



Sustainability in the Dutch Power Sector

Fact Sheet Series

Essent

Joseph Wilde-Ramsing, Tim Steinweg, Maaïke Kokke

Essent

1 Introduction

This series of fact sheets is designed to investigate the Dutch power sector and raise public awareness about the sustainability of power companies operating in the Netherlands. The series consists of ten company fact sheets and four thematic fact sheets, for a total of 14. The ten company fact sheets focus on ten of the Netherlands' leading power companies: DELTA, Electrabel, Eneco, E.ON, Essent, Greenchoice, Nuon, Oxxio, RWE, and Windunie. For each company, the fact sheet will contain information on four measures of sustainability: the company's current fuel mix for installed electricity generation capacity in Europe, current fuel mix of electricity supplied in the Netherlands, investments in new generating capacity in Europe, and initiatives to encourage consumers to become more sustainable in their energy use by conserving energy and reducing overall use (demand-side initiatives) in the Netherlands. The thematic fact sheets focus on these same four areas and compare the ten companies' performance in each area. Information for the fact sheets has been gathered from news articles and databases; company sources such as websites, annual reports and CSR reports; and personal interviews with the companies. All of the companies were given and used the opportunity to review a draft of their fact sheet, provide comments, and correct any factual errors. Funding for the fact sheets was provided by Greenpeace. All fact sheets in this series are available on the SOMO website at www.somo.nl.

2 Basic company information

Essent is a Dutch energy company that supplies electricity, gas and heat to households and business clients. Essent arose from a merger between PNEM/Mega Groep and the Edon Groep in 1999. The company considers the Netherlands as its home market, but has also built up a considerable market position in Germany, and is increasingly active in Belgium. Essent supplies energy to some 2.6 million clients and gas to around two million clients in the Netherlands. In terms of turnover, Essent is market leader in the Dutch energy market. In addition, Essent is the biggest producer of green power and has the most green power clients in the Netherlands.

3 Installed capacity for electricity generation in Europe

Figure 1 reveals the fuel mix of Essent's electricity generation capacity in 2007. Essent's European generating capacity totalled approximately 6,000 MW in 2007.¹

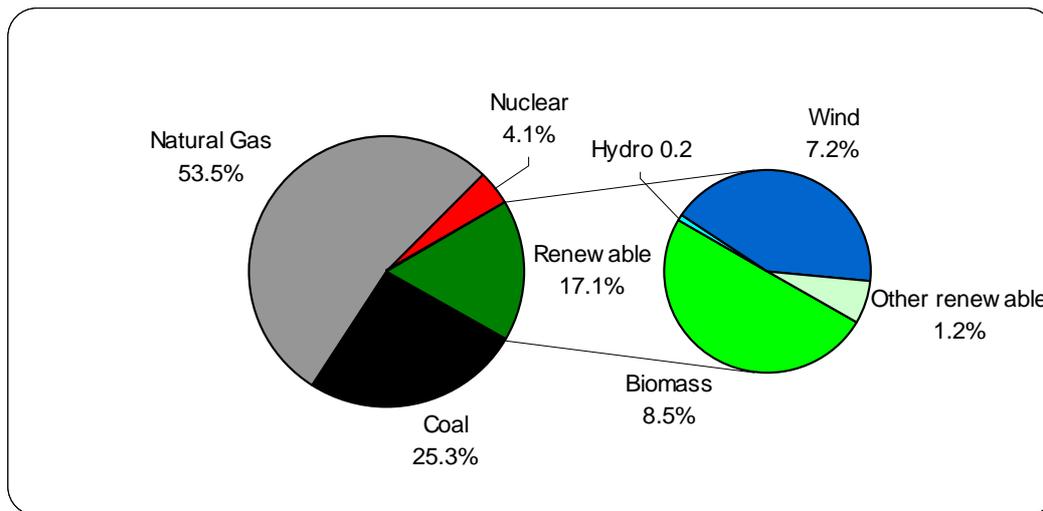
The majority of the biomass used by Essent is co-generated in the two big power stations for coal and natural gas, the Amercentrale, which has the capacity to produce 295 MW of electricity from biomass, and the Clauscentrale, which has a biomass capacity of 184 MW. The biomass-only plant in Cuijk has a generating capacity of 25 MW. The biomass combusted in these plants is primarily produced from wood pellets and other types of wood (Amercentrale), with a smaller amount from bio-oil (Clauscentrale) and from agricultural residues such as cacao bean pods (Amercentrale).

Essent has a natural gas capacity of 1,280 MW at the Clauscentrale, 184 MW of this 1280 MW can be used for biomass co-firing subject to the availability of 100% sustainable certified liquid bio fuels (f.e.

palm oil residues). The majority of the remaining gas capacity is installed in several large and small-scale combined heat and power plants. With a capacity of high efficient combined heat and power of 1600 MW Essent is one of the biggest users of this technique in the Netherlands.

Essent generates wind energy with turbines in the Netherlands and Germany, and its hydroelectricity is produced at two small-scale hydroelectric power stations located in the Maas (11.5 MW) and in the Vecht (0.1 MW).

