an annual growth of around 7%. It is also important to note that there are two types of coal trading – the physical trade and the financial trade. The physical trade of coal deals with the export, shipping, import and storage of actual physical coal. Traditionally, this type of trading is conducted by companies that are involved primarily in coal mining and electricity generation, although it should be noted that financial institutions and traders are also increasingly getting involved in the physical market.

On the other hand, the financial trade of coal deals primarily with the trade in (derivatives of) contracts to supply coal at a future date (i.e. the so-called 'futures market'). In the futures market, physical traders who are wary of future price fluctuations agree on a specific price for delivery of coal at a future date. Financial institutions and commodity traders are willing to speculate on these price fluctuations, and they buy and sell these contracts for financial gain without being involved in the physical delivery of the coal. In turn, large energy companies are increasingly becoming involved in this type of trading, and many have set up trading desks that deal primarily in the financial trade.

Because coal is heavy and expensive to transport over land, the vast majority of the international physical trade in coal is seaborne. In 2005, approximately 6,000 vessels were used in the global coal trade, ranging in carrying capacity from 10,000 to 180,000 tonnes.³⁷ Due to the high costs associated with transportation, the global seaborne trade of coal can be broadly divided into two global markets: the Atlantic market and the Indo-Pacific market. The Atlantic market includes flows from Colombia, South Africa and Russia to Europe and the USA. The Pacific market centres on exports from Australia, Indonesia and South Africa to Japan, China and other Asian countries. In 1996, these two markets were roughly the same size in terms of volumes of seaborne coal traded. However, currently the Pacific market has grown to more than twice the size of the Atlantic market, a clear reflection of the growth in Asian economies like China and India.³⁸

³² Richards Bay Coal Terminal website, "Economic overview", <http://www.rbct.co.za/jit_default_1108.Economic%5Foverview.html> (15 November 2010).

³³ Anglo American website, "Business unit Thermal Coal", <http://ar10.angloamerican.com/ofr/business_unit-thermal_coal.aspx> (2 December 2011).

³⁴ Richards Bay Coal Terminal website, "BTCT shareholders", <http://www.rbct.co.za/jit_default_1079.RBCT%5Fshareholders.html> (15 November 2010).

³⁵ Forbes & Manhattan Coal website, <<http://www.forbescoal.com/Projects/Coal-Markets/default.aspx>> (25 November 2011).

³⁶ World Energy Council, 2010 Survey of Energy Resources, World Energy Council, <http://www.worldenergy.org/documents/ser_2010_report_1.pdf> (17 November 2011), p.4.

³⁷ E.ON Sales & Trading, THW Lars Wlecke, "Trading Coal", Powerpoint presentation, <http://www.isda.org/c_and_a/ppt/5-LarsWlecke-CoalMarketandTrading.pdf> (17 November 2011).

³⁸ World Coal Association, "Coal Statistics", World Coal Association, <<http://www.worldcoal.org/resources/coal-statistics/>> (17

Japan is currently the largest importer of coal in the world.³⁹ Given the decline in the public and political appetite for nuclear energy in the aftermath of the Fukushima disaster, Japan's coal imports are expected to increase.⁴⁰ A recent trend – and one of the main causes of the growing trade volumes in the Pacific market – is the growth of demand from China, which imports coal primarily from Indonesia and Australia, and also accounts for an ever increasing share of South African exports. A direct consequence of this development is that the Atlantic and the Pacific markets have become more separate than in previous years. Significantly less coal now flows from Indonesia and other Asia-Pacific countries to Europe than in previous years.⁴¹

Another noticeable trend is the increasing dependence of Germany, the largest user of coal in Europe, on imported sources.⁴² According to the World Energy Council, Germany's production output of thermal coal fell from 76.6 Mt in 1990 to 19.1 Mt in 2008.⁴³ This development has made Germany more dependent on imported coal sources, mostly from Russia, Colombia and the USA.⁴⁴ The German Government's decision to phase out nuclear power plants in response to the Fukushima disaster is likely to contribute to the rising volumes of coal imported into Germany.⁴⁵ A significant portion of Germany's imported coal reaches the country through the Dutch ports of Amsterdam and Rotterdam and the Belgian port of Antwerp. Figure 1 depicts the global seaborne physical coal trade in 2009.

November 2011).

³⁹ Idem.

⁴⁰ J. Meltzer, "After Fukushima: What's Next for Japan's Energy and Climate Change Policy?", Global Economy and Development at Brookings, September 2011, <http://www.brookings.edu/~media/Files/rc/papers/2011/0907_after_fukushima_meltzer/110907_JapaneseEnergyPolicy_Final.pdf> (17 November 2011).

⁴¹ L. de Ridder, Unit Manager Bulk Logistics (coal chains), Haven Amsterdam, interview with authors, 7 April 2011, Amsterdam, Netherlands.

⁴² World Coal Association, "Coal Statistics", World Coal Association, <<http://www.worldcoal.org/resources/coal-statistics/>> (17 November 2011).

⁴³ World Energy Council, *2010 Survey of Energy Resources*, World Energy Council, <http://www.worldenergy.org/documents/ser_2010_report_1.pdf> (17 November 2011), p.4.

⁴⁴ Statistisches Bundesamt (Federal Office for Statistics), "Imports of Hard Coal, Hard Coal Coke and Hard Coal Briquettes into the Federal Republic of Germany", Verein der Kohlenimporteure e.V., <<http://www.verein-kohlenimporteure.de/download/092011%20Importe%20engl.pdf?navid=4>> (17 November 2011).

⁴⁵ Steel Guru, "German hard coal imports seen up in 2011", Steel Guru, 14-07-11, <http://www.steelguru.com/raw_material_news/German_hard_coal_imports_seen_up_in_2011/214549.html> (17 November 2011).

Figure 1: Main trade flows in seaborne hard coal trade, 2009 (in Mt)



Source: Verein der Kohlenimporteure⁴⁶

Broadly speaking, there are four different categories of players involved in the international coal trade that can be distinguished by their core business: mining companies, logistics companies, traders and utilities. Each of these types of players is further detailed in the sections below. Table 1 provides an overview of some of the core corporate players active in coal trading and their 2010 financial results. The table reveals that Glencore, by far the most important coal trading company in the world by volume traded, has the highest revenue of all the companies mentioned here. It should be noted, however, that Glencore earns relatively small margins on the high volumes in which it trades, inflating revenues in relation to the profits and assets. Indeed, Glencore’s profits are much lower than those of the energy utilities and especially the mining companies. With regard to assets, the large energy utilities (which own power plants) tend to have the greatest asset values.

Table 1: Financial data of major players in the global coal trade, 2010

Company	Core business	Revenue (million)	Profit (million)	Assets (million)
Glencore	Trader	US\$ 144,978	US\$ 1,646	US\$ 79,789
E.ON	Utility	€ 92,863	€ 6,281	€ 152,881
RWE	Utility	€ 53,320	€ 3,308	€ 93,077
BHP Billiton	Mining	US\$ 71,739	US\$ 23,946	US\$ 102,891
Xstrata	Mining	US\$ 30,499	US\$ 7,654	\$ 69,709
Anglo American	Mining	\$ 32,929	\$ 9,763	\$ 66,656
Clarksons	Logistics	£ 203	£ 32.4	£116.4
EMO	Logistics	€ 134	€ -0,034	€ 3
Nuon*	Utility	€ 2,682	€ 269	€ 8,684

*Nuon is part of Swedish utility Vattenfall. Here, the figures for Nuon are given separately

Sources: 2010-2011 Corporate annual reports; Currencies as reported in individual annual reports

⁴⁶ Verein der Kohlenimporteure , Annual Report 2010, <<http://www.euracoal.org/pages/medien.php?idpage=641>> , (22 November 2011), p.19.

2.3.1. Mining companies

The first group of corporate players involved in the international coal trade are the coal mining companies. The most important of these are the so-called 'Big Four': British-South African Anglo American, British-Australian BHP Billiton, Swiss-Australian Xstrata, and British-Australian Rio Tinto. Some Russian and Chinese companies such as Severstal JLC, Shanxi Coking Co., and Exxaro Resources also control large coal reserves used primarily for Russian and Chinese domestic production,⁴⁷ but the Big Four are responsible for the vast majority of internationally traded coal. In addition to mining coal, the Big Four also (partly) own several ports in Colombia, South Africa, and Indonesia from which the coal is exported. For example, Anglo American, BHP Billiton and Xstrata are the three largest shareholders of the Richards Bay Coal Terminal,⁴⁸ which is the primary export port for coal mined in South Africa. In Colombia, Drummond controls and exports its coal through its own aptly-named Puerto Drummond,⁴⁹ and coal from the Cerrejón mine (jointly owned by Anglo American, BHP Billiton and Xstrata) is exported exclusively through Puerto Bolivar. The Big Four's dominance of the production side of the global coal trade and the fact that all four of them supply the Amsterdam-Rotterdam-Antwerp (ARA) coal hub make it almost certain that coal produced by each of these companies ends up in Dutch power plants. The coal mining activities of each of the Big Four is profiled in greater detail in the sub-sections below.

Anglo American

Mining company Anglo American has South African origins, but has its current headquarters in London. The company has its primary listing on the London Stock Exchange and a secondary listing on the Johannesburg Stock Exchange. Approximately 50% of Anglo American's assets are located in Southern Africa, and its coal mining operations are concentrated in South Africa under Anglo American's subsidiary Thermal Coal.⁵⁰ The majority (73%) of the coal produced by Anglo American in South Africa is for the domestic market. The company produces coal for domestic use at the mines in New Denmark, New Vaal and Isibonelo collieries (all 100% owned by Anglo American) and the collieries of Mafube (50% Anglo American) and Kriel (73% Anglo American). Of the company's total South African coal production, 62% is sold to Eskom, 8% to Sasol and 2% to other industrial customers.⁵¹

Approximately 29% of the coal produced by Anglo American in South Africa is exported. The company's export mines are the Goedehoop, Greenside, Kleinkopje and Landau collieries (all 100% owned by Anglo American) and the Zibulo colliery (73% Anglo American). All coal exports go through Richards Bay, of which Anglo American has 27% ownership. Anglo American also has a 50-50 joint venture with BHP Billiton to operate the Phola coal processing plant.⁵² The ARA coal hub is one of the top destinations for Anglo American's coal exports out of South Africa, receiving approximately 3.7 Mt (21%) of the company's South African exports. India, China, Germany and Italy are other important

⁴⁷ Carbon Tracker Initiative, Unburnable Carbon – Are the world's financial markets carrying a carbon bubble? 2011, <http://www.carbontracker.org/unburnable-carbon> (17 November 2011).

⁴⁸ Raymond Chirwa, Chief Operating Officer, Richards Bay Coal Terminal, *Is RBCT ready to export 91 Mt?*, Powerpoint presentation, McCloskey's Coal Export Conference, South Africa: 4-6 February 2009, <http://www.rbct.co.za/upload/files/McCloskeys%20coal%20conference%20%204_6%20Feb%2009_%20Cape%20Town.ppt> (17 November 2011).

⁴⁹ Drummond Company Inc., "Colombia", Drummond Company Inc., <<http://www.drummondco.com/operations/coal/Colombia.aspx>> (17 November 2011).

⁵⁰ Anglo American response to draft company profile sent by SOMO, 12 January 2012.

⁵¹ Anglo American website. "About us", <http://www.angloamerican.co.za/about-us/%7E/link.aspx?_id=1A84DE0EAECF4DB98A794E8A7DF5E2C7&_z=z> (17 November 2011).

⁵² Anglo American website, "Our operations: Thermal coal", <<http://www.angloamerican.co.za/our-operations/thermal-coal.aspx>> (17 November 2011).

export destinations. Over the last several years, Anglo American has been exporting an ever increasing amount of its South African coal production to the Asia-Pacific market (primarily China and India), with a corresponding decrease in exports to Europe.⁵³

Anglo American also has a 33.3% share in the Cerrejón coal mine in Colombia, from which it produces and exports approximately 10 Mt of coal annually (primarily for the European market). All of the coal produced at the Cerrejón mine is exported through Puerto Bolivar, which belongs to the mining consortium (i.e. Anglo American, BHP Billiton, Xstrata). Table 2 lists the production and export volumes from Anglo American's South African and Colombian mines.

Table 2: Anglo American coal production at and export from South African and Colombian mines, 2009

Country	Mine	Total production (Mt)	Total export (Mt)
South Africa	Goedehoop	6.9	6.9
South Africa	Greenside	3.8	3.3
South Africa	Kleinkopje	4.4	2.0
South Africa	Landau	4.2	3.9
South Africa	Kriel	11.2	-
South Africa	New Denmark	3.7	-
South Africa	New Vaal	17.6	-
South Africa	Isibonelo	5.1	-
South Africa	Mafube	2.2	1.2
South Africa	Zibulo	0.1	0.0
	Total South Africa	59.2	17.3
Colombia	Cerrejón	10.2	10.2
	Total Colombia	10.2	10.2

BHP Billiton

BHP Billiton is one of the world's largest mining companies with global manganese, uranium, iron, oil, and coal mining operations. BHP Billiton is a dual-listed company composed of BHP Billiton Limited (headquartered in Melbourne, Australia, and listed on the Australian Stock Exchange) and BHP Billiton Plc (based in London with a primary listing on the London Stock Exchange and a secondary listing on the Johannesburg Stock Exchange). BHP Billiton's total coal production for the 2010-11 financial year was 69.5 Mt. South Africa and Colombia are BHP Billiton's primary coal producing sites, with approximately 50% of total production occurring in each of these countries.⁵⁴

In South Africa, the company operates four coal mines through its wholly-owned subsidiary BECSA⁵⁵: Khutala Colliery, Klipspruit Colliery, Wolvekrans Colliery, and Middelburg Colliery, which are all located in Mpumalanga Province.⁵⁶ The total South African coal production over financial year 2010-11 was 34 Mt.⁵⁷ The majority (approximately 62%) of coal produced in South Africa is for the domestic market,

⁵³ Anglo American website, "Business unit: Thermal coal", <http://ar10.angloamerican.com/ofr/business_unit-thermal_coal.aspx> (2 December 2011).

⁵⁴ BHP Billiton Production Report for the Year Ended 30 June 2011. <http://www.bhpbilliton.com/home/investors/reports/Documents/110720_BHP%20Billiton%20Production%20Report%20for%20the%20Year%20Ended%2030%20June%202011.pdf> (12 December 2011)

⁵⁵ BECSA stands for: BHP Billiton Energy Coal South Africa Limited

⁵⁶ BHP Billiton website, "Energy coal", <<http://www.bhpbilliton.com/home/businesses/energycoal/Pages/default.aspx>> (17 November 2011).

⁵⁷ BHP Billiton, Annual Report 2011, <http://www.bhpbilliton.com/home/investors/reports/Documents/2011/BHPBillitonAnnualReport2011_Interactive.pdf>

and is sold to the South African state-owned electric utility Eskom.⁵⁸ All of BHP Billiton's South African coal exports take place through the nearby coal harbour of Richards Bay, of which BECSA owns 22%.⁵⁹

Like Anglo American, BHP Billiton is active in one coal mining operation in Colombia – its 33.3% share in Carbones del Cerrejón coal mining company. BHP Billiton's share of Cerrejón's more than 32 Mt of annual coal production is thus approximately 10.7 Mt per year. All of this is exported through Puerto Bolivar, which belongs to the mining consortium of Anglo American, BHP Billiton, and Xstrata.

Xstrata

Xstrata is a relatively young company that has quickly grown to become one of the world's major mining companies. Xstrata claims to be the world's largest exporter of thermal coal.⁶⁰ 34.4% of shares in Xstrata are owned by Glencore International Plc.⁶¹ Xstrata is headquartered in Zug, Switzerland and in London. It is listed on both the Zürich and London Stock Exchanges. All of the company's coal operations are managed by commodity business division Xstrata Coal, which is headquartered in Sydney, Australia. At its coal mines in Australia, Colombia, and South Africa, the company produced over 65 Mt of thermal coal in 2010.⁶² The company's largest coal mining operations are in Australia, from which it exported nearly 33 Mt of thermal coal and generated US\$4.1 billion in net revenue 2010.⁶³ In South Africa, Xstrata produced nearly 18 Mt (of which 11 Mt were for export) and generated US\$1 billion in revenues in 2010. In Colombia, at similar levels to its consortium partners Anglo American and BHP Billiton, Xstrata produced and exported over 10 Mt of coal and generated revenues of US\$761 in 2010.⁶⁴ Table 3 provides an overview of Xstrata's operational coal mines in South Africa and Colombia.⁶⁵

Table 3: Overview of Xstrata's operational coal mines in South Africa and Colombia, 2010

Country	Mine	Ownership (%)	Annual production capacity (kt)
South Africa	Goedgevonden	74	7,000
	Tweefontein Opencast	79.8	3,500
	Tweefontein Underground	79.8	2,700
	Impunzi Division Opencast	79.8	5,400
	Mpumalanga Division Spitzkop	79.8	1,400
	Mpumalanga Division Tselentis	79.8	1,400
	Southstock Division Opencast	79.8	-
	Southstock Division Underground		5,000
Colombia	La Guajira		32,000

⁵⁸ *Ibid.*

⁵⁹ *Ibid.*

⁶⁰ Xstrata website.

<<http://www.xstratacoal.com/EN/Publications/Other%20Publications/2010%20Xstrata%20Coal%20EEO%20Public%20Report%20FINAL.pdf>> (30 November 2011).

⁶¹ Glencore website, <<http://www.glencore.com/coal.php>> (12 December 2011).

⁶² Figure excludes semi-soft coal. Xstrata response to draft profile sent by SOMO, 23 December 2011.

⁶³ The net revenue figure of US\$4.1 billion includes semi-soft coal.

⁶⁴ Xstrata, Annual Report 2010, <<http://www.xstrata.com/annualreport/2010/servicepages/downloads.html?cat=b>> (30 November 2011).

⁶⁵ Note that Xstrata Coal's operations in Australia are not included in the table.

Rio Tinto

The Rio Tinto Group is a large mining company with global operations. The group is listed on the London Stock Exchange through Rio Tinto Plc and on the Australian Securities Exchange through Rio Tinto Limited. Rio Tinto mines aluminium, copper, and iron, as well as uranium and coal. The company's energy division generates 10% of the group's total cash flow.⁶⁶ Thermal coal is mined in Australia (18.4 Mt in 2010), the USA (42.3 Mt in 2010), and, since 2011, in Mozambique.⁶⁷ The company does not provide export volumes or destinations. The company is not a significant player in the Atlantic market, and focuses primarily on the Pacific market.

2.3.2. Logistics companies

Logistics companies represent another type of corporate coal actor. These companies are involved in trading coal without actually owning any of the commodity. The companies in this group are significantly smaller than the mining companies, traders or utilities in terms of revenues and assets (see Table 1). Logistics companies include the shipping agents of the vessels that transport coal, such as Clarksons, Galbraiths, and Simpson Spence & Young. These companies are responsible for the handling of coal during transport, dealing with customs, port authorities, and stevedores (dockworkers) and other logistical tasks. They generally generate their income with the fees they charge for the transport of coal. These fees are negotiated per shipment between the vessel operators, and the importing or exporting company. The shipping fees play a significant role in the global coal market, as the weight of coal makes transport expensive. The importance is illustrated by the fact that JP Morgan (a financial player, see below) speculated on profiting from the change in shipping costs at different locations (and lost money in the process).⁶⁸

The logistics group also includes the stevedores, who are responsible for loading and offloading the vessels at the ports and the further transport of coal to power plants and other end users. Stevedores are also responsible for the long-term and short-term storage of coal reserves, and the blending of coal from different sources. This blending of coal is carried out to optimise and control the physical-chemical characteristics of the coal before it is combusted in power plants. As an example, Table 4 lists the various stevedores active in the Netherlands and their port of operation.

Table 4: List of stevedores (dockworkers) in the Netherlands

Name	Port
EMO	Rotterdam
OBA	Amsterdam
EdF Trading	Amsterdam
EBS	Rotterdam
RBT	Rotterdam
OVET	Vlissingen
EECV	Rotterdam

2.3.3. Traders

The third group of companies consists of those that trade coal, either through the financial futures markets or by buying, stockpiling, and selling physical coal. One of the most high-profile players in the

⁶⁶ Rio Tinto Annual Report 2010, <<http://www.riotinto.com/annualreport2010/performance/energy.html>> (30 November 2011).

⁶⁷ Rio Tinto Annual Report 2010, <http://www.riotinto.com/annualreport2010/production_reserves/metals_minerals.html> (30 November 2011).

⁶⁸ Mark DeCambre, "JPMorgan coal hole; \$250M trading bust a Dimon mine miss", New York Post, 08-06-10, <http://www.nypost.com/p/news/business/jpmorgan_coal_hole_p6EJ4K57rYa9Rz8VfQpTVP> (17 November 2011).

coal trade is the Swiss-based commodity trader Glencore (see below). Other corporate players involved in the trade of coal include large corporate banks and other financial players that traditionally trade in futures contracts, but that are getting increasingly involved in the physical trade of coal as well. Examples of these companies include Goldman Sachs, Merrill Lynch, JP Morgan, and Deutsche Bank. Additionally, several energy utilities have set up trading desks through which they are also active in coal trading (see Section 2.3.4 below).

Table 5: Corporate players active in physical coal trading, 2011*

Company	Core business
Goldman Sachs	Financial
EDF Trading	Utility
RWE Supply & Trading	Utility
E.ON Trading	Utility
Glencore	Producer / Trader
Cargill	Trader
Trafigura	Trader
Vitol	Trader
Noble Group	Trader
Mercuria Energy Group	Trader
Louis Dreyfuss Highbridge Energy	Trader
Bulk Trading SA	Trader
Flame SA	Trader
Peabody Energy	Trader
Nuon	Utility
Essent	Utility
Macquarie Group	Financial
RBS Sempra Energy	Financial
Morgan Stanley	Financial
Merrill Lynch	Financial
Deutsche Bank	Financial

* This list is not comprehensive. Source: Coal Spot⁶⁹

Glencore

Glencore dominates the physical trade in coal. The prospectus that the company issued before its recent Initial Public Offering (IPO) on the London Stock Exchange provides a wealth of information about the operations of this company and the workings of the coal trade in general. Glencore considers itself to be the “largest participant in the supply of seaborne steam coal” in the world.⁷⁰ It also sees itself as being more vertically integrated than its competitors.

Glencore’s activities in the coal market can broadly be divided into two segments: marketing and industrial. The marketing segment of the company deals with the sourcing of coal from mining companies and reselling it to energy utilities and other end users. For 99.9% of the company’s revenue, the company actually purchases and becomes the physical owner of the coal, thereby taking on the financial risk that it will not be able to resell the coal. However, it mitigates these risks through

⁶⁹ Coal Spot, “The World’s Top Coal Trading Companies – Reuters”, Coal Spot, <<http://www.coalspot.com/news-detail.php?nid=144&page=3>> (17 November 2011).

⁷⁰ Glencore International plc Prospectus, Glencore International plc, 2011, p.54.

hedging and onward selling at a pre-established price. In this segment, the company generates profits by making use of price differences that are geographic (buying at a cheap location and selling at an expensive one), product-related (mixing and blending of coal to increase the value), and time-related (buying when global prices are low, selling when they are high). The marketing segment also actively trades in freight and storage prices to minimise the handling costs.

The company's industrial activities include the operation of the mining sites it owns, as well as ownership and operations of freight, handling and storage facilities. Glencore has full control of the Prodeco mine in Colombia as well as a controlling share in Shanduka Coal in South Africa and minority interests in Xstrata (34.5%) and the South African Umbeco (43.66%).

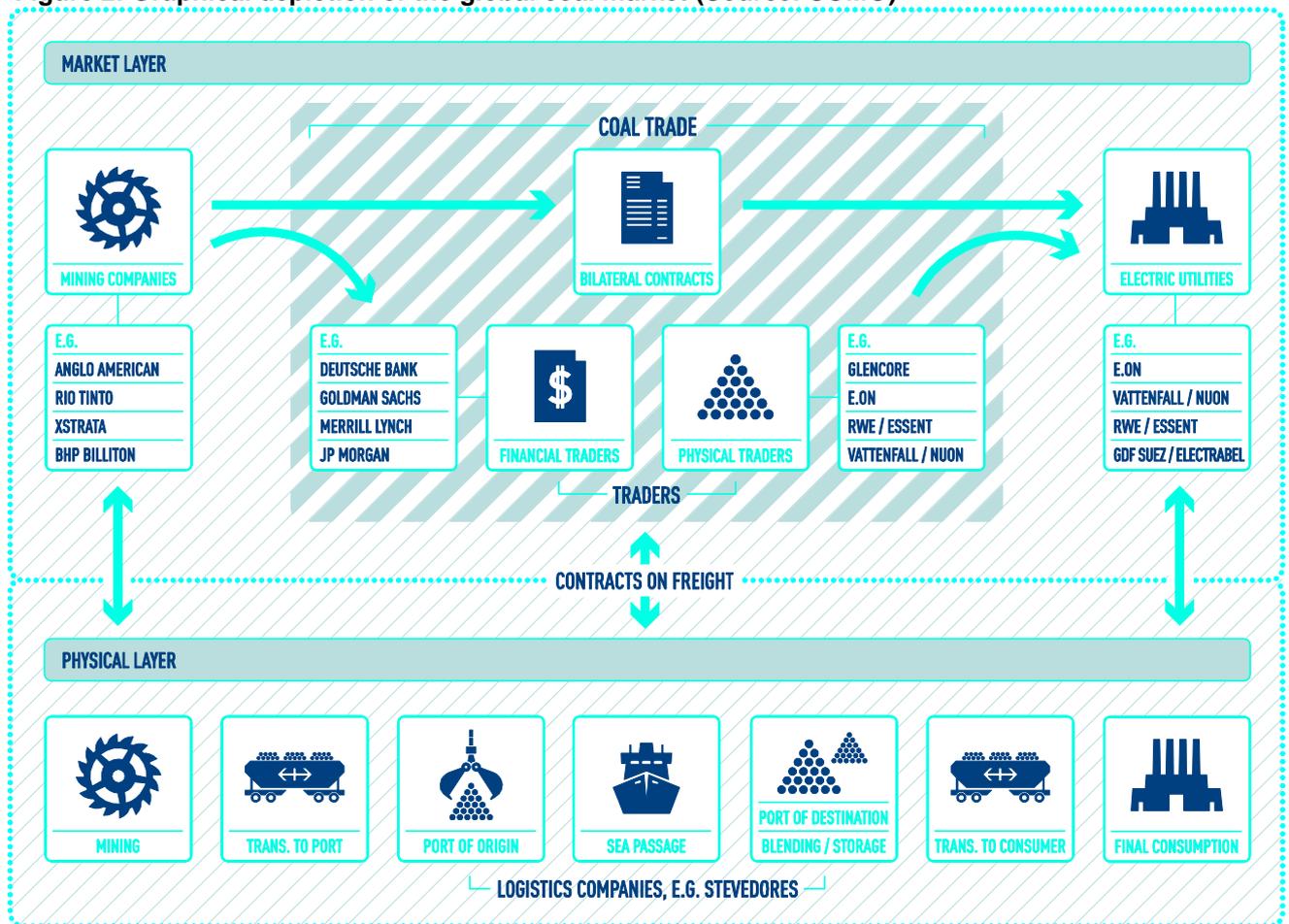
2.3.4. Utilities

The final group of corporate players active in the global coal trade is the end users. In this case, these are primarily the utility companies that own and operate coal-fired power plants. As a group, energy utilities are the largest consumers of coal in the world, and they are traditionally involved in purchasing coal for end use in their power plants. However, as noted in Table 5 above, power companies are becoming active not only in burning coal, but also in terms of trading in it. Électricité de France (EdF) was the first utility to set up a separate trading desk, which it did in order to secure a steady and cheap supply of coal for its power plants.⁷¹ EdF also has its own stevedore services in the port of Amsterdam. Other large utilities, including RWE, E.ON and Nuon (now Vattenfall), soon followed suit. The membership list of globalCOAL, the largest trading platform of physical coal, reads like a 'who's who' of the coal trading business. Energy utilities that feature on this membership list include Dong Energy, Delta, E.ON, EdF, Enel, GDF Suez/Electrabel, RWE/Essent, and Vattenfall/Nuon.⁷²

⁷¹ Coal Spot, "the World's Top Coal Trading Companies – Reuters", Coal Spot, <<http://www.coalspot.com/news-detail.php?nid=144&page=3>> (17 November 2011).

⁷² Global Coal, "Market Members", Global Coal, <<http://www.globalcoal.com/services/members.cfm>> (17 November 2011).

Figure 2: Graphical depiction of the global coal market (Source: SOMO)



2.4. The Netherlands as a coal hub for Europe

Within the Atlantic market, the Netherlands – and particularly the Dutch ports of Rotterdam and Amsterdam – is an important hub and plays a key role in supplying the rest of Europe with coal. In fact, together with the port of Antwerp, the combined trading at the ports of Rotterdam and Amsterdam is seen as indicative for the entire European market. Import data from the ports of Rotterdam and Amsterdam reveal that approximately 40.4 Mt of coal was imported into these two ports in 2011 (25.7 Mt in Rotterdam and 14.7 Mt in Amsterdam).⁷³ In addition to Amsterdam and Rotterdam, other smaller ports of entry include Vlissingen in Zeeland and Willemshaven in Friesland. Energie-Nederland, an industry group representing energy companies active on the Dutch market, indicates that a total of 50 Mt of coal entered the Netherlands through all ports in 2010.⁷⁴ Based on these figures, coal flowing through the Netherlands represents approximately 25% of all the coal traded in the Atlantic market in 2010.⁷⁵ Dutch power plants only use a fraction of this coal (approximately 9 Mt, or 18% of all coal entering the Netherlands).⁷⁶ According to Energie-Nederland, the majority (41 Mt, or 82% of all coal

⁷³ Personal communication with the port authorities of Rotterdam, e-mail received 23 January 2013 and the port authorities of Amsterdam, e-mail received 11 March 2013.

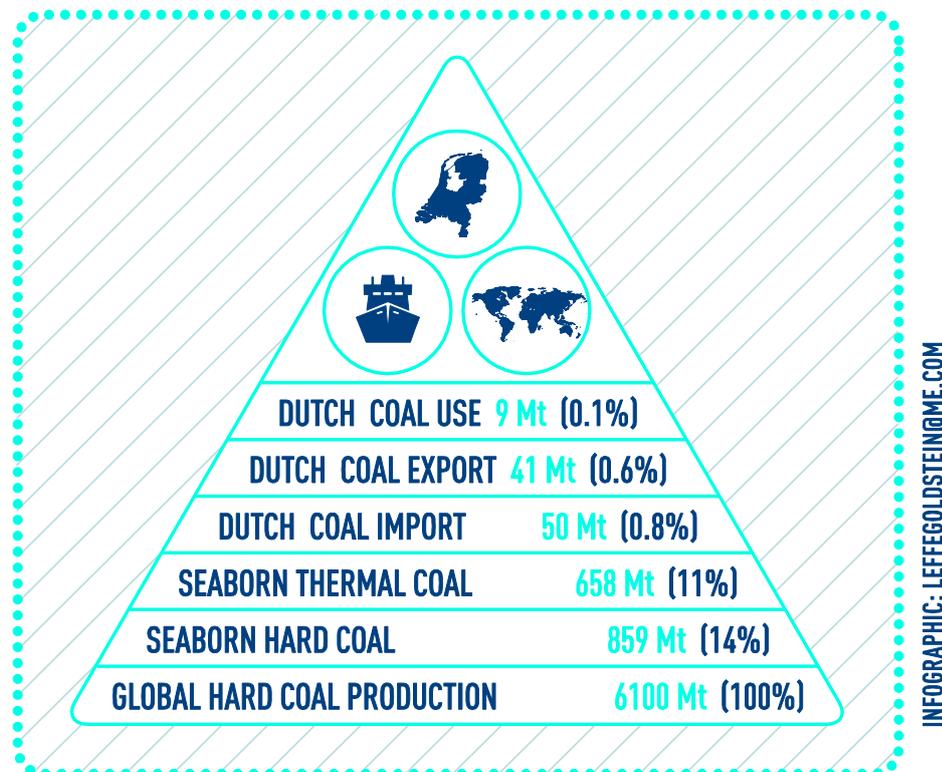
⁷⁴ Energie-Nederland, Internal presentation to the Dutch Coal Dialogue, The Hague, November 2011.

⁷⁵ Based on a total of 196 Mt traded in the Atlantic market, World Coal Association, "Coal Statistics", <<http://www.worldcoal.org/resources/coal-statistics/>> (17 November 2011).

⁷⁶ Energie-Nederland, Internal presentation to the Dutch Coal Dialogue, The Hague, November 2011.

entering the Netherlands) is re-exported to other European countries such as Germany and France. Figure 3 depicts Dutch coal import and use compared to global coal production for the year 2010.

Figure 3: Dutch coal import and use compared to global coal production, 2010



Based on: Energie-Nederland⁷⁷

2.4.1. Origin of coal flowing through the Netherlands

The origin of the coal imported through the ports of Amsterdam and Rotterdam is provided in Table 6 and presented graphically in Figure 4. The combined figures for these two ports provide a fair representation of the origins of the total imports of the Netherlands. On the basis of these figures, the five largest source countries of coal that entered the Netherlands in 2011 were Colombia (42%), the United States (16%), Australia (10%), South Africa (8%) and Russia (7%). An important recent development is that the share of coal from Indonesia arriving at Dutch ports has been steadily decreasing. Although Indonesian coal represented a significant share just a few years ago, in 2010 and 2011 not a single shipment of Indonesian coal reached the Dutch ports. The importance of South African coal for the Netherlands has also seen a sharp decline in recent years. The decrease in the share of coal from both Indonesia and South Africa flowing into the Netherlands is likely the result of increasing demand in the Pacific market (primarily China and India). As a result, suppliers of the Atlantic market, primarily Colombia, have seen a significant increase in their share of coal imported into the Netherlands. Given ever increasing demand in the Pacific market, this is likely to remain the case for the foreseeable future.

There are notable differences between Amsterdam and Rotterdam regarding the origin of coal that enters these two ports. In 2011, coal imported through Rotterdam came primarily from Colombia, Australia, and the United States, while coal imported through Amsterdam originated primarily in

⁷⁷ Energie-Nederland, Internal presentation to the Dutch Coal Dialogue, The Hague, November 2011.

Colombia, the United States and Russia. Colombia and the United States are the only countries of origin that have large volumes coming in both ports, while ships coming from other large coal exporters tend to choose only one of the ports. For example, hardly any coal from Russia and Latvia comes through Rotterdam, and South African or Australian coal exporters tend to ship more to Rotterdam than to Amsterdam.

Also interesting to note is the significant variation in the origin of coal from year to year. At the port of Rotterdam, the share of South African coal decreased significantly between 2009 and 2011, the shares of Colombian coal increased and the US and Australian figures stayed more or less the same with some fluctuations in the same period. In Amsterdam, bigger fluctuations could be seen in the imports of coal from the US and Latvia and Russian coal showed a steady decrease between 2009 and 2011. The only country that has consistently maintained a high share of the total coal imports in both ports is Colombia.

Table 6: Countries of origin of coal entering the ports of Rotterdam and Amsterdam, 2009, 2010 and 2011

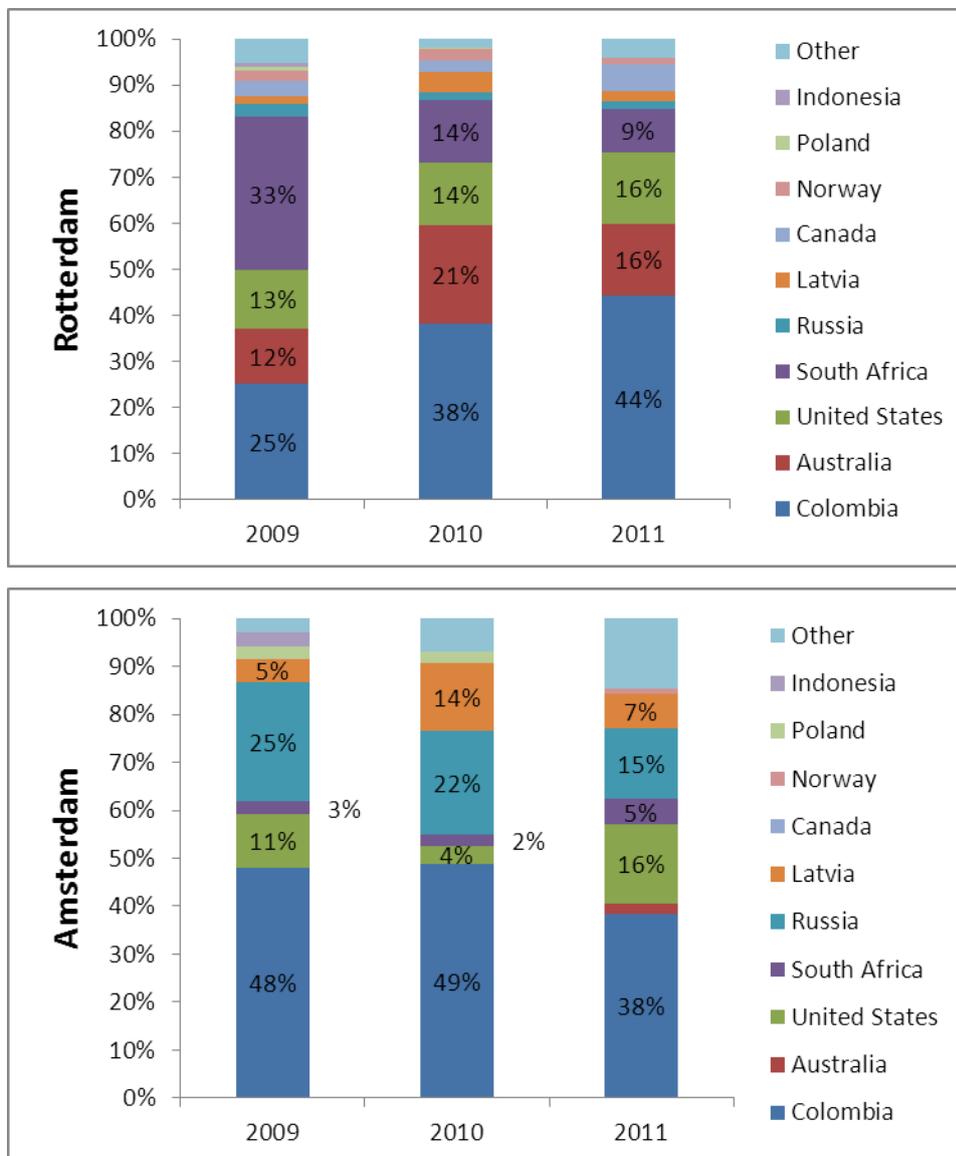
Country of origin	Rotterdam			Amsterdam			Rotterdam + Amsterdam		
	2009	2010	2011	2009	2010	2011	2009	2010	2011
Colombia	25.1%	38.2%	44.2%	48.1%	48.9%	38.4%	33.2%	42.1%	42.1%
Australia	12.1%	21.4%	15.7%	0.0%	0.0%	2.2%	7.8%	13.6%	10.3%
United States	12.6%	13.5%	15.6%	11.0%	3.6%	16.4%	12.0%	9.9%	15.9%
South Africa	33.3%	13.5%	9.2%	2.7%	2.4%	5.3%	22.4%	9.5%	7.8%
Russia	2.8%	1.8%	1.7%	24.9%	21.6%	14.7%	10.6%	9.0%	6.5%
Latvia	1.6%	4.3%	2.2%	4.8%	14.3%	7.4%	2.7%	7.9%	4.1%
Canada	3.4%	2.6%	5.8%	0.0%	0.0%	0.0%	2.2%	1.6%	3.7%
Norway	2.2%	2.4%	1.5%	0.0%	0.0%	1.0%	1.4%	1.5%	1.3%
Poland	0.8%	0.3%	0.0%	2.6%	2.2%	0.0%	1.4%	1.0%	0.0%
Indonesia	0.9%	0.0%	0.0%	2.9%	0.0%	0.0%	1.6%	0.0%	0.0%
Other	5.2%	2.0%	4.1%	3.0%	7.0%	14.6%*	4.7%	3.9%	8.4%
Total	100%	100%	100%						

* the category "other" for the year 2011 for the port of Amsterdam includes the countries Ecuador (6.5%), Venezuela (2.7%), the UK (2.5%) and France (1.2%) amongst others.

Source: Port of Amsterdam & Port of Rotterdam⁷⁸

⁷⁸ Port of Amsterdam, figures per country of origin, 2009 and 2010, information received through FOI/WOB request, 28 April 2011 and personal communication with the port authorities, e-mail received 11 March 2013. Port of Rotterdam, "Goods Grouped by Origin and Destination", 2009 and 2010, <http://www.portofrotterdam.com/de/Hafen/Hafen%20Statistiken/Documents/goods_grouped_by_commodity_2010.pdf> (17 November 2011) and personal communication with the port authorities, e-mail received 23 January 2013.

Figure 4: Origin of coal entering the ports of Rotterdam and Amsterdam, 2009-2011 (Sources: Port of Amsterdam & Port of Rotterdam⁷⁹)



Germany is by far the biggest re-export destination for coal entering the Dutch ports. From the Netherlands coal is transported by inland barges and railway to Germany. Of the total of 25.7 Mt of coal that entered Rotterdam in 2011, 17.9 Mt was exported to Germany. For the figures of Amsterdam the port authorities could only provide an estimation: in 2011 of the total of 14.7 Mt around 10 Mt was exported to Germany. Table 7 provides an overview of the aggregate amounts of coal shipments entering and leaving the ports of Rotterdam and Amsterdam in 2011.

⁷⁹ Ibid.

Table 7: Amounts of coal entering and leaving the ports of Rotterdam and Amsterdam, in Mt, 2011

Activity	Amount (Mt)
Rotterdam	
Coal import	25.7
Coal export to Germany by barges	12.0
Coal export to Germany by railway	5.8
Coal export to the UK by sea vessels	1.0
Domestic transport to Nijmegen and Maasvlakte*	6.7
Amsterdam	
Coal import	14.7
Coal export to Germany by barges**	8
Coal export to Germany by railway**	2
Domestic transport to Vattenfall Hemweg 8 plant in Amsterdam**	1.5
Domestic transport to other utilities in the Netherlands**	0.5
Coal export to the rest of Europe**	2.5

* SOMO estimation: the difference between Rotterdam imports and exports

** Estimation by the port authorities of Amsterdam

Source: Port of Amsterdam & Port of Rotterdam⁸⁰

It is very difficult, if not impossible, to determine exactly which shipments of coal that enter Dutch ports are used in the six power plants in the Netherlands, and which shipments are re-exported to Germany, France, or other European countries. The main reason for this is the fact that coal from different sources is blended by the stevedores at the ports before being further transported to power plants in the Netherlands, Germany, or France. According to an official at the Port of Amsterdam, blending of coal is done at the site of the ports for the sake of energy efficiency and cost effectiveness.⁸¹ By carefully blending coal with different caloric values and ash, sulphur, and moisture contents, the best blend is created before the coal is transported to power plants for final consumption. As a result of this blending process, the coal transported to individual power plants can be assumed to have the same origin mix as the port as a whole. This means that the coal use of an individual power plant can be roughly estimated by determining through which port that plant's coal comes.⁸² For a number of coal plants that are situated at or near ports (such as Vattenfall/Nuon's Hemweg 8 plant (Amsterdam) and E.ON's Maasvlakte plants (Rotterdam)) and others that source their coal from a single port, this is a fairly straightforward exercise. The origin of the coal used in each of the six Dutch power plants is detailed in the individual company profiles in Chapter 3 below, and a graphical representation of the Dutch supply chain based on this information is presented in Figure 6 in Section 5.2 below.

2.4.2. Individual shipments of coal to the Netherlands

Following a request using the Freedom of Information Act (Wet Openbaarheid Bestuur – WOB), SOMO received a list from the Port of Amsterdam with the names of all the individual ships that offloaded coal at the Amsterdam port in 2009 and 2010. This list contains the name of each vessel, its country of origin, and the tonnage of coal it carried. The list is provided in Annex 1. In 2010, a total of

⁸⁰ Personal communication with the port authorities of Rotterdam, e-mail received 23 January 2013 and the port authorities of Amsterdam, e-mail received 11 March 2013.

⁸¹ L. de Ridder, Unit Manager Bulk Logistics (coal chains), Haven Amsterdam, interview with authors, 7 April 2011, Amsterdam, Netherlands.

⁸² L. de Ridder, Unit Manager Bulk Logistics (coal chains), Haven Amsterdam, interview with authors, 7 April 2011, Amsterdam, Netherlands.

372 ships entered the port originating from 29 different countries, with loads ranging from 511 tonnes of coal to 183,564 tonnes of coal.

Interestingly, the vessels originating from Colombia had by far the highest tonnage of coal, averaging 150,130 tonnes of coal per ship. The high level of imports from Colombia is thus achieved with relatively few shipments, indicating that traders or end users tend to buy large quantities of Colombian coal at a time. On the other hand, vessels originating from Russia averaged only 44,325 tonnes in 2010.

Somewhat more specific data can be gathered by running the names of the vessels that appear in the list of the Port of Amsterdam through the Lloyd's List database. Whereas the port of Amsterdam list only makes mention of the country of origin, Lloyd's List also lists the port of origin. Table 8 lists the port of origin for the ten shipments with the largest cargo that arrived in Amsterdam in 2010. Note that nine of the top ten shipments by weight originated in Colombia, with the one remaining top shipment originating in South Africa.

Table 8: Top ten shipments (by weight) of coal entering Amsterdam, 2010

Vessel name	Coal cargo (tonnes)	Country of origin	Port of origin
LEO FELICITY	183,564	Colombia	Pozos Colorados Terminal
CAPE GARLAND	170,300	Colombia	Puerto Bolivar or Santa Marta*
CAPE APRICOT	170,114	Colombia	Puerto Bolivar
HEROIC	169,030	Colombia	Santa Marta
BULK INDIA	168,894	Colombia	Santa Marta
BULK INDIA	168,612	Colombia	Santa Marta
STELLA	166,418	South Africa	Richards Bay
NAVIOS STELLAR	166,300	Colombia	Santa Marta
CAPE GARLAND	165,665	Colombia	Puerto Bolivar or Santa Marta*
NAVIOS STELLAR	165,263	Colombia	Santa Marta

* Cape Garland arrived in Amsterdam five times in 2010. Four of these five times, it departed from Puerto Bolivar and once from Santa Marta. It is unclear which of the shipments originated from which port. Sources: Port of Amsterdam⁸³ and Lloyds List⁸⁴

In some cases, identifying the port of origin of coal-laden vessels arriving in the Netherlands gives a more precise indication as to the possible mine of origin. For example, the Colombian Puerto Bolivar is used exclusively by Cerrejón to export its coal, and the coal from two of the above shipments can be assumed to originate from the Cerrejón mine. Table 9 gives an overview of all the individual shipments from Puerto Bolivar (thus originating from the Cerrejón mine) to Amsterdam in 2010.

⁸³ Port of Amsterdam, list of coal vessels entering the port, 2009 and 2010, information received through FOI/WOB request, 28 April 2011.

⁸⁴ Lloyds List Intelligence database, <<http://www.lloydslistintelligence.com/llint/index.htm>>, (5 October 2011).

Table 9: Vessels from Puerto Bolivar entering the port of Amsterdam, 2010

Name	Tonnes	Country of Origin	Port of origin
CAPE GARLAND*	170,300	Colombia	Puerto Bolivar or Santa Marta
CAPE APRICOT	170,114	Colombia	Puerto Bolivar
CAPE GARLAND*	165,665	Colombia	Puerto Bolivar or Santa Marta
GRACEFUL MADONNA	163,897	Colombia	Puerto Bolivar
CAPE BRITANNIA	163,579	Colombia	Puerto Bolivar
CAPE GARLAND*	163,286	Colombia	Puerto Bolivar or Santa Marta
CHINA STEEL RESPONSIBILITY	163,261	Colombia	Puerto Bolivar
CAPE BRITANNIA	163,039	Colombia	Puerto Bolivar
CAPE GARLAND*	162,970	Colombia	Puerto Bolivar or Santa Marta
STX NOBLE	162,201	Colombia	Puerto Bolivar
CAPE TAVOR	160,740	Colombia	Puerto Bolivar
CORINTHIAN PHOENIX	160,356	Colombia	Puerto Bolivar
CE-ALLIANCE	159,803	Colombia	Puerto Bolivar
SONIA	159,465	Colombia	Puerto Bolivar
CE-ALLIANCE	159,419	Colombia	Puerto Bolivar
KANARIS	158,951	Colombia	Puerto Bolivar
PARTAGAS	158,032	Colombia	Puerto Bolivar
MAHA ANOSHA	157,683	Colombia	Puerto Bolivar
CAPE OCEANIA	142,170	Colombia	Puerto Bolivar
SKS MERSEY	114,166	Colombia	Puerto Bolivar
SKS MERSEY	114,065	Colombia	Puerto Bolivar
CAPE GARLAND*	88,299	Colombia	Puerto Bolivar or Santa Marta

*Cape Garland arrived in Amsterdam five times in 2010. Four of these five times, it departed from Puerto Bolivar and once from Santa Marta.

Sources: Port of Amsterdam⁸⁵ and Lloyds List⁸⁶

On the basis of this data, it can be concluded that at least 3.2 Mt of coal from the Cerrejón mine arrived at the port of Amsterdam in 2010.⁸⁷ That represents approximately 24% of all the coal that came into this port. Similar analyses can be made using the list of coal-laden vessels arriving in the Netherlands provided in Annex 1, and combining the vessel names with their port of origin as found in Lloyds List. A complete analysis of the ports of origin for all vessels was beyond the scope of this research. Additional information on specific Colombian mines of origin can be found in the industry periodical *Coal Americas*. *Coal Americas* lists approximately 8.4 Mt of Colombian coal being imported into the Netherlands in the months August-November 2011 alone. The mining companies exporting this coal arriving in the Netherlands in August-November 2011 include Cerrejón (at least 3.3 Mt), Drummond (at least 2.2 Mt), Prodeco (at least 1.8 Mt), and Diamond Coal/Vale (at least 578,976 tonnes). Électricité de France (EDF) was the most important identified importer of coal from Drummond in August-November 2011, though the end user of most of the shipments from Drummond was listed as “not available”. The vast majority of the coal from Drummond was imported through the Port of Rotterdam.⁸⁸

⁸⁵ Port of Amsterdam, list of coal vessels entering the port, 2009 and 2010, information received through FOI/WOB request, 28 April 2011.

⁸⁶ Lloyds List Intelligence database, <<http://www.lloydslistintelligence.com/lint/index.htm>>, (5 October 2011).

⁸⁷ This is the most conservative estimate, assuming that the Cape Garland with the heaviest cargo departed from Santa Marta and not from Puerto Bolivar.

⁸⁸ *Coal Americas*, Issues 240-243, October 2011 - January 2012.

3. The origin of coal used by power companies operating in the Netherlands

This chapter traces the origin of the coal used in Dutch power plants. It also describes the power companies' coal procurement policies and practices and the degree of transparency each provides about the origin of the coal it consumes. There are currently six electric utility companies active in the Netherlands with installed coal-fired electricity generation capacity: E.ON, EPZ (owned by Delta and RWE/Essent), GDF Suez/Electrabel, RWE/Essent, Vattenfall/Nuon and DONG Energy (which does not have electricity generation capacity in the Netherlands, but does have coal-fired plants in Denmark). The total net installed capacity of the six Dutch coal-fired power plants is just over 4,100 MW (see Table 10 below).

Table 10: Operational coal-fired power plants in the Netherlands, 2010

Power plant	Location	Company	Generation capacity (MW)
Amer	Geertruidenberg	RWE/Essent	1,245
Maasvlakte 1 & 2	Rotterdam	E.ON	1,040
Hemweg 8	Amsterdam	Vattenfall/Nuon	630
Gelderland	Nijmegen	GDF Suez/Electrabel	590
Borssele	Borssele	EPZ (Delta &	426
Willem-Alexander	Buggenum	Vattenfall/Nuon	253
Total			4,184

Based on individual company websites

3.1. E.ON

Headquartered in Germany, E.ON is the largest electricity company in Europe in terms of installed electricity generation capacity. Approximately one-third of the company's total installed capacity consists of coal-fired power plants.⁸⁹

3.1.1. Company-wide coal procurement

Procurement by country of origin

In 2010, E.ON procured a total of 21.8 Mt of coal, a 50% decrease compared with 2009. The decline in the quantity of coal purchased can be attributed to the sale of E.ON US and the divestment of some coal-fired power plants in Germany. Around 50% of all the coal purchased by E.ON originates from Russia and Colombia. Other important sourcing countries are South Africa, the UK, and Germany. Table 11 details the national origin of all coal procured by E.ON in 2010.

⁸⁹ SOMO, Sustainability in the Dutch Power Sector 2010, (Amsterdam: SOMO), < http://somo.nl/publications-nl/Publication_3598-nl/> (10 November 2011).

Table 11: Origin of coal used by E.ON, 2010

Country of origin	Coal procured (tonnes x 1,000)	Percentage of total
Colombia	5,577	25.6%
Russia	5,164	23.7%
South Africa	3,321	15.2%
UK	3,319	15.2%
Germany	2,536	11.6%
USA	794	3.6%
Poland	496	2.3%
Norway	225	1.0%
Indonesia	153	0.7%
Australia	145	0.7%
Spain	67	0.3%
Total	21,797	100%

Source: E.ON⁹⁰

Figure 5 shows the company's global coal procurement flows.

Figure 5: E.ON coal procurement flows, 2010



Source: E.ON⁹¹

Procurement by mine of origin

E.ON does not provide a comprehensive list of the specific mines (or mining companies) in the countries from which it sources coal, nor did it provide this information when requested by SOMO.⁹²

⁹⁰ E.ON website, Responsibility, "Progress Towards Responsible Procurement" <<http://www.eon.com/en/responsibility/29272.jsp>> (18 July 2011).

⁹¹ E.ON Energy Trading website, Company, What we do, "Coal and Freight trading", <http://www.eon-energy-trading.com/cms/en/coal_biofuels_freight.jsp> (18 July 2011).

⁹² E.ON response to SOMO questionnaire on the origin of fuels, 14 June 2011.

However, some information on E.ON's sourcing of coal is available through company communications and other sources.

- Colombia: E.ON currently purchases 10% of the total exports of the Cerrejón coal mine, which exports approximately 30 Mt annually.⁹³ This means that E.ON purchases approximately 3 Mt of coal per year from Cerrejón. As part of a 2010 investigation by the Dutch television programme *Netwerk*, E.ON admitted that, in addition to Cerrejón, it has also done business with Drummond in Colombia.⁹⁴ In addition, *Coal Americas* identifies two shipments of coal totalling 169,172 tonnes commissioned by E.ON from the Vale Diamond coal mine in Colombia arriving in the Port of Rotterdam in October 2011, and 21,589 tonnes of coal from the Prodeco coal mine coming through Antwerp for E.ON in August 2011.⁹⁵
- UK: For its Ratcliffe power plant in the UK, E.ON sources its coal from the UK's largest coal producer UK Coal Plc.⁹⁶ In 2007, the company signed a five year contract with UK Coal for the supply of six Mt of coal over the course of five years.⁹⁷

3.1.2. Coal-fired power plants in the Netherlands

In the Netherlands, E.ON operates through its subsidiary E.ON Benelux. In the Maasvlakte industrial area in the harbour of Rotterdam, E.ON Benelux operates the Maasvlakte Power Plant 1 and 2 (MPP1 & MPP2) with a total installed electricity generation capacity of 1,040 MW. Due to the geographic location of the MPP1 and MPP2 units in the Rotterdam harbour area, coal for electricity generation is supplied directly from EMO.⁹⁸ E.ON Benelux does not disclose any information about the origin (neither country nor mine) of coal used in the Maasvlakte power plants, nor did it provide this information when requested by SOMO.⁹⁹ However, given the fact that the Maasvlakte plant receives its coal through the port of Rotterdam, it can be assumed to have a similar origin mix as the total quantity of coal entering the port of Rotterdam.¹⁰⁰ This means that the coal used in E.ON's Maasvlakte plants in 2010 can be assumed to come primarily from Colombia (32%), Australia (21%), South Africa (14%), USA (14%), and Latvia (4%).¹⁰¹ Given the high percentage of Colombian coal in this mix, and E.ON's admission that it sources from the Cerrejón coal mine in Colombia¹⁰² and that it does business

⁹³ E.ON, "Positions: The E.ON Magazine on Corporate Responsibility", June 2010,

<http://www.eon.com/en/downloads/E.ON_CR_Magazin_US.pdf> (11 November 2011).

⁹⁴ *Netwerk*, "Factsheet steenkool" (document accompanying *Netwerk* report "Energiebedrijven medeplichtig aan moord", <<http://www.netwerk.tv/data/files/factsheet%20steenkoolwinning.pdf>> (22 November 2011). *Netwerk* claims that a "high level" E.ON manager made this admission to them but wanted his identity to be kept confidential. When SOMO asked E.ON to verify the assertion, the company would neither confirm nor deny its accuracy.

⁹⁵ *Coal Americas*, Issues 235 and 240, September and December 2011.

⁹⁶ UK Coal website, About Us, Customers & Markets, "Electricity Supply Industry", <<http://www.ukcoal.com/electricity-supply-industry>> (19 July 2011).

⁹⁷ UK Coal press release, "New five year coal supply contract agreed with E.ON", <<http://www.ukcoal.com/news-item&item=51178830589190>> (19 July 2011).

⁹⁸ E.ON Benelux website, "Maasvlakte", <<http://www.eon-benelux.com/eonwww/publishing.nsf/Content/Maasvlakte>> (19 July 2011).

⁹⁹ E.ON response to SOMO questionnaire on the origin of fuels, 14 June 2011.

¹⁰⁰ Assumption made based on the fact that coal blending is done at the port before transport to the power plant. L. de Ridder, Unit Manager Bulk Logistics (coal chains), Haven Amsterdam, interview with authors, 7 April 2011, Amsterdam, Netherlands.

¹⁰¹ This is the origin mix of the total amount of coal that entered the port of Rotterdam in 2010. Port of Rotterdam, "Goods Grouped by Origin and Destination", 2009 and 2010, <http://www.portofrotterdam.com/de/Hafen/Hafen%20Statistiken/Documents/goods_grouped_by_commodity_2010.pdf> (17 November 2011).

¹⁰² E.ON, "Positions: The E.ON Magazine on Corporate Responsibility", June 2010, <http://www.eon.com/en/downloads/E.ON_CR_Magazin_US.pdf> (11 November 2011).

with Drummond,¹⁰³ it can be assumed that coal from the Cerrejón and Drummond mines is used in the Maasvlakte power station.

E.ON Benelux is currently engaged in the construction of a new coal-fired power plant, the Maasvlakte Power Plant 3 (MPP3). The power plant is planned to have a net installed capacity of 1,070 MW. This means that it will be one of the largest coal-fired power units in the world. The company's aim is to have a 20% biomass co-firing capacity for the plant. The total costs for the project are estimated at €1.2 billion, and the plant is expected to be operational in 2012.¹⁰⁴ Just as for the other two units at the Maasvlakte industrial area, coal for the MPP3 is to be supplied directly from EMO in the port of Rotterdam and will thus have the same coal origin mix as the current Maasvlakte stations.¹⁰⁵

3.1.3. Coal trading

E.ON's trading arm is E.ON Energy Trading, based in Düsseldorf, Germany. In 2010, E.ON traded a total quantity of 289 Mt of coal, of which around 22 Mt was for its own use. E.ON trades coal futures at the ICE exchange in London, UK, and the European Energy Exchange (EEX) in Leipzig, Germany. E.ON is involved in exchange-traded as well over-the-counter (OTC) products.¹⁰⁶

3.1.4. Supply chain responsibility policies

E.ON acknowledges that its procurement of fuels such as coal can be associated with negative impacts on people and the environment. As part of its corporate responsibility policy, E.ON has established a set of Responsible Procurement Principles.¹⁰⁷ The principles, which are based on the UN Global Compact, outline the minimum requirements to which all its suppliers must adhere and aim to minimise negative impacts. E.ON explicitly states that this policy applies to suppliers of raw materials, such as coal, biomass and uranium.¹⁰⁸ According to the company, "Our supplier qualification program is an important instrument for initiating improvements in the social and ecological standards along our supply chain – not only of those of our suppliers, but of the mines and processing sites as well. Since 2009 [corporate responsibility] compliance has been included alongside economic criteria as a mandatory component of our supplier audits. To this end, we work with an international auditing firm to train our auditors".¹⁰⁹

In 2010, E.ON undertook the following concrete steps to improve its coal procurement practices:

¹⁰³ *Netwerk*, "Factsheet steenkool" (document accompanying *Netwerk* report "Energiebedrijven medeplichtig aan moord", <<http://www.netwerk.tv/data/files/factsheet%20steenkoolwinning.pdf>> (22 November 2011). *Netwerk* claims that a "high level" E.ON manager made this admission to them but wanted his identity to be kept confidential. When SOMO asked E.ON to verify the assertion, the company would neither confirm nor deny its accuracy.

¹⁰⁴ E.ON Benelux website, "Maasvlakte", <<http://www.eon-benelux.com/eonwww/publishing.nsf/Content/Maasvlakte>> (19 July 2011).

¹⁰⁵ E.ON Benelux website, "Maasvlakte", <<http://www.eon-benelux.com/eonwww/publishing.nsf/Content/Maasvlakte>> (19 July 2011).

¹⁰⁶ E.ON website, Business areas, Trading, "Market Activity", <<http://m/www.eon.com/en/businessareas/41287.jsp>> (18 July 2011).

¹⁰⁷ E.ON Responsible Procurement Policy, 20-03-07, <http://www.eon.com/en/downloads/1107_EON_Procurement_Policy.pdf> (19 July 2011).

¹⁰⁸ E.ON website, Responsibility, CR Performance, Responsible Procurement, Performance Report 2010; E.ON website, Responsibility, CR Performance, Responsible Procurement, "Progress Toward Responsible Procurement", <<http://www.eon.com/en/responsibility/29272.jsp>>; and E.ON website, Responsibility, CR in Practice, Responsible Procurement, "A Systematic Approach to Responsible Procurement", <<http://www.eon.com/en/responsibility/29274.jsp>> (19 July 2011).

¹⁰⁹ E.ON website, Responsibility, CR Performance, Responsible Procurement, "Progress Toward Responsible Procurement", <<http://www.eon.com/en/responsibility/29272.jsp>> and E.ON website, Responsibility, CR in Practice, Responsible Procurement, "A Systematic Approach to Responsible Procurement", <<http://www.eon.com/en/responsibility/29274.jsp>> (19 July 2011).

- The company conducted audits at two supplier coal mines: the Cerrejón mine in Colombia and an unspecified mine in South Africa.¹¹⁰ E.ON provides no further information on the outcomes or findings of the audits, but does note that, “Independent external auditors conducted the local CR audits. After the audits, we worked with the mining companies to develop action plans that outlined corrective measures and areas for improvement. Two further audits of coal mines are planned for 2011”.¹¹¹
- E.ON is taking part in the Dutch Coal Dialogue,¹¹² which aims to improve transparency and social and environmental conditions in the coal supply chain, and the Better Coal Initiative,¹¹³ which strives for the continuing improvement of the coal supply chain, focusing on coal mines in particular. Both of these initiatives were only recently launched (in 2010 and 2011, respectively), and neither has, as yet, led the company to provide any additional transparency on the origin of its coal.

3.2. Vattenfall/Nuon

Vattenfall is one of Europe’s largest generators of electricity and the largest producer of heat. Vattenfall is also engaged in energy trading and lignite mining. The parent company, Vattenfall AB, is 100%-owned by the Swedish state. The core markets of the company are Sweden, Germany, and the Netherlands, although Vattenfall also has activities in Denmark, Finland, and the UK.¹¹⁴ In 2011, the company sold all its operations in Belgium and Poland.¹¹⁵ Since 1 July 2009, Vattenfall is active in the Netherlands through its subsidiary NV Nuon Energy. In 2010, Vattenfall had a total installed coal-fired electricity capacity of 12,350 MW¹¹⁶ and generated 73 TWh electricity from hard coal and lignite.¹¹⁷ However, in September 2011, Vattenfall’s Chief Executive Øystein Løseth said in an interview with the Swedish newspaper, *Svenska Dagbladet*, that Vattenfall would consider divesting Dutch and German coal power plants in order to meet the company’s strategic objective of reducing carbon emissions from the current 90 Mt to 65 million by 2020.¹¹⁸ No concrete decisions or actions have been taken with regard to this statement.

¹¹⁰ E.ON, “Positions: The E.ON Magazine on Corporate Responsibility”, June 2010, <http://www.eon.com/en/downloads/E.ON_CR_Magazin_US.pdf> (11 November 2011).

¹¹¹ E.ON website, Responsibility, CR Performance, Progress Toward Responsible Procurement, <<http://www.eon.com/en/responsibility/29272.jsp>> and <<http://www.eon.com/en/responsibility/29274.jsp>> (19 July 2011).

¹¹² Energie-Nederland website, “Verantwoord inkopen en winnen van kolen”, <<http://www.energie-nederland.nl/nieuws/verantwoord-inkopen-en-winnen-van-kolen/>> (11 November 2011).

¹¹³ Better Coal website, <<http://bettercoal.org/>> (11 November 2011)

¹¹⁴ Vattenfall, Annual Report 2010, p. 2.

¹¹⁵ K. Mortelmans, ‘Eni koopt Nuon België’, 27 July 2011, Energiea, <<http://www.energiea.nl/news.php?ID=46777>> (28 August 2011); BizPoland website, “Vattenfall announces sales”, 24 August 2011, <http://www.bizpoland.pl/news/index.php?contentid=210569&title=Vattenfall_announces_sales>; and I. Bokkerink, “Poolse exit Nuon-moeder Vattenfall”, 24 August 2011, *Het Financieele Dagblad*.

¹¹⁶ Vattenfall, Annual Report 2010, p. 36.

¹¹⁷ 51 TWh electricity from hard coal and 22 TWh from lignite. Vattenfall CSR Report 2010, p. 49.

¹¹⁸ Reuters Africa, “Vattenfall eyes sale of some coal-fired plants”, 30 September 2011, Reuters Africa, <<http://af.reuters.com/article/energyOilNews/idAFL5E7KU1T220110930>> (30 October 2011); W. Hylkema, “Vattenfall bereid Nuons kolencentrales te verkopen”, Energiea, 30 September 2011, <<http://www.energiea.nl/news.php?ID=47297>> (30 October 2011).

3.2.1. Company-wide coal procurement

Procurement by country of origin

In 2010, Vattenfall consumed approximately 12 Mt of coal in its power plants in Germany, Denmark, and the Netherlands.¹¹⁹ In 2007, Vattenfall procured its hard coal from Russia, South Africa, Colombia, and Poland,¹²⁰ but the company no longer provides current figures on the origin of coal procured for its operations, nor did it provide this information when requested by SOMO.¹²¹ Nuon also explicitly states in its 2009 CSR report that it does not provide detailed figures for the quantities of raw materials it purchases because this information would be “competition-sensitive”.¹²² Vattenfall indicates that, for its operations, the quantity of coal procured on the spot market varies between 15-25%.¹²³ The remaining 75-85% is assumed to be procured through direct contracts with mining companies.

Procurement by mine of origin

Vattenfall/Nuon does not make public any information about the specific mines (or mining companies) in the countries from which it sources coal, nor did it provide this information when requested by SOMO. In response to the SOMO questionnaire on the origin of fuels used for electricity generation, Vattenfall/Nuon indicated that it regards detailed information on sourcing and trading as commercially sensitive and therefore does not disclose specific data on mines, operators, plants or trading partners.¹²⁴ However, according to DanWatch, in 2008 Vattenfall imported 1.1 million tonnes of coal from the Cerrejón mine in Colombia.¹²⁵ *Coal Americas* lists Vattenfall/Nuon as having imported at least 735,827 tonnes of coal from Cerrejón through the ports of Rotterdam and Amsterdam, and another 155,760 tonnes from Cerrejón through the port of Ensted, Denmark, in August-November 2011 alone.¹²⁶ In addition, an investigation carried out by Dutch TV programme *Netwerk* in 2010 revealed that Vattenfall/Nuon also sources coal from Drummond in Colombia.¹²⁷

3.2.2. Coal-fired power plants in the Netherlands

Vattenfall/Nuon operates two coal-fired power plants in the Netherlands: Hemweg 8 in Amsterdam and the Willem-Alexander power plant in Buggenum. Hemweg 8 has an installed capacity of 630 MW and uses 36,000 tonnes of coal every week, which amounts to 1.6 Mt per year. The hard coal is supplied via the Amsterdam stevedore company OBA, which is located two kilometres from the power plant. From OBA there is a direct conveyor belt to Hemweg 8 on which the hard coal is transported to the plant.¹²⁸

¹¹⁹ Vattenfall/Nuon response to SOMO questionnaire on the origin of fuels, 4 July 2011.

¹²⁰ Vattenfall, 2007 CSR Report, <<http://report.vattenfall.com/csreport2007/Menu/What+we+are+doing/Benchmark+of+the+Industry/Case+-+Responsible+procurement+of+resources>> (11 November 2011).

¹²¹ Vattenfall/Nuon response to SOMO questionnaire on the origin of fuels, 4 July 2011.

¹²² Nuon Corporate Social Responsibility Report 2009, p.80.

¹²³ Vattenfall/Nuon response to SOMO questionnaire on the origin of fuels, 4 July 2011.

¹²⁴ Vattenfall/Nuon response to SOMO questionnaire on the origin of fuels, 4 July 2011.

¹²⁵ D.R. Adamsen, A. S.Poulsen & M. U. Swart, “The Curse of Coal”, DanWatch, May 2010, <http://www.danwatch.dk/images/Reports/curse%20of%20coal_english.pdf>, p. 15.

¹²⁶ Coal Americas, Issues 240-243, October 2011 - January 2012.

¹²⁷ *Netwerk*, “Factsheet steenkool” (document accompanying *Netwerk* report “Energiebedrijven medeplichtig aan moord”, <<http://www.network.tv/data/files/factsheet%20steenkoolwinning.pdf>> (22 November 2011).

¹²⁸ Nuon website, Het bedrijf, Activiteiten, Opwekken van energie, Centrales, “Centrales cluster Amsterdam”, <<http://www.nuon.com/nl/het-bedrijf/kernactiviteiten/opwekken-energie/centrales/cluster-amsterdam.jsp>> and Vattenfall power plants website, “Hemweg”, <<http://powerplants.vattenfall.nl/powerplant/hemweg>> (7 November 2011).

Vattenfall/Nuon does not make public any information about the specific countries, mines, or mining companies from which it sources coal for the Hemweg 8 plant, nor did it provide this information when requested by SOMO. It regards this information as “competition-sensitive”.¹²⁹ However, given the fact that the Hemweg 8 plant receives its coal through the port of Amsterdam, it can be assumed to have a similar origin mix as the total quantity of coal entering the port of Amsterdam.¹³⁰ This means that the coal used in Hemweg 8 in 2010 can be assumed to come primarily from Colombia (49%), Russia (22%), Latvia (14%), and South Africa (3%).¹³¹ With regard to specific mines in Colombia, given that 24% of the coal that entered the Port of Amsterdam in 2010 originated in the Puerto Bolivar port used solely by Cerrejón in Colombia,¹³² it can be assumed that coal from the Cerrejón mine is used in the Hemweg 8 power station. In addition, in September 2009, the Port of Amsterdam reported on the maiden voyage of the bulk carrier MV Aquamarine, which had docked at the OBA in Amsterdam on 28 August 2009 with a cargo of coal originating from Puerto Drummond, Colombia. According to the port authorities, this coal was destined for Nuon’s Hemweg 8 power plant.¹³³ Furthermore, in 2010 the Dutch TV programme *Netwerk* confirmed that Nuon sources coal from Drummond in Colombia.¹³⁴ Given the Port of Amsterdam’s report on the shipment from Puerto Drummond for Nuon, and *Netwerk*’s confirmation of Nuon’s relationship with Drummond, it can thus also be assumed that coal from the Drummond mines in Colombia is used in the Hemweg 8 power station.

Nuon’s other coal-fired plant in the Netherlands is the 253 MW Willem-Alexander power plant in Buggenum. The plant has a so-called “integrated gasification combine cycle (IGCC) engine”, which gasifies coal before burning to increase efficiency.¹³⁵ The plant uses 2,000 tonnes of coal per day, or approximately 730,000 tonnes per year. The coal is supplied via the ports of Rotterdam and IJmuiden.¹³⁶ Again, Vattenfall/Nuon does not disclose information on the origin of the coal used in the Willem-Alexander power plant. The fact that the coal is sourced from two ports (Rotterdam and IJmuiden) makes it more difficult to make assumptions about the origin mix based on blending in the ports.

Vattenfall/Nuon had been planning a coal gasification plant for the combustion of coal, gas, and biomass in Eemshaven, near Groningen in the Netherlands. However, in April 2011, the company announced that it was postponing the start of construction of the coal-fired part of the Magnum plant until 2020, and the plant would at least initially be a fully gas-fired plant.¹³⁷

¹²⁹ Vattenfall/Nuon response to SOMO questionnaire on the origin of fuels, 4 July 2011; and Nuon Corporate Social Responsibility Report 2009, p.80.

¹³⁰ Assumption made based on the fact that coal blending is done at the port before transport to the power plant. L. de Ridder, Unit Manager Bulk Logistics (coal chains), Haven Amsterdam, interview with authors, 7 April 2011, Amsterdam, Netherlands.

¹³¹ This is the origin mix of the total amount of coal that entered the Port of Amsterdam in 2010. Port of Amsterdam, figures per country of origin, 2009 and 2010, FOIA/WOB request, 28 April 2011.

¹³² Port of Amsterdam, figures per country of origin, 2009 and 2010, information received through FOI/WOB request, 28 April 2011.

¹³³ Port of Amsterdam press release, ‘Maiden Voyage of MV Aquamarine’, 2 September 2009, <<http://www.portofamsterdam.com/smartsite.dws?id=22399>> (22 March 2011)

¹³⁴ *Netwerk*, “Factsheet steenkool” (document accompanying *Netwerk* report “Energiebedrijven medeplichtig aan moord”, <<http://www.netwerk.tv/data/files/factsheet%20steenkoolwinning.pdf>> (22 November 2011).

¹³⁵ NETL website, Gasifipedia, Applications, Power-IGCC, Project Examples, “Nuon Power Buggenum IGCC Plant”, <http://www.netl.doe.gov/technologies/coalpower/gasification/gasifipedia/6-apps/6-2-6-4_nuon.html> and Vattenfall power plants website, “Willem Alexander”, <<http://powerplants.vattenfall.com/powerplant/willem-alexander>> (31 March 2011).

¹³⁶ Nuon website, Het bedrijf, Activiteiten, Opwekken van energie, Centrales, “Willem-Alexander Centrale te Buggenum”, <<http://www.nuon.com/nl/het-bedrijf/kernactiviteiten/opwekken-energie/centrales/buggenum/>> (31 March 2011).

¹³⁷ M. Persson, *Volkskrant*, “Nuon ziet tijdelijk af van kolen in centrale Eemshaven”, 8 April 2011, <<http://www.volkskrant.nl/vk/nl/2844/Archief/archief/article/detail/1872111/2011/04/08/Nuon-ziet-tijdelijk-af-van-kolen-in-centrale-Eemshaven.dhtml>> (8 April 2011).

3.2.3. Coal trading

In addition to the approximately 12 Mt of coal that the company combusts in its power plants every year, Vattenfall/Nuon also trades in coal. All of Vattenfall/Nuon's coal trading activities are handled in the company's Amsterdam and Copenhagen offices. Vattenfall/Nuon's annual physical coal turnover is approximately 12-18 Mt, but its financial coal turnover is approximately 100 Mt per year.¹³⁸

In 2009, Vattenfall founded a shipping company that manages small deliveries of coal in the Baltic Sea between Russia, Poland, Germany and Denmark. The firm VT Shipping A/S has an office in Copenhagen. It is a wholly-owned subsidiary of Vattenfall's trading arm, Vattenfall Trading Services. VT Shipping supplies hard coal deliveries to Vattenfall's power plants and leases its vessels to third parties.¹³⁹

3.2.4. Supply chain responsibility policies

Vattenfall has a code of conduct for suppliers that is based on the UN Global Compact.¹⁴⁰ To make sure that all suppliers accept the code of conduct for suppliers and live up to the minimum standards, suppliers have to go through a qualification process that is managed by a web-based application called Vattenfall Supplier Bank. This application is accessible through Vattenfall's website. The Supplier Bank is gradually being rolled out across the Vattenfall Group. At year-end 2009, around 3,000 suppliers had accepted Vattenfall's code of conduct in the Supplier Bank.¹⁴¹ In 2009, the code of conduct for suppliers was included as part of all new or renegotiated supplier contracts.¹⁴² Vattenfall's Dutch subsidiary Nuon claims that it "is in the process of embedding its code of conduct in its investment and purchasing processes".¹⁴³ How the embedding is taking place is not entirely clear, but the company has indicated that it performs risk reviews on human rights and corruption before finalising coal contracts. However, the results of these risk reviews have not been made public.¹⁴⁴

Vattenfall audits its hard coal suppliers against the ten principles of the UN Global Compact. As of 1 January 2011, 6% of Vattenfall's suppliers of hard coal for its own operations (excluding suppliers of coal that it merely trades) had undergone auditing.¹⁴⁵ The suppliers that have been audited are large suppliers, representing 17.9% of the total quantity of coal used by the company in 2009.¹⁴⁶

According to the company, most of Vattenfall's audit visits last approximately five days, with inspections beginning at the supplier's head office. The audit team then visits the mine to inspect operational social responsibility guidelines and routines, as well as any voluntary community projects in which the supplier is involved. Meetings are also held with regulatory authorities outside the company to ensure legal compliance and to discuss "other matters of interest". If an audit sheds light on conditions that are not in compliance with the company's supplier code of conduct, Vattenfall

¹³⁸ G. Carpenter, 'Vattenfall centers physical, financial coal trading at ex-Nuon desk', Platts International Coal Report, p. 24, London, 7 December 2009.

¹³⁹ G. Carpenter, 'Vattenfall forms shipping arm', Platts International Coal Report, p. 24, London, 7 December 2009.

¹⁴⁰ Vattenfall website, Our company, Our business, For suppliers, "Code of Conduct for Suppliers", <<http://www.vattenfall.com/en/code-of-conduct-for-suppliers.htm>> (14 October 2011).

Vattenfall website, Our company, Our business, For suppliers, "Supplier Qualification in Vattenfall Supplier Bank", <<http://www.vattenfall.com/en/supplier-qualification-in-vat.htm>>; "Vattenfall Supplier Bank Qualification process" <http://www.vattenfall.com/en/file/VSB_flow_8459771.pdf> (14 October 2011).

¹⁴² Vattenfall CSR Report 2009, p. 68

¹⁴³ Nuon CSR Report 2008, p. 98, Nuon CSR Report 2009, p. 82 and Nuon Annual Report 2010, p. 94.

¹⁴⁴ Nuon, Amsterdam, 13 August 2010, meeting with T. Steinweg and K. Racz, SOMO.

¹⁴⁵ Vattenfall CSR Report 2010, p. 61.

¹⁴⁶ Vattenfall CSR Report 2009, p. 68

issues recommendations for improvements. If suppliers fail to undertake improvement measures, they will not be awarded new procurement contracts.¹⁴⁷

Vattenfall/Nuon is also taking part in the Dutch Coal Dialogue,¹⁴⁸ which aims to improve transparency and social and environmental conditions in the coal supply chain, and the Better Coal Initiative,¹⁴⁹ which strives for the continuing improvement of the coal supply chain, focusing on coal mines in particular. Both of these initiatives were only recently launched (in 2010 and 2011, respectively), and neither has, as yet, led the company to provide any additional transparency on the origin of its coal.

3.3. GDF Suez/Electrabel

GDF Suez/Electrabel is a multinational energy company involved in natural gas production, sale and distribution, electricity generation and distribution, hydroelectricity, wind power and energy trading. The company's biggest shareholder with 36% of the shares is the French state.¹⁵⁰ Of GDF Suez's total worldwide installed capacity of 64.4 GW, approximately 11% are coal-fired power stations, which amounts to a total coal capacity of around 7,100 MW.¹⁵¹ Electrabel is the branch of GDF Suez active in the Benelux region. GDF Suez/Electrabel is the largest producer of electricity in the Netherlands and the fourth largest supplier of electricity.

3.3.1. Company-wide coal procurement

GDF Suez/Electrabel does not make public any information about the quantities or the origins (either countries or mines or mining companies) of the coal it uses at the overall company level, nor did it provide this information when requested by SOMO.¹⁵² However, *Coal Americas* lists GDF Suez/Electrabel as having imported 322,809 tonnes of coal from the Cerrejón coal mine in Colombia through the ports of Amsterdam and Rotterdam in August-November 2011 alone.¹⁵³ In addition, the company does provide detailed information about the origin of the coal used in its Gelderland power station in the Netherlands, which primarily sources coal from Colombia and South Africa (see Section 3.3.2 below).

GDF Suez Trading is GDF Suez's fully-owned trading arm. With various offices around Europe and Asia it trades in coal from Richards Bay (South Africa), Newcastle (Australia) and imported coal in Europe as well as coal related financial products.¹⁵⁴

¹⁴⁷ Vattenfall online CSR Report 2007, What we are doing, Benchmark of the industry, "Case – Responsible procurement of resources", <<http://report.vattenfall.com/csreport2007/Menu/What+we+are+doing/Benchmark+of+the+Industry/Case+-+Responsible+procurement+of+resources>> (14 October 2011).

¹⁴⁸ Energie-Nederland website, "Verantwoord inkopen en winnen van kolen", <<http://www.energie-nederland.nl/nieuws/verantwoord-inkopen-en-winnen-van-kolen/>> (11 November 2011).

¹⁴⁹ Better Coal website, <<http://bettercoal.org/>> (11 November 2011).

¹⁵⁰ GDF Suez Reference Document 2010, April 2011, p. 263, <<http://www.gdfsuez.com/en/finance/investors/publications/publications/>> (19 August 2011).

¹⁵¹ GDF Suez Reference Document 2010, April 2011, p. 10, <<http://www.gdfsuez.com/en/finance/investors/publications/publications/>> (19 August 2011).

¹⁵² GDF Suez/Electrabel response to SOMO questionnaire on the origin of fuels, 8 June 2011.

¹⁵³ Coal Americas, Issues 240-243, October 2011 - January 2012.

¹⁵⁴ GDF Suez Trading website, About us, "Portrait", <<http://www.gdfsuez-trading.com/en/about-us/portrait/portrait/>>; GDF Suez Trading website, Markets & Products, "Coal", <<http://www.gdfsuez-trading.com/en/markets-products/coal/coal/>> (31 October 2011).

3.3.2. Coal-fired power plants in the Netherlands

The Gelderland power station in Nijmegen, the Netherlands, is GDF Suez/Electrabel's only coal-fired power plant in the Netherlands. It has a total installed capacity of 590 MW, of which 30% (180 MW) can be theoretically used for biomass co-firing.¹⁵⁵ In contrast to the lack of information about the origins of coal used by the company as a whole, in March 2011 Electrabel issued a brief with relatively detailed information about the quantities, national origins, and ports of entry of the coal it uses in the Gelderland power station.¹⁵⁶ The power station combusts approximately one million tonne of hard coal per year, the vast majority (78%) of which comes from Colombia. The Gelderland power station is supplied from the three major ports in the Benelux region. The countries of origin, quantities of coal used in the power station, and ports of entry are detailed in Table 12.

Table 12: Origin of coal used in the Gelderland power station, 2011

Country of origin	Coal procured (tonnes x 1,000)	Percentage of total	Port of entry
Colombia	738.9	78%	Amsterdam, Rotterdam
Russia	106.2	11%	Amsterdam, Rotterdam, Antwerp
USA	64.5	7%	Rotterdam, Antwerp
South Africa	29.5	3%	Rotterdam, Antwerp
Poland	11.2	1%	Antwerp
Total	950.3	100%	

Source: Electrabel¹⁵⁷

GDF Suez/Electrabel does not make public any information on the specific mines or mining companies in the countries from which it sources coal for the Gelderland plant, nor did it provide this information when requested by SOMO.¹⁵⁸

3.3.3. Supply chain responsibility policies

GDF Suez/Electrabel has an Ethics Charter and an "Ethics in Practice" Guide, which both include requirements for suppliers. All of the company's suppliers have to sign a CSR Commitment Statement, which makes reference to a number of international standards for corporate responsibility, such as the OECD Guidelines for Multinational Enterprises, ILO standards, and the Universal Declaration of Human Rights.¹⁵⁹ Also, in its Responsible Purchasing Policy, the company states that its suppliers have to uphold the ten principles of the UN Global Compact, of which GDF Suez is a member.¹⁶⁰ GDF Suez/Electrabel does not indicate whether it conducts audits at supplier coal mines.

GDF Suez/Electrabel is taking part in the Dutch Coal Dialogue,¹⁶¹ which aims to improve transparency and social and environmental conditions in the coal supply chain, and the Better Coal Initiative,¹⁶²

¹⁵⁵ Electrabel website, Over Electrabel, Activiteiten, Onze centrales, "Centrale Gelderland", <<http://www.electrabel.nl/Over-Electrabel/Activiteiten/Onze-centrales/Centrale-Gelderland.aspx>> (4 November 2011).

¹⁵⁶ 'Kolenketen', Electrabel publication, March 2011, <<http://www.electrabel.nl/Over-Electrabel/Ons-bedrijf/Onze-visie/Standpunten/~media/Nieuw%20-%20Over%20Electrabel/Nieuws-berichten-statements/Statement%20Kolenketen.ashx>> (9 November 2011).

¹⁵⁷ GDF Suez/Electrabel response to SOMO questionnaire on the origin of fuels, 8 June 2011.

¹⁵⁸ GDF Suez/Electrabel response to SOMO questionnaire on the origin of fuels, 8 June 2011.

¹⁵⁹ GDF Suez website, Group, Supplier area, Our Responsible Purchasing Policy, "Corporate Social Responsibility Commitment Statement", <<http://www.gdfsuez.com/en/group/supplier-area/our-responsible-purchasing-policy/corporate-social-responsibility-commitment-statement/corporate-social-responsibility-commitment-statement/>> (31 October 2011).

¹⁶⁰ GDF Suez website, Group, Supplier area, "Our Responsible Purchasing Policy", <<http://www.gdfsuez.com/en/group/supplier-area/our-responsible-purchasing-policy/our-responsible-purchasing-policy/>> (31 October 2011).

¹⁶¹ Energie-Nederland website, "Verantwoord inkopen en winnen van kolen", <<http://www.energie-nederland.nl/nieuws/verantwoord-inkopen-en-winnen-van-kolen/>> (11 November 2011).

¹⁶² Better Coal website, <<http://bettercoal.org/>> (11 November 2011).

which strives for the continuing improvement of the coal supply chain, focusing on coal mines in particular. Both of these initiatives were only recently launched (in 2010 and 2011, respectively). It appears that Electrabel's March 2011 issuing of a brief with detailed information on the origin of coal used in the Gelderland power station was a result of the company's participation in these initiatives.

3.4. RWE/Essent

The activities of the RWE Group cover the entire energy value chain. The company is involved in oil, gas and lignite production; the construction and operation of power plants; commodities trading; and electricity and gas transmission and sales. In terms of electricity sales, RWE is Europe's third largest power company. The company has a total installed coal and lignite capacity of around 26.1 GW, which amounts to 50% of RWE's total installed capacity. In the Netherlands and Belgium, the company has an installed coal-fired capacity of 885 MW.¹⁶³ In 2009, RWE acquired the Dutch Essent N.V., which now supplies the company's Benelux market.

3.4.1. Company-wide coal procurement

Procurement by country of origin

Whereas RWE sources 90 Mt of lignite annually from its own mines in Germany and Hungary,¹⁶⁴ the company has to procure hard coal from third parties, and approximately 70% must be imported. All the hard coal needed to power RWE's electricity generation plants is purchased centrally through its fully-owned subsidiary RWE Supply & Trading. Other RWE group companies and individual power plants are not involved in the coal purchase. RWE Supply & Trading buys a majority of its hard coal on the international coal markets, including through third-party coal traders, in which case RWE does not maintain direct contractual relations with individual mining companies.¹⁶⁵ RWE Supply & Trading secures the company's coal supply in several ways, including through long-term delivery contracts and other options created by the wholesale energy commodities markets like derivatives and commodity futures.

Table 13 shows the source countries and quantities of hard coal procured for RWE's operations in 2010.

Table 13: Origin of hard coal used by the RWE Group, 2010

Country of origin	Coal procured (tonnes x 1,000)	Percentage of total
Germany	3,531	30.7%
Russia	2,795	24.3%
Colombia	2,565	22.3%
UK	1,564	13.6%
Poland	587	5.1%
USA	242	2.1%
South Africa	207	1.8%
Other	12	0.1%
Total	11,500	100%

Source: RWE¹⁶⁶

¹⁶³ RWE Annual Report 2010, p.2, p. 56 and p. 78.

¹⁶⁴ RWE Responsibility report 2010, p. 43. and RWE/Essent response to SOMO questionnaire on the origin of fuels, 27 May 2011.

¹⁶⁵ RWE website, "Supply Chain: Coal", 2010, < <http://www.rwe.com/web/cms/en/535716/cr-report-2010/cr-areas-for-action/supply-chain/fuels/coal/>> (16 November 2011) and RWE review of draft profile, 24 November 2011.

¹⁶⁶ RWE Responsibility report 2010, p. 38 and p. 43, and RWE/Essent response to SOMO questionnaire on the origin of fuels, 27 May 2011.

Procurement by mine of origin

RWE/Essent does not make public any information on the specific mines (or mining companies) in the countries from which it sources coal, nor did it provide this information when requested by SOMO. In response to a SOMO questionnaire on the origin of fuels used for electricity generation, RWE/Essent indicated that it does not disclose any information about contractual partners for reasons of commercial confidentiality.¹⁶⁷ However, according to an investigation by the Dutch TV programme *Netwerk* in 2010, RWE's subsidiary Essent has done business with Cerrejón in Colombia.¹⁶⁸

3.4.2. Coal-fired power plants in the Netherlands

The Amer power plant in Geertruidenberg is RWE/Essent's only coal-fired power plant in the Netherlands. The plant consists of two units, Unit 8 and Unit 9, and has a total installed capacity of 1,245 MW, 855 MW of which is dedicated to coal.¹⁶⁹ The plant has the capacity to co-fire biomass and also uses wood gas as fuel. In 2010, the power plant consumed over 2 Mt of coal, primarily of Colombian and Russian origin (see Table 14). However, as can be seen in Figure 6, the Amer station's origin mix has seen significant shifts just in the past three years, with Colombia and Russia gaining importance as sourcing countries at the expense of South Africa and Indonesia.

Table 14: Origin of coal used by the Amer power plant, 2010

Country of origin	Coal procured (tonnes x 1,000)	Percentage of total
Colombia	1,439	66%
Russia	567	26%
South Africa	174	8%
Total	2,180	100%

Source: Essent¹⁷⁰

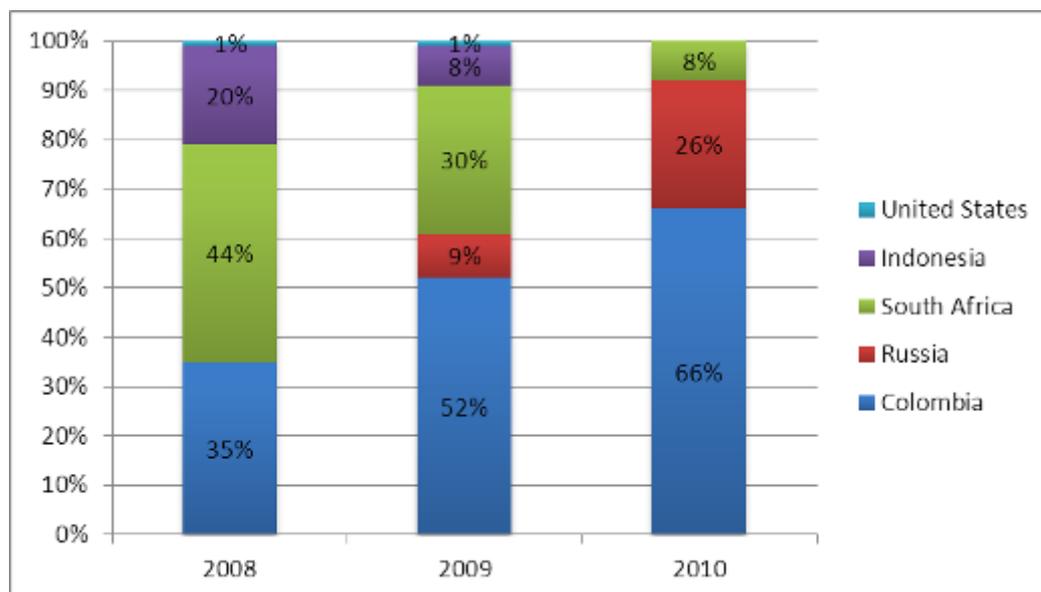
¹⁶⁷ RWE/Essent response to SOMO questionnaire on the origin of fuels, 27 May 2011.

¹⁶⁸ *Netwerk*, "Factsheet steenkool" (document accompanying *Netwerk* report "Energiebedrijven medeplichtig aan moord", <<http://www.netwerk.tv/data/files/factsheet%20steenkoolwinning.pdf>> (22 November 2011).

¹⁶⁹ The remaining 390 MW is biomass and wood gas capacity. See Essent website, Over Essent, Activiteiten, Centrales, "Amercentrale", <<http://www.essent.nl/content/overessent/activiteiten/centrales/amercentrale/index.html>> (4 November 2011).

¹⁷⁰ Essent CR report 2010, p. 37.

Figure 6: Countries of origin for coal used in the Amer power plant, 2008-2010



Source: Essent¹⁷¹

RWE/Essent does not make public any information on the specific mines (or mining companies) in the countries from which it sources coal for the Amer power plant, nor on the European port of entry of the coal it imports from abroad. It also did not provide this information when requested by SOMO due to reasons of “commercial confidentiality”.¹⁷² However, according to an investigation by the Dutch TV programme *Netwerk* in 2010, Essent has received coal from the Cerrejón mine in Colombia.¹⁷³

3.4.3. Supply chain responsibility policies

One of RWE/Essent’s core strategic CSR areas is the company’s supply chain. RWE has set a target of having at least 95% of the group-wide procurement volume meet internationally-recognised social and environmental standards. All suppliers to RWE are subject to the RWE Code of Conduct, which was introduced in 2005. The code is based on the principles of the United Nations Global Compact and the OECD Guidelines for Multinational Enterprises. In its Code of Conduct, RWE states that it “does not have business relationships with suppliers who are publicly known to be in violation of the principles underlying the Global Compact”.¹⁷⁴

To ascertain whether there are any known cases of human rights violations, failure to provide humane working conditions or to uphold minimum environmental standards at its coal suppliers, RWE Supply & Trading conducts counterparty risk assessments for all its counterparts. If such cases are identified, the supplier in question is subjected to further investigation, and if necessary the trading relationship is not established or terminated. Representatives of the company itself also undertake periodic visits to coal mines to assess the conditions there.¹⁷⁵

¹⁷¹ Essent CR report 2008, p. 35, CR report 2009, p. 38 and CR report 2010, p. 37.

¹⁷² RWE/Essent response to SOMO questionnaire on the origin of fuels, 27 May 2011.

¹⁷³ *Netwerk*, “Factsheet steenkool” (document accompanying *Netwerk* report “Energiebedrijven medeplichtig aan moord”, <<http://www.netwerk.tv/data/files/factsheet%20steenkoolwinning.pdf>> (22 November 2011).

¹⁷⁴ RWE Procurement website, Suppliers, Code of Conduct, “RWE’s Code of Conduct”, <<http://www.rwe.com/web/cms/en/90780/suppliers/code-of-conduct/>> (4 November 2011) and RWE Responsibility Report 2010, pp. 12-13 and p. 40.

¹⁷⁵ RWE Responsibility Report 2010, p. 42.

RWE/Essent is also taking part in the Dutch Coal Dialogue,¹⁷⁶ which aims to improve transparency and social and environmental conditions in the coal supply chain, and the Better Coal Initiative,¹⁷⁷ which strives for the continuing improvement of the coal supply chain, focusing on coal mines in particular. Both of these initiatives were only recently launched (in 2010 and 2011, respectively), and neither has, as yet, led the company to provide any additional transparency on the origin of its coal.

3.5. EPZ

Elektriciteits-Produktiemaatschappij Zuid-Nederland (EPZ) owns the only nuclear power plant in the Netherlands, the Borssele power station. At its site in Borssele, EPZ also has a coal-fired power station with an installed capacity of 426 MW. EPZ was formerly a 50-50 joint venture between the Dutch utility Delta and Energy Resources Holding (ERH – owned by Dutch provinces and municipalities). However, in July 2011, ERH's shares were purchased by Delta and RWE/Essent, giving Delta and RWE full ownership of the company (70% and 30%, respectively). The ownership applies to the nuclear unit, the coal-fired unit, and a wind farm in Borssele.¹⁷⁸

3.5.1. Coal procurement

The Borssele coal-fired power plant uses hard coal and biomass to generate electricity. Biomass co-firing accounts for around 17% of the fuels used. The plant uses around 2,500 tonnes of coal per day, which is shipped to the plant from OVET at Vlissingen.¹⁷⁹ During the year 2010 the plant burned around 844,000 tonnes of coal for electricity generation.¹⁸⁰ The company does not make public any information on the specific countries or mines (or mining companies) from which it sources coal for the Borssele plant, nor did it provide this information when requested by SOMO.¹⁸¹

3.5.2. Supply chain responsibility policies

EPZ has signed the UN Global Compact and committed itself to the framework of 10 principles. EPZ has two publicly available documents on its purchasing policy: its “General Purchase Conditions” and its “Additional Purchase Conditions”.¹⁸² These documents contain some health and safety requirements and instructions, but neither indicates an interest in broader social and environmental conditions among suppliers, nor do they make reference to any international initiatives or standards for corporate responsibility.

EPZ is also taking part in the Dutch Coal Dialogue,¹⁸³ which aims to improve transparency and social and environmental conditions in the coal supply chain.

¹⁷⁶ Energie-Nederland website, “Verantwoord inkopen en winnen van kolen”, <<http://www.energie-nederland.nl/nieuws/verantwoord-inkopen-en-winnen-van-kolen/>> (11 November 2011).

¹⁷⁷ Better Coal website, <<http://bettercoal.org/>> (11 November 2011).

¹⁷⁸ EPZ website, “Kolencentrale”, <<http://www.epz.nl/content.asp?kid=10000036>> (7 November 2011) and T. van der Zee, “Officieel momentje: RWE en Delta samen verder in EPZ”, *Energieia*, 6 July 2011, <<http://www.energieia.nl/news.php?ID=46606>> (7 November 2011).

¹⁷⁹ EPZ website, Kolencentrale, “Kolen”, <<http://www.epz.nl/content.asp?kid=10031480>> and EPZ website, Kolencentrale, “Animatie kolencentrale”, <<http://www.epz.nl/content.asp?kid=10000054&fid=-1&bid=10032132>> (07 November 2011).

¹⁸⁰ EPZ Annual Report 2010, p. 16.

¹⁸¹ SOMO sent the questionnaire on the origin of fuels to EPZ's majority owner Delta on 3 May 2011. On 13 May 2011, Delta responded that it was not willing to cooperate in providing any information for the research.

¹⁸² EPZ website, Bibliotheek, Downloads, “General Purchase Conditions” and “Additional Purchase Conditions”, <<http://www.epz.nl/content.asp?kid=10031424>> (7 November 2011).

¹⁸³ Energie-Nederland website, “Verantwoord inkopen en winnen van kolen”, <<http://www.energie-nederland.nl/nieuws/verantwoord-inkopen-en-winnen-van-kolen/>> (11 November 2011).

3.6. DONG Energy

DONG Energy is an energy company that is majority owned by the Danish state. It was originally founded to manage the country's energy resources in the North Sea, and the company has been active in the electricity sector for the past decade. Currently, DONG Energy's business is based on procuring, producing, distributing and trading in energy and energy-related products in Northern Europe. DONG Energy has operations in Denmark, the Netherlands, the UK, Sweden, Norway, Poland, and Germany.¹⁸⁴

DONG Energy's activities are structured in five business units: Exploration & Production explores for and produces gas and oil in the North Sea, primarily in the areas around Denmark, the UK, the Faroe Islands, Greenland, and Norway; Generation is the unit in which all the company's thermal generation activities are located, primarily focusing on natural gas and coal; the Renewables unit focuses on construction and operation of onshore and offshore wind farms; Energy Markets is responsible for the company's energy trading activities and the selling of energy to wholesale consumers; and Sales & Distribution sells gas, energy, and services to consumers in Denmark, Sweden, Germany, and the Netherlands.¹⁸⁵

In 2010, DONG Energy had 3,987 MW of installed electricity generation capacity at its coal-fired power plants in Denmark.¹⁸⁶

3.6.1. Company-wide coal procurement

Procurement by country of origin

In 2010, DONG Energy procured just over two Mt of hard coal for combustion in its Danish coal-fired power plants. Table 15 reveals the quantities and national origins of coal used by DONG Energy in 2010.

Table 15: Origin of coal used by DONG Energy, 2010

Country of origin	Coal procured (tonnes x 1,000)	Percentage of total
Colombia	708	32%
Russia	636	29%
South Africa	457	21%
Norway	132	8%
USA	72	3%
Total	2,005	100%

Source: DONG Energy¹⁸⁷

Procurement by mine of origin

DONG Energy does not make public any information on the specific mines (or mining companies) in the countries from which it sources coal, nor did it provide this information when requested by SOMO. It regards this information as "confidential".¹⁸⁸ However, the latest issue of *Coal Americas* lists DONG

¹⁸⁴ DONG website, About us, "History", <<http://www.DONGenergy.com/EN/About%20us/history/Pages/history.aspx>> (28 June 2010).

¹⁸⁵ DONG website, About us, DONG Energy in brief, "Backgrounder", <<http://www.DONGenergy.com/en/about%20us/DONG%20energy%20in%20brief/pages/background.aspx>> (28 June 2010).

¹⁸⁶ The 3,987 MW capacity is composed of DONG's several coal-fired central power stations. However, it has to be noted that the Studstrup power station, with a total capacity of 700 MW, which is fuelled by oil, coal and biomass, is also included in this amount. DONG website, Business activities, Generation, Studstrup power station, <<http://www.DONGenergy.com/EN/business%20activities/generation/electricity%20generation/Primary%20power%20stations/Pages/Studstrup%20Power%20Station.aspx>> (24 June 2010).

¹⁸⁷ DONG Energy response to SOMO questionnaire on the origin of fuels, 9 June 2011.

¹⁸⁸ Ibid.

Energy as having imported 160,718 tonnes of coal from the Cerrejón coal mine in Colombia through the Port of Ensted in Denmark in November 2011 alone.¹⁸⁹

Interestingly, and in contrast to the other companies in this report, DONG Energy indicates that it did not purchase any of its coal on the spot market in 2010, and that all of its coal procurement came through direct contracts with coal suppliers. The company also indicates that it does not purchase pre-blended coal (as do the companies in operating the Dutch coal-fired power plants), but rather does its own blending of coal at the time of consumption.¹⁹⁰

3.6.2. Coal-fired power plants in the Netherlands

DONG Energy has electricity supply operations in the Netherlands, but it does not operate any power plants in the Netherlands.

3.6.3. Coal trading

DONG Energy is involved in the trade of future coal contracts, but does not provide information on volumes or trading partners, claiming that this information is confidential. The company arranges the shipping for 25% of its total coal procurement, and does not re-sell any coal to third parties.¹⁹¹

3.6.4. Supply chain responsibility policies

DONG Energy publishes a CSR report, a *Quality, Health, Safety and Environmental (QHSE) report* (for its division Exploration & Production) and Responsibility targets¹⁹² on a yearly basis and has a 'Responsibility' section on its website. In addition, the company has a code of conduct for suppliers. This code of conduct is not publicly accessible, although it is available upon request. The document specifies the obligations for its suppliers regarding labour rights, such as fair working hours, non-discrimination and child labour, as well as corruption measures and environmental standards. DONG Energy's code of conduct forms a part of the contract with suppliers also including suppliers of raw materials.¹⁹³ The company mentions on its website that it does inspection visits and third party audits at selected suppliers.¹⁹⁴

DONG Energy is also taking part in the Better Coal Initiative,¹⁹⁵ which strives for the continuing improvement of the coal supply chain, focusing on coal mines in particular. This initiative was only recently launched (in 2011), and has not, as yet, led the company to provide any additional transparency on the origin of its coal.

¹⁸⁹ Coal Americas, "November 2011 Coal Export Statistics", Issue 243, 16 January 2012.

¹⁹⁰ Ibid.

¹⁹¹ Ibid.

¹⁹² For the responsibility targets, see: DONG website, Responsibility, Reporting, Responsibility goals 2009, <http://www.DONGenergy.com/en/responsibility_/reporting/pages/responsibility_goals_2009.aspx> (29 June 2010)

¹⁹³ Code of conduct for suppliers received upon request via email on 6 August 2010.

¹⁹⁴ DONG website, Responsibility, Code of conduct, <http://www.DONGenergy.com/en/responsibility_/society/pages/code_of_conduct.aspx> (29 June 2010), DONG Energy's response to a draft version of this profile, email received 6 August 2010.

¹⁹⁵ Better Coal website, <<http://bettercoal.org/>> (11 November 2011).

4. Legitimate reasons for inadequate transparency?

The OECD Guidelines encourage companies to identify and disclose information about their relationships with suppliers.¹⁹⁶ However, the electricity companies mentioned in this report do not do this. They often claim that they have legitimate reasons – e.g. legal restrictions or supply chain complexity – for not being transparent about their coal supply chain. This section examines some of the reasons companies give for not providing adequate transparency regarding their coal supply chain and draws conclusions about whether these are legitimate concerns.

4.1. Reason 1: Competition laws

Electricity companies often claim that information about the coal mines and mining companies from which they source their coal is “commercially confidential” or “competition-sensitive” and they are therefore prevented from providing more transparency.¹⁹⁷ This argument is often related to so-called “non-disclosure clauses” that are included in contracts with coal suppliers. But do competition laws or rules really require the inclusion of such clauses or in any other way prevent electricity companies from being transparent about their supply chain relationships and the origin of their coal? In order to provide an answer to this question, SOMO asked the Czech law firm Advokátní kancelář Šíkola a partneři, s.r.o. / Attorneys at Law to analyse the European Union’s laws and regulations related to competition and provision of information.

The basis of EU competition law is found in Articles 101 and 102 of the Treaty on the Functioning of the European Union (TFEU).¹⁹⁸ Article 101 of the TFEU, which deals with prohibited agreements, decisions, and concerted practice (cartels), is the most relevant for answering the current question. Neither the European Court of Justice (ECJ) nor the European Commission (EC) provides clear instructions as to what exactly constitutes a violation of TFEU Article 101. It is acknowledged that the exchange of certain information under certain conditions may represent a breach of TFEU Article 101. However, the ECJ and EC have only provided general indications and suggested that potential or alleged violations of TFEU Article 101 must be assessed on a case-by-case basis.

Some general guidelines may be found in relevant EC Decisions and ECJ jurisprudence. In general, the disclosure of strategic information, such as prices paid to a supplier and commercial strategies to competitors, may constitute a breach.¹⁹⁹ According to the EC, “Strategic information is data that reduces strategic uncertainty in the market and can be related to prices (for example, actual prices, discounts, increases, reductions or rebates), customer lists, production costs, quantities, turnovers, sales, capacities, qualities, marketing plans, risks, investments, technologies and R&D programmes

¹⁹⁶ OECD, OECD Guidelines for Multinational Enterprises: 2011 Edition, Chapter III, paragraph 3e and Commentary paragraph 33, 25 May 2011, <http://www.oecd.org/document/28/0,3746,en_2649_34889_2397532_1_1_1_1,00.html> (1 December 2011).

¹⁹⁷ The terms “commercially confidential” and “competition-sensitive” were used in the responses by Vattenfall/Nuon and RWE/Essent, respectively. See above company profiles for elaboration.

¹⁹⁸ European Union, “Treaty on the Functioning of the European Union”, <<http://eur-lex.europa.eu/JOHtml.do?uri=OJ:C:2010:083:SOM:EN:HTML>> (21 November 2011).

¹⁹⁹ A. Capobianco, “Information exchange under EU competition law”, *Common Market Law Review* 41, Kluwer Law International, 1247-1276, 2004. See also Commission Decision, *Glass Containers*, in OJ 1974, L 160/1 and Commission Decision, *Cobelpa/VNP*, in OJ 1977, L 242/10.

(i.e. research and development) and their results. Generally, information related to prices and quantities is the most strategic, followed by information about costs and demand [...] Sharing of strategic data can give rise to restrictive effects on competition because it reduces the parties' decision-making independence by decreasing their incentives to compete".²⁰⁰

In addition to the "strategic" nature of information exchange, a determination on whether competition law has been violated also depends on the "likely effects of the information exchange on the competitive situation that would prevail in the absence of that specific information exchange".²⁰¹ For an information exchange to have restrictive effects on competition within the meaning of Article 101(1), it must be likely to have an appreciable adverse impact on one (or several) of the parameters of competition such as price, output, product quality, product variety or innovation. Whether or not an exchange of information will have restrictive effects on competition depends on both the economic conditions on the relevant markets and the characteristics of information exchanged".²⁰² Relevant characteristics include the level of detail and the age of the information exchanged.

In general, however, the EC emphasises that "exchanges of genuinely public information are unlikely to constitute an infringement of Article 101 [...] An information exchange is genuinely public if it makes the exchanged data equally accessible (in terms of costs of access) to all competitors and customers. The fact that information is exchanged in public may decrease the likelihood of a collusive outcome on the market to the extent that non-coordinating companies, potential competitors, as well as customers may be able to constrain potential restrictive effect on competition. However, there is also a possibility that even genuinely public exchanges of information may facilitate a collusive outcome in the market".²⁰³

According to guidelines issued by the UK's Office of Fair Trading,²⁰⁴ "as a general principle, the more informed customers are, the more effective competition is likely to be and so making information publicly available to customers does not usually harm competition... The exchange of information may, however, have an adverse effect on competition where it serves to reduce or remove uncertainties inherent in the process of competition. The fact that the information could have been obtained from other sources is not necessarily relevant. Whether or not the information exchange has an appreciable effect on competition will depend on the circumstances of each individual case: the market characteristics, the type of information and the way in which it is exchanged. As a general principle, the OFT will consider that there is more likely to be an appreciable effect on competition the smaller the number of undertakings operating in the market, the more frequent the exchange and the more sensitive, detailed and confidential the nature of the information which is exchanged. There is also more likely to be an appreciable effect on competition where the exchange of information is limited to certain participating undertakings to the exclusion of their competitors and consumers".²⁰⁵ In other words, "the main competition law concern arises when the nature of the information exchanged between current or potential competitors makes it easier for them to predict each other's' behaviour and adjust their own accordingly. This in its most severe form may ultimately enable participants to fix prices or allocate customers or markets – in other words, form a cartel".²⁰⁶

²⁰⁰ Communication from the Commission, Guidelines on the applicability of Article 101 of the Treaty on the Functioning of the European Union to horizontal co-operation agreements (Text with EEA relevance) (2011/C 11/01), Article 86.

²⁰¹ Case C-7/95 P, *John Deere v Commission*, paragraph 76.

²⁰² Communication from the Commission, Guidelines on the applicability of Article 101 of the Treaty on the Functioning of the European Union to horizontal co-operation agreements (Text with EEA relevance) (2011/C 11/01), Article 75.

²⁰³ Communication from the Commission, Guidelines on the applicability of Article 101 of the Treaty on the Functioning of the European Union to horizontal co-operation agreements (Text with EEA relevance) (2011/C 11/01), Articles 92 and 94.

²⁰⁴ The OFT is the UK's consumer and competition authority, the OFT also has the power to apply and enforce the UK Competition Act 1998; see <<http://www.offt.gov.uk/>> (1 December 2011).

²⁰⁵ Case T-141/94 *Thyssen Stahl AG v Commission* [1999].

²⁰⁶ Out-Law website, "Competition Law and sharing information among companies", April 2008, <<http://www.out-law.com/page->

Given the abovementioned provisions of TFEU Article 101, it must be concluded that EU competition law cannot be interpreted as preventing electricity companies from being transparent about the coal mines and mining companies from which they source their coal. The provision of such information cannot be construed to be a violation of Article 101, nor can it be argued that EU competition law requires the inclusion of non-disclosure clauses in contracts with suppliers.

To begin with, the names of supplier companies and mines cannot be generally regarded as strategic information as defined in Article 101. Sharing such information does not reduce the strategic uncertainty in the market as it does not make it easier for the competitors to predict each other's behaviour and adjust their behaviour accordingly. Moreover, in this case, the information is to be provided to the general public, not primarily to other competitors. As noted in Article 101, providing information publicly is unlikely to impact competition in a negative way. In fact, in this case it can be assumed that additional transparency is beneficial for competition because better-informed consumers will incentivise and stimulate the market when choosing an energy supplier.

The fact is that energy companies often insist on including non-disclosure clauses in their contracts with coal suppliers because they do not want to give an edge to their competitors and because they do not want to run the risk of being linked to a human rights or environmental scandal at a coal mine. Once a non-disclosure clause is included in a contract, if either party breaches that contractual clause, it can induce penalties or other sanctions. However, given that there is no legal requirement to do so, the transparent and socially responsible thing for companies to do would be simply not to include such provisions in supply contracts. Indeed, the OECD Guidelines encourage companies to disclose, rather than withhold, information about their relationships with suppliers.²⁰⁷

4.2. Reason 2: Supply chain complexity/opacity

A second reason companies often give for not being able to provide stakeholders with adequate transparency is the complexity and opacity of the coal supply chain. As indicated above, the global physical and financial coal trade involves various financial and physical actors at various stages of the chain. In addition, coal from different mines and mining companies is often mixed and blended at ports in export and import countries. As a result, the Dutch electricity industry umbrella group has claimed that, "Tracing the origin of coal purchased on the world market is not always possible".²⁰⁸

However, recent developments in the area of international standards regarding supply chains make it clear that the old argument, "I don't know", is simply no longer acceptable. The recently updated OECD Guidelines for Multinational Enterprises,²⁰⁹ the recently released UN Guiding Principles on

9149> (21 November 2011).

²⁰⁷ See OECD, OECD Guidelines for Multinational Enterprises: 2011 Edition, Chapter III, paragraph 3e and Commentary paragraph 33, 25 May 2011, <http://www.oecd.org/document/28/0,3746,en_2649_34889_2397532_1_1_1_1,00.html> (1 December 2011).

²⁰⁸ Energie-Nederland, Fact Sheet Kolen, no date, <http://www.energie-nederland.nl/wp-content/uploads/2011/01/292_FACT-SHEET-KOLEN.pdf> (2 December 2011).

²⁰⁹ OECD, OECD Guidelines for Multinational Enterprises: 2011 Edition, Chapter II, paragraphs 10 and 12, 25 May 2011, <http://www.oecd.org/document/28/0,3746,en_2649_34889_2397532_1_1_1_1,00.html> (1 December 2011).

Business and Human Rights,²¹⁰ and the 2011 EU Communication on CSR²¹¹ insist that companies should conduct risk-based due diligence to identify, prevent and mitigate any actual and potential adverse impacts of their own operations and those of their business relations, including suppliers.²¹² In terms of the argument that the supply chain is too complex, the key word here is “identify”. If companies wish to comply with these standards, they themselves must identify exactly where their coal supply comes from and cannot simply argue that it is not possible to trace the origin.

Furthermore, although the coal supply chain does involve the blending of coal from different mines and countries before it is delivered to the power plant, it is actually highly unlikely that it is not possible for companies to trace the origin of the coal they use, even if the coal is purchased on the world market. With limited resources, SOMO has been able to find information about the origin of coal used in specific power plants, information that is not provided publicly by the companies. The companies themselves should be able to trace the origin with much greater detail and accuracy. In addition, other industrial sectors with much more complexity in the chain are actually much more open about relationships in the supply chain. For example, the consumer electronics industry, which has many more links in the chain with all its sub-tier component manufacturers and suppliers, has a much higher general level of supply chain transparency. Many electronics companies openly identify their first and even second -tier suppliers, and some electronics companies are now going so far as to identify specific mines in Africa and smelters in Asia from which the metals and minerals in their products are sourced.²¹³ Although it certainly cannot be argued that supply chain transparency in the electronics industry is complete, several electronics companies are going further than the electricity companies profiled here to identify and disclose their supply chain relationships, even at the mine level.

Finally, much of the coal that is traded is done so through direct contracts (up to 100% by DONG, and above 50% for many companies like Vattenfall/Nuon) and/or shipped in a cargo vessel chartered by the electricity company. In this case, the electricity companies should be able to be certain of the coal's origin and could at least provide that information, even if they consider it too difficult to trace the origin of coal purchased on the global market.

²¹⁰ UN Human Rights Council, Guiding Principles on Business and Human Rights: Implementing the United Nations “Protect, Respect and Remedy” Framework, Geneva: UN, March 2011 <<http://www.business-humanrights.org/media/documents/ruggie/ruggie-guiding-principles-21-mar-2011.pdf>> (14 December 2011).

²¹¹ European Commission, A renewed EU strategy 2011-14 for Corporate Social Responsibility, Brussels: EC, October 2011, <http://ec.europa.eu/enterprise/newsroom/cf/_getdocument.cfm?doc_id=7010> (14 December 2011).

²¹² OECD, OECD Guidelines for Multinational Enterprises: 2011 Edition, Chapter II, paragraphs 10 and 12, 25 May 2011, <http://www.oecd.org/document/28/0,3746,en_2649_34889_2397532_1_1_1_1,00.html> (1 December 2011).

²¹³ This is largely the result of the impending implementation of the Dodd-Frank Financial Reform Bill in the US, which requires companies to prove that their products do not contain metals and minerals from conflict areas in the Democratic Republic of Congo.

5. Analysis and discussion

5.1. Global coal trade

Nearly 700 Mt of thermal coal are traded internationally each year, destined for use in coal-fired power plants to generate electricity. The global coal supply chain is complex, often involving physical and financial trading of coal by third parties, but it is not as complex or as long as supply chains in other industries, such as the consumer electronics industry.

Broadly speaking, four different categories of players involved in the international coal trade can be distinguished by their core business: mining companies, logistics companies, traders, and utilities. Each of these types of players is detailed in Section 2.3 and Table 1 above. Of the mining companies, the most important players in the international coal trade are the so-called “Big Four”: Anglo American, BHP Billiton, Xstrata, and Rio Tinto. The Big Four’s dominance in the production side of the global coal trade, and the fact that all four of them supply the ARA coal hub, make it almost certain that coal produced by each of these companies ends up in Dutch power plants. Glencore is by far the most important coal trading company in the world by volume traded and has the highest annual financial turnover of all the companies involved in the global coal trade. It should be noted, however, that Glencore earns relatively small profit margins on the high volumes in which it trades. Indeed, Glencore’s profits are much lower than those of the energy utilities and especially the mining companies, which tend to make the largest profits. With regard to assets, the large energy utilities (which own expensive power plants) tend to have the greatest asset values.

With regard to the coal procurement practices of individual electricity companies, it is interesting to note that there are significant differences in the way companies purchase coal, even among the small sample of electricity companies profiled in this report. Some companies (e.g. Vattenfall/Nuon, DONG Energy) procure most or all of their coal through direct contracts with mining companies and specific mines and rarely use the spot market, while others (e.g. RWE/Essent) purchase nearly all of their coal through third parties and maintain few direct bilateral contractual relationships with individual mining companies. Another difference in purchasing practices lies in the fact that all of the companies operating coal-fired power plants in the Netherlands purchase pre-blended coal from one or more of the ARA ports. DONG Energy, on the other hand, does all of the blending for its Danish coal-fired power plants itself, and does not buy any pre-blended coal.

5.2. Quantities and origins of coal coming into the Netherlands

Within the Atlantic market, the Netherlands – and particularly the Dutch ports of Rotterdam and Amsterdam – represents an important hub and plays a key role in supplying the rest of Europe with coal. In fact, along with the port of Antwerp, the combined trading at the ports of Rotterdam and Amsterdam (jointly known as the “ARA” hub) is seen as indicative for the entire European market. Import data from the ports of Rotterdam and Amsterdam reveal that approximately 40.4 Mt of coal was imported into these two ports in 2011 (25.7 Mt in Rotterdam and 14.7 Mt in Amsterdam).²¹⁴ Energie-Nederland indicates that a total of 50 Mt of coal entered the Netherlands through all ports in 2010.²¹⁵ Based on these figures, coal flowing through the Netherlands represents approximately 25% of all the

²¹⁴ Personal communication with the port authorities of Rotterdam, e-mail received 23 January 2013 and the port authorities of Amsterdam, e-mail received 11 March 2013.

²¹⁵ Energie-Nederland, Internal presentation to the Dutch Coal Dialogue, The Hague, November 2011.

coal traded in the Atlantic market in 2010.²¹⁶ However, Dutch power plants only use a fraction of this coal (approximately 9 Mt, or 18%, in 2010).²¹⁷ According to Energie-Nederland, the majority (41 Mt, or 82% in 2010) is re-exported to other European countries such as Germany and France.

Based on information made public by the Port of Rotterdam and information obtained by SOMO from the Port of Amsterdam, the origin of the coal imported through the ports of Amsterdam and Rotterdam can be ascertained. There are notable differences in the origin of coal entering these two ports, but the combined figures for Amsterdam and Rotterdam provide a fair representation of the origins of the total coal imports into the Netherlands.

The five largest source countries of coal that entered the Netherlands in 2011 were Colombia (42%), the United States (16%), Australia (10%), South Africa (8%) and Russia (7%) (for more detail, see Table 6 in Section 2.4.1 above). One important recent development is that the share of coal from Indonesia arriving at Dutch ports has been steadily decreasing. Although Indonesian coal represented a significant share just a few years ago, not a single shipment of Indonesian coal reached the Dutch ports in 2010 or 2011. The importance of South African coal for the Netherlands has also seen a sharp decline in recent years. The decrease in the share of coal flowing into the Netherlands from both Indonesia and South Africa is likely the result of increasing demand in the Pacific market (primarily China and India). As a result, suppliers of the Atlantic market, primarily Colombia, have seen a significant increase in their share of coal imported into the Netherlands.

It is interesting to note that the origin of coal coming into the Netherlands can fluctuate significantly from year to year. This is reflected when comparing the 2009, 2010 and 2011 figures for the ports of Amsterdam and Rotterdam (see Table 6), as well as at the individual plant level with the 2008-2010 figures at RWE/Essent's Amer station (see Figure 6). The only country that has consistently maintained a high share of the total coal imports to the Netherlands is Colombia. Given ever increasing demand in the Pacific market, this is likely to remain the case for the foreseeable future.

In addition to the origin of coal aggregated at a national level, SOMO was also able to determine to some degree the specific mines that supply coal to the Netherlands. This is most easily done when a port in a coal-producing country exports coal exclusively from one mine. This is the case with two ports in Colombia: Puerto Bolivar exports coal exclusively from the Cerrejón mine and Puerto Drummond exclusively from the Drummond mine. By running the names of coal-laden ships that arrived in the Port of Amsterdam in 2010²¹⁸ through a database that identifies the ports of origin and destination of specific ships, it is possible to calculate, for example, that at least 3.2 Mt of coal from the Cerrejón mine in Colombia arrived at the Port of Amsterdam in 2010. This represents approximately 24% of all the coal that arrived at the Port of Amsterdam in 2010. Using this method to determine the mine of origin in South Africa is more difficult because all of the coal mining companies use the same port (Richards Bay) for export. Nevertheless, the list of coal-laden ships arriving in Amsterdam in 2009-2010 may provide a useful starting point for others wishing to trace the specific mine of origin of coal arriving in Amsterdam. Though often segmented and incomplete, industry periodicals such as *Coal Americas* also provide some information on the specific origin of coal flowing into the Netherlands. For example, the latest issue of *Coal Americas* lists imports into the ports of Rotterdam and Amsterdam of at least 3.3 Mt of coal from the Cerrejón coal mine in Colombia and 2.2 Mt from the Drummond coal mine in Colombia in the months of August-November 2011.²¹⁹

²¹⁶ Based on a total of 196 Mt traded in the Atlantic market, World Coal Association, "Coal Statistics", World Coal Association, <<http://www.worldcoal.org/resources/coal-statistics/>> (17 November 2011).

²¹⁷ Energie-Nederland, Internal presentation to the Dutch Coal Dialogue, The Hague, November 2011.

²¹⁸ Annex 1 contains the ship list obtained by SOMO through a Freedom of Information (WOB) request.

²¹⁹ *Coal Americas*, Issues 240-243, October 2011 - January 2012.

With regard to the origin of the coal used in specific coal-fired power plants in the Netherlands, as noted above, two of the electricity companies (GDF Suez/Electrabel and RWE/Essent) provided this information, while the other three (E.ON, EPZ (Delta), and Vattenfall/Nuon) did not. However, even for the electricity companies that were unwilling to provide this information, it is possible to estimate the origin of the coal used in a specific power plant based on the origin mix of the port supplying coal to the plant. This is because of the blending of coal from various countries that is done in the port to ensure the correct technical-physical quality of coal before it is transported to the power plant.

This means that Vattenfall/Nuon's Hemweg 8 plant, which receives coal exclusively through the Port of Amsterdam, is likely to have an origin mix similar to that of the Port of Amsterdam. On the other hand, E.ON's Maasvlakte plant, which is supplied exclusively through the Port of Rotterdam, is likely to have an origin mix similar to that of the Port of Rotterdam. The same goes for EPZ's Borssele plant, which is supplied through the Port of Vlissingen.

For power plants that receive coal from more than one port (which is the case for Vattenfall/Nuon's Willem-Alexander plant), it is more difficult to make assumptions based on this method. GDF Suez/Electrabel's Gelderland plant and RWE/Essent's Amer plant are also supplied by multiple ports, but both these companies provide information on national origin mix so it is not necessary to make assumptions. In addition, although none of the electricity companies were willing to provide detailed information about the specific coal mines from which they source their coal (except for E.ON with regard to Cerrejón), some detailed information on origins can be gleaned from other NGO and media reports and other sources. For example, the Port of Amsterdam reported in August 2009 that the coal from a ship arriving in Amsterdam from Puerto Drummond, Colombia was destined for Nuon's Hemweg 8 power plant.²²⁰

Table 16 below provides an overview of the quantity and origin of the coal used in Dutch coal-fired power plants. For more detailed information on each power plant, see the individual company sections in Chapter 3 above.

²²⁰ Port of Amsterdam press release, 'Maiden Voyage of MV Aquamarine', 2 September 2009, <<http://www.portofamsterdam.com/smartsite.dws?id=22399>> (22 March 2011)

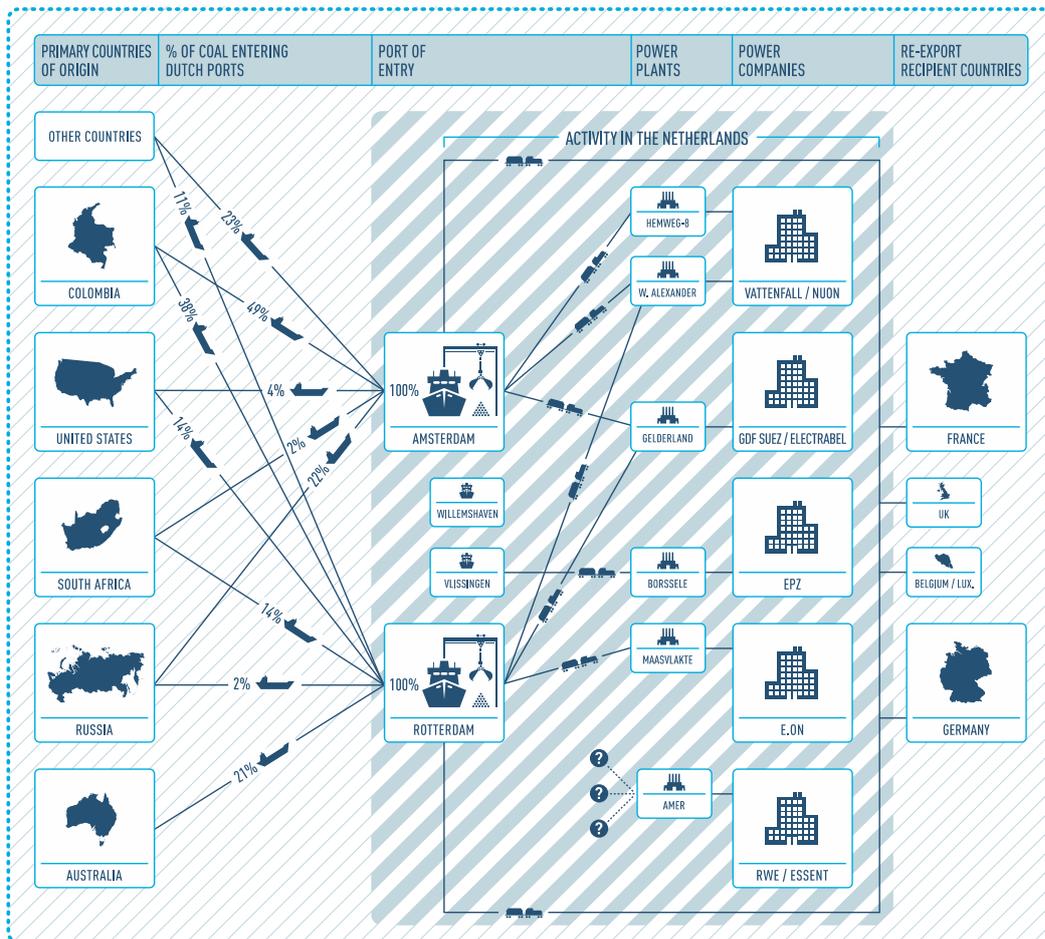
Table 16: Origin and quantities of coal used in Dutch power plants, 2010

Power plant	Company	Coal consumed per year (tonnes x 1,000)	National origin of coal	Mine/ company of origin ^a	Port of import (and stevedore company)
Amer	RWE/Essent	2,180	Colombia 66%, Russia 26%, S. Africa 8%	At least Cerrejón (Colombia)	Unknown ^b
Maasvlakte 1 & 2	E.ON	2,500 ^d	Colombia 44%, Australia 16%, USA 16%, S. Africa 9%, Canada 6%, Latvia 2%, ^c	At least Cerrejón and Drummond (Colombia)	Rotterdam (EMO)
Hemweg 8	Vattenfall/ Nuon	1,600	Colombia 38%, USA 16%, Russia 15%, Latvia 7%, Ecuador 7% ^c	At least Cerrejón and Drummond (Colombia)	Amsterdam (OBA)
Gelderland	GDF Suez / Electrabel	1,000	Colombia 78%, Russia 11%, US 7%, S. Africa 3%	Unknown ^b	Amsterdam, Rotterdam, Antwerp
Borssele	EPZ (Delta & RWE/Essent)	844	Unknown ^b	Unknown ^b	Vlissingen (OVET)
Willem-Alexander	Vattenfall/ Nuon	730	Unknown ^b	Unknown ^b	Rotterdam and IJmuiden
Total		Approx. 9,000			

Based on: Individual company websites, company responses to SOMO questionnaire, AMS & ROT port origin mixes. a = Information on suppliers of coal is incomplete for all of the electricity companies because none were willing to disclose the names of their suppliers (considered confidential information), and information had to be gathered piecemeal from other sources. Only E.ON provided some information about sourcing coal from Cerrejón in Colombia. b = No information was provided by the company, nor could the information be gathered from other public sources. c = No information on origin was provided by the company. The origin mix is thus estimated on the origin mix of the port through with the coal was imported. Percentages refer to the year 2011. d = E.ON did not provide this information, but all the other companies did, so a calculation could be made based on the total import of thermal coal into the Netherlands and subtracting the consumption of all other Dutch power plants.

Based on the information provided by the electricity companies and obtained by SOMO, Figure 6 presents a graphical representation of the Dutch coal supply chain.

Figure 6: Graphical representation of the Dutch coal supply chain, 2010 (Source: SOMO)



5.3. Transparency provided by electricity companies on their coal supply chain

Increasing transparency in the coal supply chain is an important first step toward improving the sub-standard social and environmental conditions at coal mines highlighted in recent media and civil society reports. However, despite a pledge to “improve transparency in the coal supply chain” at the beginning of the Dutch Coal Dialogue,²²¹ power companies operating in the Netherlands continue to provide only a limited degree of transparency about the origin of the coal they consume. This significant lack of transparency has not improved since the start of the Dutch Coal Dialogue in the summer of 2010. As a result, relying solely on the information provided by the electricity companies, it is still largely impossible to know where the coal used by power companies operating in the Netherlands comes from and whether coal-based electricity consumption in the Netherlands is connected to poor human rights or environmental conditions at specific coal mines in supplier countries like Colombia, South Africa and Russia. Indeed, the assertion by former Dutch Minister of Foreign Trade Frank Heemskerk that the DCD would increase transparency to such a degree that consumers of electricity in the Netherlands will be able to choose between electricity generated from

²²¹ Dutch Coal Dialogue, “Dutch Coal Dialogue: working on trust and contributing to improvements”, 4 February 2011, <http://www.bothends.org/uploaded_files/Dutch_Coal_Dialogue_February_2011.pdf> (7 December 2011).

responsibly and electricity from irresponsibly-mined coal remains unfulfilled.²²² Ironically, coal import figures from the Dutch ports of Rotterdam and Amsterdam indicate that Russia continues to be a significant source of coal to the Netherlands, and the lack of transparency on the part of the companies leaves electricity consumers in the Netherlands in the dark as to which mines in Russia that coal comes from.

Despite this disheartening general conclusion, there are some interesting similarities and differences in the degree of transparency provided by the various electricity companies. Table 16 provides an overview of the degree of transparency provided by each company with regard to the quantity, origin (both countries and specific mines), and port of entry of the coal they use, both at the level of the company as a whole, as well as at the level of the individual Dutch power plant.

Table 16: Overview of transparency provided by power companies on origin of coal, 2011

Transparency on coal	E.ON	EPZ (DELTA)	GDF Suez/ Electrabel	RWE/ Essent	Vattenfall/ Nuon	DONG Energy
At company-wide level						
Quantities	GREEN	GREEN	RED	GREEN	GREEN	GREEN
Countries of origin	GREEN	RED	RED	GREEN	RED	GREEN
Mines of origin	ORANGE	RED	RED	RED	RED	RED
Used in Dutch power plant						
Quantities	RED	GREEN	GREEN	GREEN	GREEN	n/a
Ports of import	GREEN	GREEN	GREEN	RED	GREEN	n/a
Countries of origin	RED	RED	GREEN	GREEN	RED	n/a
Mines of origin	RED	RED	RED	RED	RED	n/a

Based on: Company websites and public documents; company responses to SOMO questionnaire in May 2011.

Legend: **GREEN** = high degree of transparency; **ORANGE** = some degree of transparency, **RED** = no transparency, n/a = not applicable.

Taking the similarities as a starting point, none of the companies provide information about the specific coal mines or mining companies from which they source their coal. The one minor exception to this general conclusion is E.ON, which does provide transparency about its relationship with the Cerrejón coal mine in Colombia. However, E.ON does not provide the names of any of the other mines or mining companies from which it sources coal.

Another similarity is that most of the companies do provide information about the quantity of coal they consume each year, both for the company as a whole and at their Dutch power plant. Exceptions here are GDF Suez/Electrabel, which does not disclose the quantity of coal consumed by the company as a whole, and E.ON, which does not provide information about the quantity of coal used at its Maasvlakte power plant in the Netherlands.²²³ In addition, all companies except RWE/Essent are transparent about which Dutch ports are used to import coal to their respective coal-fired power plants.

The starkest difference between the companies lies in the degree of transparency that is provided about the national origin of coal. Although none of the companies provide information about the specific mine or company of origin, as mentioned above, some companies provide information about

²²² F. Heemskerk, interviewed by M. Persson, "Interview Frank Heemskerk, Voorzitter Commissie Bloedsteenkolen: 'Er is een veelbelovend zaadje geplant'", *Volkscrant*, 1 March 2011, p.24. The quote is translated and paraphrased from the original Dutch.

²²³ All of the electricity companies except EPZ (DELTA) responded to a questionnaire sent by SOMO on the origin of fuels and all companies (including DELTA) reviewed and provided comments on a draft version of their company's profile.

the country of origin of their overall company-wide coal consumption, and other companies provide information about the country of origin of the coal used in their Dutch power plant. RWE/Essent and DONG Energy²²⁴ are the only companies that are transparent about the country of origin of coal at both the company-wide and the plant level. On the other hand, EPZ (Delta) and Vattenfall/Nuon are the only companies that do not provide information about the country of origin of coal either at the company-wide or the plant level. Somewhat counter-intuitively, GDF Suez/Electrabel provides the most transparency on the origin of coal used in its Dutch power plant (Gelderland), but is the least transparent company when it comes to the origin of its coal at the larger company-wide level.

The limited level of supply chain transparency provided by the electricity companies profiled in this report suggests that these companies are out of line with the leading international standards on supply chain transparency and responsibility. The OECD Guidelines for Multinational Enterprises and the UN Guiding Principles on Business and Human Rights insist that companies should conduct due diligence to identify their suppliers (and potential adverse impacts caused by those suppliers).²²⁵ The OECD Guidelines encourage companies to publicly disclose, rather than withhold, this information about their relationships with suppliers,²²⁶ and, John Ruggie, author of the UN Guiding Principles argues that companies should be transparent about their due diligence processes, because “a main purpose of human rights due diligence is enabling companies to *demonstrate* that they respect rights”.²²⁷ In refusing to be transparent about the names of the mines and mining companies that provide them with coal (except for E.ON, in one specific case), the electricity companies are not fully following the recommendations provided by these standards.

Companies often claim that they have legitimate reasons for not being transparent about their coal supply chain. For example, many companies say that information about the coal mines and mining companies from which they source their coal is “commercially confidential” or “competition-sensitive” and that this prevents them from providing more transparency.²²⁸ However, an analysis of EU competition law reveals that the law cannot be interpreted logically as preventing electricity companies from being transparent about the coal mines and mining companies from which they source their coal. Although the electricity companies often include non-disclosure clauses in their contracts with coal suppliers (which penalise either party to the contract if it publishes the details of the contract), no law exists that requires them to do so. Companies have also claimed that it is “not always possible” to trace the origin of the coal they purchase on the world market because of the complexity and opacity of the coal supply chain.²²⁹ However, relevant international standards make it clear that companies should identify and provide transparency about their supply chain relationships and that the argument, “I don’t know”, is no longer an acceptable excuse. Companies should thus at least disclose information about the coal mines and mining companies with which they have direct, bilateral contracts and the names of coal transport ships that they charter. Furthermore, although the coal supply chain does

²²⁴ Note that DONG Energy provides information on the country of origin of the coal used at its Danish power plants, but since it does not have a power plant in the Netherlands, this information was not taken up in the “Dutch power plant” section of Table 16.

²²⁵ OECD, OECD Guidelines for Multinational Enterprises: 2011 Edition, Chapter II, paragraphs 10 and 12, 25 May 2011, <http://www.oecd.org/document/28/0,3746,en_2649_34889_2397532_1_1_1_1,00.html> (1 December 2011).

²²⁶ OECD, OECD Guidelines for Multinational Enterprises: 2011 Edition, Chapter III, paragraph 3e and Commentary paragraph 33, 25 May 2011, <http://www.oecd.org/document/28/0,3746,en_2649_34889_2397532_1_1_1_1,00.html> (1 December 2011).

²²⁷ J.G. Ruggie, Promotion and Protection of all Human Rights, Civil, Political, Economic, Social and Cultural Rights, including the Right to Development. Human Rights Council. Report of the United Nations Secretary-General’s Special Representative on Human Rights and Transnational Corporations and other Business Enterprises. A/HRC/8/5 – 7 April 2008.

²²⁸ The terms “commercially confidential” and “competition-sensitive” were used in the responses by Vattenfall/Nuon and RWE/Essent, respectively. See above company profiles for elaboration.

²²⁹ Energie-Nederland, Fact Sheet Kolen, no date, <http://www.energie-nederland.nl/wp-content/uploads/2011/01/292_FACT-SHEET-KOLEN.pdf> (2 December 2011).

involve the blending of coal from different mines and countries before it is delivered to the power plant, it is actually highly unlikely that companies would not be able to trace the origin of the coal they use, even if the coal is purchased on the world market. With a bit of effort, SOMO managed to find significantly more information about countries of origin than the electricity companies provide, and examples from other industries²³⁰ reveal that relationships in chains that are much longer and more complex than the coal chain can be identified and disclosed if the companies are inclined to do so.

5.4. Supply chain responsibility

Although none of the electricity companies profiled in this report appears to be fully in line with the OECD Guidelines' recommendations with regard to supply chain transparency, some interesting conclusions can be drawn with regard to other elements of the companies' policy regarding supply chain responsibility.

The OECD Guidelines recommend that companies "encourage...suppliers...to apply principles of responsible business conduct compatible with the Guidelines".²³¹ Most of the electricity companies profiled here do this through some sort of an ethical charter, commitment statement, or code of conduct with which they expect their suppliers to comply. The supplier codes of most companies (e.g. E.ON, Vattenfall/Nuon, RWE/Essent) are based on the principles of the UN Global Compact. In addition to the Global Compact, GDF Suez/Electrabel's supplier policy makes reference to the OECD Guidelines for Multinational Enterprises, ILO standards, and the UN Universal Declaration of Human Rights. EPZ is the only company that does not appear to have a code of conduct for suppliers. The company's procurement documents contain some health and safety requirements and instructions, but neither indicates an interest in broader social and environmental conditions among suppliers, nor do they make reference to any international initiatives or standards for corporate responsibility.

Some of the companies provide slightly more detail about the process by which they attempt to ensure that their suppliers are abiding by their code of conduct. For example, Vattenfall/Nuon indicates that the code of conduct for suppliers was included as part of all new or renegotiated supplier contracts in 2009. GDF Suez/Electrabel requires that all its suppliers sign a CSR Commitment Statement. RWE/Essent has set a target of having at least 95% of the group-wide procurement volume meet internationally-recognised social and environmental standards.

Electricity companies have recently begun to monitor and verify their suppliers' implementation of the code of conduct through audits or site visits at coal mines. Three of the electricity companies (E.ON, Vattenfall/Nuon, and DONG Energy) confirmed that they have conducted third-party audits of coal suppliers. Vattenfall/Nuon asserts that, as of 1 January 2011, 6% of the company's coal suppliers (representing 17.9% of the total quantity of coal used by the company) for its own operations (excluding suppliers of coal that it merely trades) had undergone auditing. E.ON conducted audits of two coal mines in 2010 (one of which was Cerrejón in Colombia and one of which was an unspecified mine in South Africa) and had another two audits planned for 2011, all using independent auditors. RWE/Essent also indicated that it makes periodic visits to coal mines to assess the conditions prevailing there, but did not indicate whether it also conducts independent, third-party audits. Neither GDF Suez/Electrabel nor EPZ indicates whether they conduct any audits or site visits at supplier coal mines. None of the companies provides any transparency regarding the findings, outcomes or results of any audits that they have conducted.

²³⁰ For example, the electronics and garments industries.

²³¹ OECD, OECD Guidelines for Multinational Enterprises: 2011 Edition, Chapter II, paragraph 13, 25 May 2011, <http://www.oecd.org/document/28/0,3746,en_2649_34889_2397532_1_1_1_1,00.html> (16 December 2011).

In some industrial sectors it is common for supplier audits to be made public. One of the best examples in this respect is the garment sector. The US-based Fair Labour Association (FLA) is a non-profit organisation dedicated to ending sweatshop conditions in factories worldwide. The FLA has a code of conduct with principles based on International Labour Organization (ILO) standards. Presently there are 32 brand-name companies participating in the FLA, including some major European brands such as Adidas, Puma, and Hennes & Mauritz (H&M). Each participant subjects its production facilities to unannounced monitoring visits. In 2009, FLA-affiliated companies reported that they sourced from 4,202 factories, totalling over 4 million workers. FLA conducts the external audits, amounting to 120 in 2009, and the results of the audits are published on the FLA website. In addition to the FLA, the EU-focused Fair Wear Foundation also provides a high degree of transparency regarding the results of its audits conducted amongst the suppliers of its members.²³²

Except for DONG Energy,²³³ all of the electricity companies mentioned in this report are taking part in the multi-stakeholder Dutch Coal Dialogue, which aims to improve transparency and social and environmental conditions in the coal supply chain.²³⁴ In addition, all of the companies (including DONG Energy) except for EPZ (DELTA) are participating in the Better Coal Initiative, which is striving for the continuing improvement of the coal supply chain, focusing on coal mines in particular.²³⁵

Unfortunately, neither of these initiatives has led any of the companies to provide any additional transparency on the origin of coal, though it seems like there has been ample time for at least the Dutch Coal Dialogue (initiated one-and-a-half years ago) to have booked some progress on this front.

²³² M. van Opijnen and J. Oldenziel, Responsible Supply Chain Management, April 2011, CREM and SOMO, <http://somo.nl/publications-en/Publication_3655/> (17 January 2012).

²³³ DONG Energy does not operate a coal-fired power plant in the Netherlands so it does not fall under the scope of the Dutch Coal Dialogue.

²³⁴ Energie-Nederland website, "Verantwoord inkopen en winnen van kolen", <<http://www.energie-nederland.nl/nieuws/verantwoord-inkopen-en-winnen-van-kolen/>> (11 November 2011).

²³⁵ Better Coal website, <<http://bettercoal.org/>> (11 November 2011)

6. Conclusions and recommendations

6.1. Conclusions

Based on the analysis and discussion above, the following conclusions can be drawn with regard to each of the study's research questions, listed again here for clarity.

What is the structure of the global coal market and supply chain, and who are the major corporate players involved in the market?

Nearly 700 million tonnes (Mt) of thermal coal is traded internationally each year, destined for use in coal-fired power plants to generate electricity. The global coal supply chain is complex, often involving physical and financial trading of coal by third parties, but it is not as complex or as long as supply chains in other industries, such as the consumer electronics and garment industries. Broadly speaking, four different categories of players involved in the international coal trade can be distinguished by their core business: mining companies (e.g. Anglo American, BHP Billiton, Xstrata, and Rio Tinto), logistics companies (e.g. transport and dock working companies), traders (e.g. Glencore, Deutsche Bank, Goldman Sachs, and several of the utilities), and electric utilities (e.g. E.ON, RWE/Essent, Vattenfall/Nuon).

What role does the Netherlands play in the global coal market, and what are the quantities and the origins of coal flowing into the Netherlands?

Within the Atlantic market, the Netherlands – particularly the Dutch ports of Rotterdam and Amsterdam – represents an important hub and plays a key role in supplying the rest of Europe with coal. A total of 50 Mt of coal entered the Netherlands in 2010, representing approximately 25% of all the coal traded in the Atlantic market in 2010. Dutch power plants only use a fraction of this coal (approximately 9 Mt, or 18%, in 2010). The majority (41 Mt, or 82% in 2010) is re-exported to other European countries such as Germany and France.

The five largest countries of origin of coal that entered the Netherlands in 2011 were Colombia (42%), the United States (16%), Australia (10%), South Africa (8%) and Russia (7%). Although Indonesian coal represented a significant share just a few years ago, no Indonesian coal reached Dutch ports in 2010 or 2011. The importance of South African coal for the Netherlands has also seen a sharp decline in recent years.

A lack of transparency on the part of the energy companies makes it impossible to fully determine the origin of coal imported into the Netherlands to a greater degree of specificity than the country level. Nevertheless, SOMO was also able to determine to some degree the specific mines that supply coal to the Netherlands. For example, at least 3.2 Mt of coal from the Cerrejón mine in Colombia arrived at the Port of Amsterdam in 2010. This represents approximately 24% of all the coal that arrived at the Port of Amsterdam in 2010. SOMO also discovered that coal from the Drummond mine in Colombia is used in the Netherlands, and that Drummond's coal mines in Colombia were the single largest source of coal imported into the Netherlands in the month of November 2011.²³⁶

²³⁶ Coal Americas, "November 2011 Coal Export Statistics", Issue 243, 16 January 2012.

To what degree do the electricity companies operating in the Netherlands provide transparency about the origin of the coal purchased and used in their power plants? Are there differences in the degree of transparency provided by individual electricity companies?

Increasing transparency in the coal supply chain is an important first step toward improving the sub-standard social and environmental conditions at coal mines highlighted in recent media and civil society reports. However, despite a pledge to “improve transparency in the coal supply chain” at the beginning of the Dutch Coal Dialogue,²³⁷ power companies operating in the Netherlands continue to provide only a limited degree of transparency about the origin of the coal they consume. As a result, relying solely on the information provided by the electricity companies, it is still largely impossible to know where the coal used by power companies operating in the Netherlands comes from and whether coal-based electricity consumption in the Netherlands is connected to poor human rights or environmental conditions at specific coal mines in supplier countries like Colombia, South Africa and Russia.

Despite this disheartening general conclusion, there are some interesting similarities and differences in the degree of transparency provided by the various electricity companies. Similarities include:

- None of the companies (except for E.ON in one specific case) provide information about the specific coal mines or mining companies from which they source their coal.
- Most of the companies provide information about the quantity of coal they consume each year, both for the company as a whole and at their Dutch power plant. Exceptions here are GDF Suez/Electrabel, which does not disclose the quantity of coal consumed by the company as a whole, and E.ON, which does not provide information about the quantity of coal used at its Maasvlakte power plant in the Netherlands.²³⁸
- All companies except RWE/Essent are transparent about which Dutch ports are used to import coal to their respective coal-fired power plants.

The starkest difference between the companies lies in the degree of transparency that is provided about the national origin of coal. Although none of the companies provide information about the specific mine or company of origin, as mentioned above, some companies provide information about the country of origin of their overall company-wide coal consumption, and other companies provide information about the country of origin of the coal used in their Dutch power plant. RWE/Essent and DONG Energy²³⁹ are the only companies that are transparent about the country of origin of coal at both the company-wide and the plant level. On the other hand, EPZ (Delta) and Vattenfall/Nuon are the only companies that do not provide information about the country of origin of coal either at the company-wide or the plant level. Somewhat counter-intuitively, GDF Suez/Electrabel provides the most transparency on the origin of coal used in its Dutch power plant (Gelderland), but is the least transparent company when it comes to the origin of its coal at the larger company-wide level.

²³⁷ Dutch Coal Dialogue, “Dutch Coal Dialogue: working on trust and contributing to improvements”, 4 February 2011, <http://www.bothends.org/uploaded_files/Dutch_Coal_Dialogue_February_2011.pdf> (7 December 2011).

²³⁸ All of the electricity companies except EPZ (DELTA) responded to a questionnaire sent by SOMO on the origin of fuels and all companies (including DELTA) reviewed and provided comments on a draft version of their company’s profile.

²³⁹ Note that DONG Energy provides information on the country of origin of the coal used at its Danish power plants, but since it does not have a power plant in the Netherlands, this information was not taken up in the “Dutch power plant” section of Table 16.

The Dutch Coal Dialogue was initiated one-and-a-half years ago with the aim to “improve transparency in the coal supply chain”. Has the general degree of transparency provided by companies increased since the start of the DCD?

The significant lack of transparency provided by the companies has not improved since the start of the DCD in the summer of 2010. The assertion by former Dutch Minister of Foreign Trade Frank Heemskerk that the DCD would increase transparency to such a degree that consumers of electricity in the Netherlands will be able to choose between electricity generated from responsibly and electricity from irresponsibly-mined coal remains unfulfilled.²⁴⁰

Is the degree of coal supply chain transparency provided by electricity companies operating in the Netherlands in line with relevant international standards?

The OECD Guidelines for Multinational Enterprises are a leading internationally recognized standard for responsible business conduct. The OECD Guidelines insist that companies should conduct due diligence to identify, prevent and mitigate potential adverse impacts caused by their suppliers²⁴¹ and encourage companies to publicly disclose, rather than withhold, this information about their relationships with suppliers.²⁴²

The limited level of supply chain transparency provided by the electricity companies profiled in this report suggests that these companies are out of line with the OECD Guidelines. In refusing to be transparent about the names of the mines and mining companies that provide them with coal (except for E.ON, in one specific case), the electricity companies are not fully following the recommendations provided by the Guidelines.

Do electricity companies have legitimate reasons for not providing more transparency regarding their coal supply chain? Specifically: Do European competition laws or rules prevent electricity companies from being transparent about their supply chain relationships and the exact origin of their coal? Is the coal supply chain prohibitively complex for electricity companies to determine for themselves the origin of their coal?

Many companies insist that information about the coal mines and mining companies from which they source their coal is “commercially confidential” or “competition-sensitive” and that this prevents them from providing more transparency.²⁴³ An analysis of EU competition law reveals that the law cannot be interpreted as preventing electricity companies from being transparent about the coal mines and mining companies from which they source their coal. Electricity companies often include so-called ‘non-disclosure clauses’ in their contracts with coal suppliers (which penalise either party to the contract if it publishes the details of the contract). However, there exists no law that requires them to do so. Electricity companies’ insistence that non-disclosure clauses be inserted into contracts with suppliers appears to be largely designed to shield the electricity companies from the public and

²⁴⁰ F. Heemskerk, interviewed by M. Persson, “Interview Frank Heemskerk, Voorzitter Commissie Bloedsteenkolen: ‘Er is een veelbelovend zaadje geplant’”, *Volkscrant*, 1 March 2011, p.24. The quote is translated and paraphrased from the original Dutch.

²⁴¹ OECD, OECD Guidelines for Multinational Enterprises: 2011 Edition, Chapter II, paragraphs 10 and 12, 25 May 2011, <http://www.oecd.org/document/28/0,3746,en_2649_34889_2397532_1_1_1_1,00.html> (1 December 2011).

²⁴² OECD, OECD Guidelines for Multinational Enterprises: 2011 Edition, Chapter III, paragraph 3e and Commentary paragraph 33, 25 May 2011, <http://www.oecd.org/document/28/0,3746,en_2649_34889_2397532_1_1_1_1,00.html> (1 December 2011).

²⁴³ The terms “commercially confidential” and “competition-sensitive” were used in the responses by Vattenfall/Nuon and RWE/Essent, respectively. See above company profiles for elaboration.

political fall-out that may arise should any human rights or environmental atrocities occur at mines from which they source their coal.

Companies have also claimed that it is “not always possible” to trace the origin of the coal they purchase on the world market because of the complexity and opacity of the coal supply chain.²⁴⁴ However, international standards such as the OECD Guidelines for Multinational Enterprises and the UN Guiding Principles on Business and Human Rights insist that companies must conduct due diligence to identify all of the suppliers in their supply chain and the potential risks associated with those suppliers. The old response, “I don’t know who my suppliers are” is thus no longer an acceptable excuse. Even without digging too deep into the supply chain, companies could at least disclose information about the coal mines and mining companies with which they have direct, bilateral contracts and the names of coal transport ships that they charter. Furthermore, although the coal supply chain does involve the blending of coal from different mines and countries before it is delivered to the power plant, it is actually highly unlikely that companies would not be able to trace the origin of the coal they use, even if the coal is purchased on the world market. With a bit of effort, SOMO managed to find significantly more information about countries of origin than the electricity companies provide, and examples from other industries²⁴⁵ reveal that relationships in chains that are much longer and more complex than the coal chain can be identified and disclosed if the companies are inclined to do so.

6.2. Recommendations for improving transparency in the coal supply chain

- Recommendations for electricity companies:
 - In line with the OECD Guidelines and the UN Guiding Principles on Business and Human Rights, conduct due diligence to identify all suppliers and the potential social and environmental impacts associated with their activities and publicly disclose this information. Companies should at least disclose information about the coal mines and mining companies with which they have direct, bilateral contracts and the names of coal transport ships that they themselves charter.
 - Engage genuinely and meaningfully with the civil society organisations participating in the Dutch Coal Dialogue (DCD), and use the DCD as a platform to improve performance on supply chain transparency and responsibility.
 - In contracts with suppliers, include a clause that emphasises the importance of transparency and disclosure with regard to the business relationship rather than demanding strict non-disclosure.
 - Conduct periodic audits of all suppliers, ensuring that audits are conducted by independent, third-party auditors, work in collaboration with local NGOs and unions. Be transparent about the results of the audits.
 - Develop a supply chain responsibility policy or supplier code of conduct that recognises the importance of supply chain transparency and references the relevant international standards on transparency.

²⁴⁴ Energie-Nederland, Fact Sheet Kolen, no date, <http://www.energie-nederland.nl/wp-content/uploads/2011/01/292_FACT-SHEET-KOLEN.pdf> (2 December 2011).

²⁴⁵ For example, the electronics and garments industries.

- Recommendations for the Dutch government:
 - Ensure that the OECD Guidelines for Multinational Enterprises are implemented and that Dutch companies and other multinationals active in the Netherlands are operating in line with the Guidelines.
 - In order to do so, develop and implement legislation that requires electricity companies to disclose information about their supply chain, including disclosing and reporting regularly on their suppliers and the origin of their raw materials.
 - Insist that companies identify, prevent, and mitigate potential adverse impacts caused by suppliers and that companies be transparent about their management processes designed to do so.

- Recommendations for the European Commission:

Given the fact that most of the electricity companies included in this report are multinational corporations that are active in multiple European countries and the fact that the ports of Amsterdam and Rotterdam serve as an important coal import hub not just for the Netherlands but for the whole of north-western Europe, it is crucial that the European Commission take up the issue of transparency in the coal supply chain. The European Commission should ensure that legislation, such as that currently being drafted by the Directorate General for Internal Markets on non-financial disclosure, includes requirements related to supply chain transparency. For example,

 - Require large enterprises to disclose information on their supply chain and CSR-issues (e.g. labour rights, human rights, the environment) and their management of the supply chain (including their processes for conducting due diligence).
 - Require traceability throughout supply chains.
 - Introduce right to information for consumers and civil society organisations regarding the origin of key raw materials and conditions of production.

- Recommendations to consumers of electricity in the Netherlands, including large industrial consumers and the Dutch government as a consumer of electricity:
 - Urge your electricity supplier to take their supply chain responsibility seriously and provide more transparency into the origin of their raw materials. The Dutch government, in its role as a large consumer of electricity, should lead by example and apply sustainability criteria to its procurement of electricity. This includes requiring companies contracted to provide electricity to be transparent about their supply chain.

Annex 1: List of vessels with coal as cargo entering the Port of Amsterdam in 2009-2010

Year	Vessel name	Country of origin	Tonnage
2009	ADMIRAL USHAKOV	Russia	21,604
2009	ALAM PADU	Germany	70,224
2009	ALAM PADU	USA	67,037
2009	ALAM PENTING	USA	81,275
2009	AQUAMARINE	Colombia	171,168
2009	ALDEBARAN	Estonia	1,764
2009	ALDEBARAN	Estonia	2,990
2009	ALDEBARAN	Estonia	2,687
2009	CAPE GARLAND	Colombia	169,697
2009	CAPE FUSHEN	Colombia	169,242
2009	AMADEUS	United Kingdom	2,146
2009	AMNY DOLLARD	Iceland	3,190
2009	ANATOLIY LYAPIDEVSKIY	Russia	17,804
2009	ANATOLIY LYAPIDEVSKIY	Russia	18,264
2009	ANETTE	United Kingdom	1,600
2009	ANNE-S	Estonia	3,030
2009	ANNE-S	Estonia	3,030
2009	ANNE-S	Lithuania	2,300
2009	ANNE-S	Latvia	2,950
2009	ANNE-S	Estonia	2,775
2009	CSK FORTUNE	Colombia	168,995
2009	CHINA STEEL RESPONSIBILITY	Colombia	164,770
2009	CHINA STEEL RESPONSIBILITY	Colombia	163,612
2009	ROYAL ACCORD	Colombia	163,599
2009	ROYAL ACCORD	Colombia	162,147
2009	ARCHON	USA	72,503
2009	ARIELLA	Spain	30,002
2009	ARIS T	USA	81,969
2009	ARKLOW FORTUNE	United Kingdom	4,201
2009	ARKLOW FREEDOM	Ireland	4,197
2009	ARKLOW ROGUE	United Kingdom	4,138
2009	ARKLOW ROVER	United Kingdom	4,182
2009	ATLANTIC BREEZE	Latvia	57,567
2009	AURIGA	Germany	7,236
2009	BACCARA	Ireland	3,895
2009	BACCARA	Iceland	3,200

2009	BAHIA BLANCA	Poland	65,602
2009	BELLATRIX	Latvia	57,104
2009	BELMONTE	Poland	55,027
2009	BET INTRUDER	Latvia	55,601
2009	BET INTRUDER	Latvia	60,516
2009	BET INTRUDER	Lithuania	60,449
2009	CAPE APRICOT	Colombia	161,631
2009	BRUNHILDE SALAMON	Poland	55,000
2009	C. SUMMIT	Indonesia	115,420
2009	CONSTANTIA	Colombia	161,159
2009	CHIN SHAN	Colombia	160,769
2009	MONA PEGASUS	Colombia	160,056
2009	MONA PEGASUS	Colombia	160,040
2009	TAIJU	Colombia	159,745
2009	AQUAGRACE	Colombia	159,051
2009	OCEAN COMMANDER	Colombia	157,577
2009	MINERAL CAPEASIA	Colombia	157,342
2009	CAROL	Russia	60,285
2009	CAROLIN G	France	3,512
2009	CASSANDRA	Germany	7,311
2009	CASSANDRA	Colombia	157,338
2009	AQUAGLORY	Colombia	156,076
2009	HEYTHROP	Colombia	151,129
2009	CHINA FORTUNE	Colombia	145,819
2009	CHRISTA	Estonia	2,117
2009	CIMBRIA	United Kingdom	7,021
2009	CLIPPER MERMAID	Russia	25,920
2009	CLIPPER SUFFOLK	Russia	66,349
2009	CLIPPER SUFFOLK	Russia	76,167
2009	CAPE MERLIN	Colombia	145,139
2009	CREDO	Russia	19,880
2009	CREMONA	United Kingdom	7,220
2009	CREMONA	United Kingdom	7,212
2009	CREMONA	United Kingdom	7,250
2009	CS MANATEE	Russia	25,533
2009	CS MANATEE	Colombia	143,112
2009	CS MANATEE	Colombia	141,317
2009	CAPE BALTIC	Colombia	137,253
2009	DANAE	Russia	70,354
2009	DARIN NAREE	Estonia	29,035
2009	DEFENDER	United Kingdom	1,595
2009	DELFIN	Poland	3,486
2009	DOUBLE REJOICE	Russia	65,505

2009	DURRINGTON	Germany	11,670
2009	DYNA BULK	Norway	3,101
2009	ETERNAL SALUTE	USA	77,056
2009	ETERNAL SALUTE	USA	82,440
2009	FESCO ANGARA	Russia	34,536
2009	FESCO ANGARA	Russia	34,480
2009	FLINTERLINGE	United Kingdom	2,914
2009	FLORAL LAKE	Poland	45,086
2009	FRISIAN LADY	Germany	4,637
2009	FRONTIER	Russia	107,650
2009	FU KANG	USA	67,575
2009	OCEAN CYGNUS	Colombia	135,056
2009	OCEAN CYGNUS	Russia	68,955
2009	GENERAL GROT-ROWECKI	Latvia	36,301
2009	GENERAL GROT-ROWECKI	Russia	30,376
2009	GLOBAL HELIOS	Egypt	6,119
2009	GOOD HOPE MAX	Latvia	71,605
2009	GRAND MARKELA	Russia	64,877
2009	GRAND MARKELA	Russia	66,966
2009	GRAND MARKELA	Russia	69,848
2009	GRAND MARKELA	Russia	66,265
2009	GRAND MARKELA	Colombia	135,004
2009	GREAT JADE	Latvia	54,871
2009	GRIGORIY ALEKSANDROV	Russia	23,366
2009	GRIGORIY ALEKSANDROV	Russia	23,393
2009	GRIGORIY ALEKSANDROV	Netherlands	23,477
2009	HANG TA	Russia	69,418
2009	HANG TA	Russia	71,500
2009	HESTIA	Norway	2,200
2009	CHINA STEEL EXCELLENCE	Colombia	129,900
2009	IGNACY DASZYNSKI	Russia	28,758
2009	IGNACY DASZYNSKI	Russia	31,738
2009	INVIKEN	Russia	25,008
2009	IRON BILL	USA	75,550
2009	IRON FUZEYYA	Russia	61,428
2009	IRON MANOLIS	Russia	76,930
2009	IRYDA	Russia	32,554
2009	IVAN SUSANIN	Russia	22,316
2009	JIMILTA II	Spain	35,502
2009	JIN PU HAI	Ukraine	66,352
2009	KAPITAN GEORGI GEORGIEV	Russia	22,715

2009	KAPITAN KUDLAY	Russia	17,499
2009	KAPITAN KUDLAY	Russia	17,613
2009	KAPITAN KUDLAY	Russia	17,755
2009	KAPITAN KUDLAY	Latvia	18,491
2009	KAPITAN NAZAREV	Russia	17,606
2009	KAPITAN NAZAREV	Russia	18,043
2009	KAPITAN VODENKO	Russia	18,049
2009	KARINA G	United Kingdom	3,387
2009	KATERINA WARRIOR	South Africa	163,022
2009	KHUDOZHNIK KRAYNEV	Russia	22,100
2009	KHUDOZHNIK KRAYNEV	Russia	23,300
2009	KHUDOZHNIK KRAYNEV	Russia	23,704
2009	KORSIKA	Poland	3,844
2009	KT VENTURE	USA	49,499
2009	KUZMA MININ	Russia	21,565
2009	KUZMA MININ	Russia	20,883
2009	KUZMA MININ	Russia	21,503
2009	KUZMA MININ	Latvia	22,001
2009	LADY MENNA	Estonia	2,337
2009	LADY NONA	Estonia	2,002
2009	LADY NONA	Estonia	1,870
2009	LADY NONA	Estonia	1,486
2009	LADY NONA	Estonia	1,986
2009	LADY NONA	Estonia	1,728
2009	LADY NOVA	Lithuania	1,970
2009	LADY NOVA	Estonia	1,028
2009	LADY NOVA	Estonia	1,300
2009	LAMMY	Estonia	2,560
2009	LAMMY	Estonia	2,600
2009	LAMMY	Estonia	2,340
2009	LAMMY	Estonia	1,800
2009	LAMMY	Estonia	2,770
2009	LEIRO	Norway	1,956
2009	LEONID SOBOLEV	Russia	21,609
2009	LEONID SOBOLEV	Russia	20,458
2009	LEONID SOBOLEV	Russia	22,675
2009	LORD HINTON	United Kingdom	19,673
2009	LORD HINTON	United Kingdom	18,834
2009	LORD HINTON	United Kingdom	18,437
2009	LORD HINTON	United Kingdom	19,321
2009	LORD HINTON	United Kingdom	19,135
2009	LORD HINTON	United Kingdom	19,492
2009	LORD HINTON	United Kingdom	19,615

2009	LORD HINTON	United Kingdom	19,528
2009	LORD HINTON	United Kingdom	20,105
2009	LORD HINTON	United Kingdom	22,037
2009	LORD HINTON	United Kingdom	20,210
2009	LORD HINTON	United Kingdom	20,318
2009	LOWLANDS CAMELLIA	USA	72,905
2009	LOWLANDS CAMELLIA	Poland	71,263
2009	LOWLANDS CAMELLIA	Russia	69,032
2009	MAGANARI	Russia	71,579
2009	MAGDA	South Africa	68,784
2009	MAJOR HUBAL	Russia	28,434
2009	MARE	Estonia	2,351
2009	MARE	Estonia	2,680
2009	MARE	Estonia	2,550
2009	MARE	Estonia	2,250
2009	MARE	Estonia	2,500
2009	MARE	Estonia	2,050
2009	MARE	Estonia	1,885
2009	MASS GLORY	USA	66,024
2009	MAUD	USA	74,513
2009	MAZURY	Germany	35,373
2009	MED SALVADOR	Russia	29,532
2009	MEDI VITORIA	USA	72,289
2009	MEMEL	Poland	3,974
2009	MERLE	United Kingdom	3,289
2009	MIKHAIL STREKALOVSKIY	Russia	21,273
2009	MILIN KAMAK	Estonia	24,800
2009	ALPHA PRUDENCE	Colombia	128,771
2009	CSK BEILUN	Colombia	128,482
2009	CAPE CAMELLIA	Colombia	126,160
2009	MONICA P	Venezuela	43,220
2009	MURMANSK	Latvia	30,193
2009	MYRAAS	Norway	1,803
2009	NORD-ENERGY	Colombia	126,089
2009	NAJADEN	Sweden	4,050
2009	NAJADEN	Sweden	4,070
2009	NAVIOS HYPERION	Russia	59,258
2009	NESTOR	Norway	1,560
2009	NICHIHO MARU	Indonesia	110,661
2009	WAH SHAN	Colombia	124,893
2009	SKS MOSEL	Colombia	114,787
2009	NIKOMARIN	Russia	62,385

2009	NOORDERKROON	United Kingdom	4,011
2009	NORA	Estonia	1,739
2009	NORA	Estonia	1,200
2009	NORA	Estonia	2,033
2009	NORD POWER	Indonesia	165,008
2009	NORD POWER	Colombia	113,657
2009	NORDELBE	Russia	70,911
2009	CSK GLORY	Colombia	113,263
2009	CSK GLORY	Colombia	107,856
2009	CAPE ORCHID	Colombia	106,225
2009	NORHOLM	Norway	4,524
2009	NORNE	Netherlands	3,961
2009	NORSUND	Norway	3,531
2009	NORTH PRINCESS	United Kingdom	67,268
2009	NORTH PRINCESS	Russia	65,181
2009	NORTHERN LIGHT	Russia	27,135
2009	NORTHERN LIGHT	Russia	27,353
2009	OBELIX BULKER	USA	67,081
2009	OBELIX BULKER	Russia	62,932
2009	SKS TRENT	Colombia	103,423
2009	SKS TANA	Colombia	103,052
2009	SKS TUGELA	Colombia	86,935
2009	OCEANIC BREEZE	Russia	70,554
2009	PRIGIPOS	Colombia	82,693
2009	OSLO	Ireland	3,663
2009	PACIFIC VIGOROUS	Russia	41,683
2009	PAVEL VAVILOV	Russia	21,871
2009	PAVEL VAVILOV	Russia	21,809
2009	PAVEL VAVILOV	Russia	21,865
2009	PEDHOULAS LEADER	Colombia	75,436
2009	PETR VELIKIY	Russia	21,562
2009	PFS NARAYANA	Russia	44,776
2009	POMORYE	Russia	20,098
2009	PONTONIKIS	South Africa	65,966
2009	PRABHU YUVIKA	USA	73,737
2009	PRABHU YUVIKA	Colombia	72,000
2009	PRUVA	Russia	70,894
2009	PRUVA	Russia	69,460
2009	PRUVA	Russia	71,703
2009	QUEEN LILY	USA	65,125
2009	RED JASMINE	USA	70,427
2009	RMS LAGONA	Ireland	1,216
2009	RMS RAHM	Germany	2,290

2009	RMS RHENUS	United Kingdom	2,457
2009	MINING STAR	Colombia	71,242
2009	RUBIN POWER	Russia	67,192
2009	S. NICOLE	Latvia	72,643
2009	SARANYA NAREE	Russia	27,066
2009	SARDINIA	Poland	3,830
2009	SEA EAGLE	United Kingdom	2,034
2009	SEA HAWK	United Kingdom	2,770
2009	SEA HUNTER	United Kingdom	2,086
2009	SEA MITHRIL	United Kingdom	1,955
2009	SEA RUBY	United Kingdom	1,941
2009	SEAPOWET	Russia	55,615
2009	SEAPOWET	Russia	66,877
2009	SEAWIND	USA	70,788
2009	SEAWIND	Russia	66,661
2009	SIR CHARLES PARSONS	United Kingdom	19,273
2009	SIR CHARLES PARSONS	United Kingdom	19,501
2009	SIR CHARLES PARSONS	United Kingdom	19,056
2009	SIR CHARLES PARSONS	United Kingdom	19,696
2009	SIR CHARLES PARSONS	United Kingdom	19,673
2009	SIR CHARLES PARSONS	United Kingdom	19,566
2009	SIR CHARLES PARSONS	United Kingdom	19,767
2009	SIR CHARLES PARSONS	United Kingdom	19,218
2009	SIR CHARLES PARSONS	United Kingdom	18,234
2009	SIR CHARLES PARSONS	United Kingdom	19,143
2009	SIR CHARLES PARSONS	United Kingdom	22,079
2009	SIR CHARLES PARSONS	United Kingdom	19,706
2009	SIR CHARLES PARSONS	United Kingdom	21,951
2009	GREAT AMBITION	Colombia	70,574
2009	MYRTO	Colombia	68,604
2009	SKS TYNE	Colombia	68,533
2009	GAURI PREM	Colombia	67,600
2009	GAURI PREM	Colombia	67,502
2009	SPARNA	Russia	49,556
2009	SPARNA	Russia	49,990
2009	STAR OF EMIRATES	USA	76,489
2009	STORRINGTON	Germany	11,516
2009	SUNLIGHT OCEAN	USA	75,028

2009	SUNNANHAV	United Kingdom	7,742
2009	SUNNANHAV	United Kingdom	7,874
2009	SUNNANHAV	United Kingdom	8,041
2009	SUNNANHAV	United Kingdom	7,882
2009	SUNNANHAV	United Kingdom	8,102
2009	SUNNANHAV	United Kingdom	8,431
2009	SUNNANHAV	United Kingdom	8,098
2009	SUNNANHAV	United Kingdom	8,281
2009	SUNNANHAV	United Kingdom	8,188
2009	SUURHUSEN	United Kingdom	3,924
2009	SWE-BULK	Estonia	1,620
2009	TAI PROSPERITY	South Africa	67,997
2009	BISON	Colombia	67,453
2009	TIM BUCK	Russia	17,925
2009	TIM BUCK	Latvia	16,652
2009	TIM BUCK	Russia	18,609
2009	TOLMIN	Poland	7,083
2009	TORPO	Poland	3,299
2009	TRANS ODIN	Sweden	986
2009	TRIDENT ENDEAVOR	Russia	57,329
2009	TULOMA	Latvia	28,474
2009	ULRIKE G.	United Kingdom	3,701
2009	VIKTOR TKACHYOV	Russia	17,714
2009	VIKTOR TKACHYOV	Russia	17,843
2009	VIKTOR TKACHYOV	Russia	17,597
2009	VIRGINIABORG	Germany	8,755
2009	VOLGOBALT 107	Estonia	2,400
2009	VOLGO-BALT 230	Estonia	2,634
2009	ALKAIOS	Colombia	50,390
2009	WILSON ABERDEEN	Norway	3,131
2009	WILSON AVEIRO	Norway	3,092
2009	WILSON AVILES	Iceland	3,100
2009	WILSON AYR	Poland	3,022
2009	WILSON BILBAO	Norway	2,730
2009	WILSON BLYTH	Norway	1,598
2009	WILSON CADIZ	Iceland	2,798
2009	WILSON CADIZ	Iceland	3,016
2009	WILSON CALAIS	Denmark	3,831
2009	WILSON DOVER	Poland	3,035
2009	WILSON DVINA	Poland	3,065
2009	WILSON GAETA	Iceland	3,205
2009	WILSON GDANSK	Iceland	3,195
2009	WILSON GHENT	Norway	3,127

2009	WILSON GIJON	Iceland	3,286
2009	WILSON GOOLE	Poland	3,162
2009	WILSON GRIMSBY	Norway	3,001
2009	WILSON HERON	Poland	3,996
2009	WILSON HERON	Poland	3,873
2009	WILSON HULL	Poland	3,623
2009	WILSON HULL	United Kingdom	3,890
2009	WILSON HULL	Poland	3,791
2009	WILSON LEER	Norway	2,809
2009	WILSON LEER	Norway	3,049
2009	WILSON LEITH	Norway	3,343
2009	WILSON LEITH	Iceland	3,223
2009	WILSON MAIN	Norway	1,383
2009	WILSON MOSEL	Norway	1,600
2009	WILSON ROUEN	United Kingdom	3,923
2009	WILSON SKY	Poland	3,826
2009	WILSON SKY	Poland	3,819
2009	WILSON TANA	Ireland	6,874
2009	WILSON TEES	Iceland	3,296
2009	YARRAWONGA	Latvia	41,809
2009	YARRAWONGA	Poland	55,139
2009	YUTAI AMBITIONS	USA	72,724
2009	ZIEMIA ZAMOJSKA	United Kingdom	24,274
2009	ZIEMIA ZAMOJSKA	United Kingdom	22,156
2009	ZOITSA	Latvia	25,201
2010	LEO FELICITY	Colombia	183,564
2010	CAPE GARLAND	Colombia	170,300
2010	CAPE APRICOT	Colombia	170,114
2010	HEROIC	Colombia	169,030
2010	BULK INDIA	Colombia	168,894
2010	BULK INDIA	Colombia	168,612
2010	STELLA	South Africa	166,418
2010	NAVIOS STELLAR	Colombia	166,300
2010	CAPE GARLAND	Colombia	165,665
2010	NAVIOS STELLAR	Colombia	165,263
2010	E. R. BAYONNE	Colombia	165,038
2010	CHRISTINE	Colombia	165,003
2010	GRACEFUL MADONNA	Colombia	163,897
2010	CAPE BRITANNIA	Colombia	163,579
2010	CAPE GARLAND	Colombia	163,286
2010	CHINA STEEL RESPONSIBILITY	Colombia	163,261
2010	CAPE BRITANNIA	Colombia	163,039
2010	CAPE GARLAND	Colombia	162,970

2010	STX NOBLE	Colombia	162,201
2010	OCEAN COSMOS	Colombia	160,919
2010	CAPE TAVOR	Colombia	160,740
2010	KOHJU	Colombia	160,377
2010	CORINTHIAN PHOENIX	Colombia	160,356
2010	CE-ALLIANCE	Colombia	159,803
2010	KWK GENESIS	Colombia	159,552
2010	SONIA	Colombia	159,465
2010	CE-ALLIANCE	Colombia	159,419
2010	KANARIS	Colombia	158,951
2010	OCEAN CRESCENT	Colombia	158,337
2010	PARTAGAS	Colombia	158,032
2010	MAHA ANOSHA	Colombia	157,683
2010	MINERAL CAPEASIA	Colombia	157,402
2010	CAPE EAGLE	Colombia	154,261
2010	IRON QUEEN	Colombia	152,357
2010	CAROUGE	South Africa	146,505
2010	ALPHA ACTION	Colombia	144,497
2010	CAPE OCEANIA	Colombia	142,170
2010	CECILIA	Colombia	136,234
2010	AQUAPRINCESS	Colombia	135,057
2010	BIANCO ID	Belgium	127,825
2010	BIANCO ID	Russia	123,125
2010	SKS MERSEY	Colombia	114,166
2010	SKS MERSEY	Colombia	114,065
2010	CAPE GARLAND	Colombia	88,299
2010	ITALIC G	USA	82,595
2010	KESARIA	Argentina	76,995
2010	YARRAWONGA	United Kingdom	76,633
2010	SAKONNET	Argentina	76,269
2010	TORM SALTHOLM	USA	75,938
2010	HONG JING	USA	75,933
2010	BILLION TRADER	Latvia	75,793
2010	YASA FORTUNE	Latvia	75,500
2010	MBA FUTURE	Poland	75,320
2010	TORM ISLAND	Latvia	75,241
2010	KM MT. JADE	Latvia	74,405
2010	IRON MANOLIS	Latvia	74,364
2010	STAR OF EMIRATES	Russia	74,361
2010	ERICA	USA	73,887
2010	GRAIN EXPRESS	Colombia	73,249
2010	TAI PROGRESS	Russia	73,095
2010	SAMJOHN AMITY	Poland	72,886

2010	MIHO PRACAT	Latvia	72,652
2010	RED SETO	Poland	72,601
2010	MULBERRY WILTON	Russia	72,573
2010	ACHILLES	Latvia	72,351
2010	HANG TA	Russia	72,086
2010	OSMARINE	Lithuania	71,773
2010	NAVIOS CIELO	Latvia	71,531
2010	NAVIOS ESPERANZA	Latvia	71,064
2010	NORDELBE	Russia	70,966
2010	NAVIOS ESPERANZA	Latvia	70,827
2010	ISMINAKI	Philippines	70,768
2010	ISMINAKI	Estonia	70,702
2010	NAVIOS ESPERANZA	Russia	70,661
2010	NYON	Latvia	70,647
2010	NORDELBE	Russia	70,604
2010	NORDMOSEL	Russia	70,126
2010	GENCO KNIGHT	Colombia	69,858
2010	DEEP SEAS	USA	69,625
2010	LORD BYRON	Russia	69,188
2010	ORLETA LWOWSKIE	Russia	69,138
2010	HANG TA	Russia	69,117
2010	MIHO PRACAT	Russia	68,500
2010	ROGER M JONES	USA	68,008
2010	NYON	Latvia	67,483
2010	MIHO PRACAT	Russia	67,310
2010	BET INTRUDER	Latvia	67,303
2010	TAI CHANG	Russia	67,209
2010	TAI PROGRESS	Poland	66,806
2010	ANTONIS G. PAPPADAKIS	Russia	66,397
2010	UNITED CHALLENGER	Morocco	66,213
2010	BIANCO ID	Russia	65,801
2010	NORD MERCURY	Germany	65,625
2010	SAMJOHN AMITY	Russia	63,028
2010	FULL STRONG	Germany	62,999
2010	NORDTRAVE	Germany	62,496
2010	NORDELBE	Morocco	61,852
2010	CAPE AWOBA	Colombia	60,315
2010	SILVER DRAGON	Estonia	59,997
2010	MIHO PRACAT	Russia	59,825
2010	DARYA MOTI	Latvia	59,792
2010	MIHO PRACAT	Russia	59,634
2010	LORD BYRON	Russia	59,624
2010	HUI PING	Russia	59,579

2010	ZAGREB	Russia	59,539
2010	MEDI SINGAPORE	Latvia	59,276
2010	ZAGREB	Russia	58,766
2010	ZAGREB	Russia	58,627
2010	ROGER M JONES	Russia	58,598
2010	MAHITIS	Russia	58,540
2010	ZAGREB	Russia	58,536
2010	SERENATA	Russia	58,508
2010	BIANCO ID	Latvia	58,501
2010	GRAND DIVA	Latvia	58,496
2010	MIHO PRACAT	Russia	58,422
2010	NORDPOL	Latvia	57,507
2010	CITY OF DUBROVNIK	Russia	57,113
2010	LORD BYRON	Latvia	56,799
2010	NORDEMS	Latvia	56,756
2010	NORDEMS	Latvia	56,746
2010	ROGER M JONES	Russia	55,460
2010	CORONADO	Latvia	55,201
2010	GOLDEN OPPORTUNITY	Latvia	54,768
2010	PETKA	Latvia	54,595
2010	F. D. VITTORIO RAIOLA	Venezuela	53,702
2010	FULL STRONG	Venezuela	52,833
2010	DAPENGHAI	China	47,841
2010	RADONEZH	Latvia	39,499
2010	HEMUS	Latvia	39,126
2010	RADONEZH	Lithuania	38,930
2010	KIRAN PACIFIC	Latvia	35,399
2010	FEDERAL HUNTER	Russia	34,532
2010	FEDERAL WELLAND	Latvia	34,452
2010	ALGOMA SPIRIT	Russia	32,942
2010	BATALIONY CHLOPSKIE	Russia	32,909
2010	GLOBAL SANTOSH	Germany	32,512
2010	IGNACY DASZYNSKI	Russia	32,041
2010	DIONE	USA	31,662
2010	HAMBURG GOAL	Russia	31,451
2010	STANISLAW KULCZYNSKI	Latvia	31,363
2010	PUMA	Latvia	30,903
2010	PUMA	Lithuania	30,550
2010	PUMA	Estonia	30,291
2010	MED SALVADOR	Latvia	30,002
2010	MED SALVADOR	Russia	29,404
2010	UTVIKEN	Latvia	27,919

2010	UTVIKEN	Russia	27,555
2010	UTVIKEN	Russia	26,177
2010	VINALINES FORTUNA	Russia	25,432
2010	ZIEMIA CHELMINSKA	Russia	25,309
2010	ROJEN	Latvia	24,723
2010	KHUDOZHNIK KRAYNEV	Russia	23,833
2010	KALIAKRA	Russia	23,648
2010	ROJEN	Estonia	23,517
2010	RODOPI	Estonia	23,423
2010	LEMESHEV	Russia	23,406
2010	GRIGORIY ALEKSANDROV	Russia	23,403
2010	KHUDOZHNIK KRAYNEV	Latvia	22,821
2010	ROJEN	Estonia	22,554
2010	PETR VELIKIY	Latvia	22,423
2010	IVAN SUSANIN	Russia	22,336
2010	ADMIRAL USHAKOV	Russia	22,085
2010	ADMIRAL USHAKOV	Russia	22,034
2010	GRUMANT	Russia	21,971
2010	PETR VELIKIY	Russia	21,894
2010	ADMIRAL USHAKOV	Russia	21,871
2010	ALEKSANDR SUVOROV	Russia	21,821
2010	KUZMA MININ	Russia	21,815
2010	ADMIRAL USHAKOV	Russia	21,731
2010	NOVAYA ZEMLYA	Russia	21,702
2010	POMORYE	Russia	21,640
2010	PAVEL VAVILOV	Russia	21,610
2010	MIKHAIL STREKALOVSKIY	Russia	21,599
2010	MIKHAIL STREKALOVSKIY	Russia	21,583
2010	MIKHAIL STREKALOVSKIY	Russia	20,643
2010	TRANSOSPREY	Russia	19,805
2010	TRANSOSPREY	Russia	19,729
2010	LORD HINTON	United Kingdom	19,446
2010	TIM BUCK	Denmark	18,430
2010	KAPITAN VAKULA	Denmark	18,399
2010	KAPITAN KUDLAY	Denmark	18,131
2010	KAPITAN BOCHEK	Denmark	18,098
2010	ANATOLIY LYAPIDEVSKIY	Russia	17,866
2010	ANATOLIY LYAPIDEVSKIY	Russia	17,780
2010	OCEAN VITA	Turkey	15,875
2010	CLIO	China	10,991
2010	REMO	Russia	7,806

2010	CATALINA	Latvia	7,233
2010	ZUIDERDIEP	Egypt	7,149
2010	CIMBRIA	Germany	7,054
2010	CASSANDRA	Poland	7,020
2010	SCL NICOLE	Germany	6,947
2010	CLARA	Poland	6,940
2010	CLARA	Germany	6,904
2010	CASSANDRA	Germany	6,874
2010	MEDONEGA	Poland	6,361
2010	EMSMOON	Poland	5,833
2010	APOLLO FALCON	Ireland	5,589
2010	NOVA CURA	France	5,386
2010	TRANSFALCON	Sweden	5,110
2010	ARKLOW FAME	United Kingdom	4,246
2010	ARKLOW FLAIR	United Kingdom	4,218
2010	ARKLOW RAMBLER	United Kingdom	4,214
2010	ARKLOW FAME	United Kingdom	4,137
2010	ARKLOW FLAIR	United Kingdom	4,122
2010	KAAMI	United Kingdom	4,093
2010	UNION DIAMOND	Ireland	4,069
2010	FLINTERJUTE	United Kingdom	4,043
2010	WILSON MERSIN	Norway	4,030
2010	BERTHOLD K	Ireland	4,022
2010	UNION DIAMOND	Ireland	4,001
2010	MEMEL	Norway	3,997
2010	WILSON HAWK	United Kingdom	3,969
2010	DMITRY VARVARIN	Denmark	3,968
2010	KAAMI	United Kingdom	3,945
2010	FAUST	United Kingdom	3,934
2010	WILSON HULL	Poland	3,928
2010	WILSON HOLM	United Kingdom	3,920
2010	WILSON CALAIS	Ireland	3,917
2010	WILSON SKY	United Kingdom	3,885
2010	TALLIN	Ireland	3,875
2010	WILSON HAWK	Norway	3,852
2010	SUURHUSEN	United Kingdom	3,845
2010	WILSON CORK	United Kingdom	3,819
2010	BACCARA	Norway	3,811
2010	WILSON HORN	Norway	3,803
2010	A. B. VALENCIA	Spain	3,771
2010	WILSON SKY	Poland	3,700
2010	WILSON HULL	Norway	3,692
2010	HELSINKI	Norway	3,613

2010	BIRGIT G.	United Kingdom	3,603
2010	CAPELLA	United Kingdom	3,592
2010	AERANDIR	Spain	3,591
2010	WILSON HOOK	Poland	3,546
2010	AERANDIR	Spain	3,538
2010	CLARE CHRISTINE	Spain	3,503
2010	SARDINIA	Czech Republic	3,501
2010	WILSON CAEN	Czech Republic	3,498
2010	CAROLIN G	United Kingdom	3,477
2010	MEMEL	Czech Republic	3,468
2010	WILSON BILBAO	Iceland	3,400
2010	WILSON BILBAO	Norway	3,359
2010	WILSON BREMEN	Denmark	3,327
2010	WILSON BORG	Norway	3,316
2010	WILSON GRIP	Norway	3,308
2010	TORPO	Denmark	3,306
2010	FEHN SIRIUS	United Kingdom	3,303
2010	NORSUND	Norway	3,297
2010	WILSON GRIP	Norway	3,291
2010	WILSON HUMBER	Poland	3,277
2010	WILSON LISTA	Norway	3,267
2010	WILSON GHENT	United Kingdom	3,262
2010	WILSON BREST	Norway	3,254
2010	WILSON BRAKE	Netherlands	3,250
2010	WILSON GHENT	Poland	3,216
2010	HEINRICH G.	United Kingdom	3,212
2010	WILSON GRIP	Norway	3,206
2010	WILSON AYR	Norway	3,197
2010	WILSON BRUGGE	Norway	3,186
2010	WILSON GOOLE	Iceland	3,185
2010	KOSSAU	United Kingdom	3,183
2010	WILSON GRIP	Norway	3,179
2010	WILSON AVILES	Norway	3,177
2010	WILSON TEES	Poland	3,174
2010	WILSON ABERDEEN	Iceland	3,167
2010	WILSON HOLM	Norway	3,159
2010	WILSON GRIP	Norway	3,150
2010	WILSON GDANSK	Norway	3,149
2010	WILSON GIJON	Norway	3,149
2010	WILSON GRIMSBY	Poland	3,147
2010	WILSON BILBAO	Norway	3,146
2010	WILSON BREST	Norway	3,131
2010	WILSON GDYNIA	Poland	3,126

2010	WILSON GRIP	Poland	3,119
2010	WILSON BORG	Norway	3,107
2010	WILSON DVINA	Poland	3,104
2010	ARLAU	Spain	3,095
2010	PLUTO	Norway	3,071
2010	WILSON DVINA	Norway	3,060
2010	JUMBO	Norway	3,045
2010	WILSON ABERDEEN	Norway	3,028
2010	WILSON ABERDEEN	United Kingdom	3,024
2010	WILSON BLYTH	Norway	3,007
2010	WILSON GDANSK	Norway	3,003
2010	HYDRA	Spain	3,000
2010	WILSON BRUGGE	Norway	2,999
2010	SMARAGD	Spain	2,999
2010	WILSON HOLM	Norway	2,995
2010	PLUTO	Spain	2,955
2010	VELOX	United Kingdom	2,928
2010	ALDEBARAN	Estonia	2,900
2010	ALDEBARAN	Estonia	2,900
2010	WILSON HUSUM	Iceland	2,899
2010	ANNE-S	Estonia	2,880
2010	WILSON CORK	Iceland	2,872
2010	WILSON TEES	Norway	2,840
2010	TORPO	Poland	2,837
2010	HELSINKI	Netherlands	2,834
2010	WILSON AYR	Poland	2,824
2010	ALDEBARAN	Estonia	2,800
2010	WILSON BORG	Norway	2,795
2010	WILSON HOOK	Netherlands	2,781
2010	ANNE-S	Estonia	2,757
2010	WILSON DVINA	Norway	2,730
2010	WILSON GRIMSBY	Norway	2,730
2010	JUMBO	Norway	2,726
2010	MARE	Estonia	2,720
2010	WILSON DOVER	Norway	2,715
2010	TORPO	Norway	2,713
2010	AJOS G	United Kingdom	2,699
2010	WILSON HUMBER	Norway	2,676
2010	OPAL	Greece	2,636
2010	WILSON DVINA	United Kingdom	2,626
2010	ALDEBARAN	Estonia	2,600
2010	ANNE-S	Estonia	2,600
2010	MARIA SCHEPERS	United Kingdom	2,577

2010	MARE	Estonia	2,560
2010	MARE	Estonia	2,536
2010	ARUNDO	Ireland	2,477
2010	MARE	Estonia	2,471
2010	MARE	Estonia	2,435
2010	MARE	Estonia	2,435
2010	KRISTIN-D	United Kingdom	2,328
2010	EEMS SERVANT	Estonia	2,315
2010	HENDRIK S	Estonia	2,300
2010	ALDEBARAN	Estonia	2,288
2010	CATHMA	Finland	2,272
2010	EEMS STAR	Sweden	2,256
2010	MARE	Estonia	2,245
2010	MARE	Estonia	2,242
2010	ANNE-S	Lithuania	2,236
2010	UNION NEPTUNE	United Kingdom	2,227
2010	BANIER	Estonia	2,216
2010	HENDRIK S	Estonia	2,200
2010	ANNE-S	Estonia	2,194
2010	UNION MOON	United Kingdom	2,166
2010	HENDRIK S	Estonia	2,150
2010	BANIER	Estonia	2,130
2010	HENDRIK S	Estonia	2,100
2010	LANGELAND	Denmark	2,083
2010	LADY MENNA	Estonia	2,082
2010	LADY NOVA	Estonia	2,044
2010	KIRSTEN	Estonia	2,035
2010	HENDRIK S	Estonia	2,000
2010	WILSON LEITH	Norway	2,000
2010	WILSON MOSEL	Norway	1,997
2010	MARE	Estonia	1,991
2010	ANNE-S	Estonia	1,983
2010	ANNE-S	Estonia	1,974
2010	FAST WIL	Ireland	1,943
2010	LADY MATHILDE	Estonia	1,908
2010	HENDRIK S	Estonia	1,833
2010	LADY MATHILDE	Estonia	1,833
2010	ALDEBARAN	Estonia	1,830
2010	LADY NONA	Estonia	1,780
2010	WILLEKE	United Kingdom	1,706
2010	WILSON LAHN	Norway	1,698
2010	LEIRO	Belgium	1,681
2010	SAMIRA	United Kingdom	1,650

2010	WILSON MOSEL	Norway	1,574
2010	INA	Egypt	1,568
2010	AMADEUS	United Kingdom	1,550
2010	WILSON ELBE	Norway	1,549
2010	LADY NONA	Latvia	1,521
2010	LADY NOVA	Estonia	1,479
2010	MARE	Lithuania	1,401
2010	HENDRIK S	Latvia	1,400
2010	RMS RIGA	United Kingdom	1,351
2010	NORA	Estonia	1,337
2010	LADY NONA	Lithuania	1,335
2010	MARE	Estonia	1,320
2010	LADY NONA	Estonia	1,294
2010	TRANS ODIN	Sweden	511

Annex 2: SOMO Questionnaire on electricity supply chains and origin of fuels

[Sent to EPZ (Delta), DONG Energy, E.ON, GDF Suez/Electrabel, RWE/Essent, and Vattenfall/Nuon in May 2011].

Please fill in the tables below on the origin of the coal, biomass and uranium (as relevant) used by your company to generate electricity at all **power plants in Europe in 2010** and answer the related questions below each table. Please provide as much detail as possible with regard to the name of the mine and supplier (company), the country of origin, the absolute (in tonnes) and % of total use, and the name and location of the power plants in which the fuel was used. Please add additional rows into the tables as necessary and feel free to add comments and/or additional information using footnotes or text below the tables.

1. Origin of coal

- Please fill in the table below regarding the origin of the **coal** used by your company **in 2010**. Add additional rows into the table as necessary and feel free to add comments and/or additional information using footnotes or text below the table.

Name and location (country) of mine	Mine owner / operator (company name)	European port through which the coal was imported	Absolute quantity (in tonnes) supplied to your company	% of your company's total coal use	Name and location of power plant(s) in which this coal was used
TOTALS			Total: xx tonnes	Total 100%	

- Please indicate the quantity of coal (tonnes) that your company procured through the spot market (e.g. GlobalCoal) in 2010.
- What percentage of your company's total coal use in 2010 was procured on the spot market?
- Please provide the names of the brokers and/or traders from which you directly purchased spot-market coal in 2010, including the amounts of coal purchased per broker/trader.
- Is your company involved in the trade of future coal contracts? If yes, please provide details about volumes and trading partners.
- Does your company buy pre-blended coal originating from different countries? Does your company blend coal itself? If so, please provide details about where and how coal is blended.

7. Does your company charter vessels or otherwise arrange the shipment of coal? If so, please provide details about the degree of your involvement in these activities.
8. Does your company (re-)sell any of the purchased coal to third parties? If so, please provide details about volumes and trading partners.

2. Origin of biomass

1. Please fill in the table below regarding the origin of the **biomass** used by your company in **2010**. Add additional rows into the table as necessary and feel free to add comments and/or additional information using footnotes or text below the table.

Name of plantation and/or supplier (company)	Type of biomass (form and plant species)	Location of plantation/source (country)	European port through which the biomass was imported	Absolute quantity (in tonnes) supplied to your company	% of your company's total biomass use	Name and location of power plant(s) in which this biomass was used
TOTALS				Total: xx tonnes	Total 100%	

3. Origin of uranium

1. Please fill in the table below regarding the origin of the **uranium** (fresh uranium, U₃O₈) used by your company in **2010**. Add additional rows into the table as necessary and feel free to add comments and/or additional information using footnotes or text below the table.

Name and location (country) of mine	Mine owner / operator (company name)	European port through which the uranium was imported	Absolute quantity (in tonnes) supplied to your company	% of your company's total uranium use	Name and location of power plant(s) in which this uranium was used

TOTALS			Total: xx tonnes	Total 100%	
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2. Please indicate the quantity of uranium (tonnes) that your company procured through the spot market in 2010.
3. What percentage of your company's total uranium use in 2010 was procured on the spot market?
4. Please provide the names of the brokers and/or traders from which you directly purchased spot-market uranium in 2010, including the amounts of uranium purchased per broker/trader.