Figure 1: Fuel mix of Essent's installed electricity generation capacity, 2007

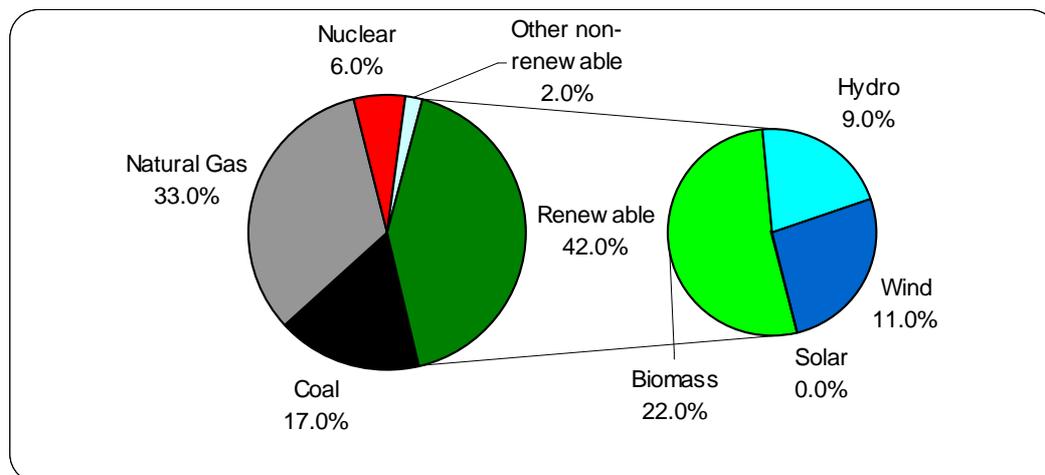


Based on: Essent²

4 Electricity supplied in the Netherlands

Figure 2 reveals the fuel mix of energy supplied by Essent in the Netherlands, and Table 1 presents the CO₂ emissions and radioactive waste production resulting from the generation of the electricity that Essent supplies in the Netherlands. Essent guarantees that the 'Groene Stroom' it supplies is solely generated from the sustainable energy sources wind, small scale hydro power, landfill gas and clean biomass, which is defined by Essent as biomass produced out of prunings from forests and public gardens, untreated rest wood from the wood processing industry, and 100% sustainable bio-oil (palm oil residues).

Figure 2: Fuel mix of electricity supplied by Essent, 2007



Based on: Essent stroometiket Retail 2007

Table 1: Emissions and waste resulting from Essent's electricity supply, 2007

Indicator	Amount
CO ₂ (g/kWh)	284
Radioactive waste (µg/kWh)	180

Based on: Essent stroometiket 2007

5 Announced investments in new generation capacity in Europe

Essent's aim is to become one of the top five energy companies in Northwest Europe in terms of customer satisfaction and financial performance. Essent wants to reach this aim by growing its electricity generation capacity in the Netherlands, Belgium and Germany.

Table 2 reveals Essent's investments currently under construction. The Westereems wind project, to date the largest onshore wind project in operation in the Netherlands, has just been completed and the first wind turbines have begun to produce electricity.³

Table 2: Essent's announced investments in new production capacity

Project name	Location	Fuel Type	Date in operation	Amount (€)	Output Capacity (MW)	Project Status
Wind Turbines Westereems	Groningen (NL)	Wind	Early 2009	Unknown	156	Under construction ⁴
Waste-to-energy plant	Bremen (DE)	Biomass	2009	112 million	27.5	Under construction ⁵

Based on: Essent Annual Report 2007

Table 3 shows all the investment plans that Essent has announced or that have appeared in newspaper reports, but for which construction has not been initiated yet.

As is revealed in Tables 2 and 3, the investments of Essent are mainly focused on the expansion of gas and wind energy. Essent had also planned to construct a coal-fired power plant in Geertruidenberg, to be named Amer 10. However, the company decided to put the development of this unit on hold for the moment because of bad prospects concerning the assignment of CO₂

emissions rights and the uncertainty around subsidies for biomass.⁶

Table 3: Essent's announced plans for investment in new capacity

Project name	Location	Fuel Type	Date in operation	Amount (€)	Output Capacity (MW)	Status
Feasibility study IGCC & CCS ⁷	Unknown	Coal	Unknown	Unknown	Unknown	Feasibility study
Amer 8	Geertruidenberg (NL)	Coal/ Biomass	Unknown	Unknown	Unknown	Life Extension Research
Moerdijk station	Moerdijk (NL)	Natural Gas (CCGT)	End-2011	0.5 billion ⁸	400	Planning phase ⁹
Claus station	Maasbracht (NL)	Natural Gas	Mid-2012	1 billion ¹⁰	640	Planning phase ¹¹
Amer 9	Geertuidenberg (NL)	Natural Gas ¹²	Unknown	Unknown	Unknown	Planning phase ¹³
Wind expansion Europe	Europe	Wind	Unknown	Unknown	Unknown	Planning phase ¹⁴

Based on: Essent Annual Report 2007

6 Demand-side initiatives

Essent's demand-side initiatives include:

- Essent offers its clients prepaid energy. Clients buy energy credit and can upload this credit by phone or text message. This gives clients the possibility to become more aware of their energy consumption.
- Essent compensates clients for energy that they produce themselves. Clients that have solar panels or a wind turbine and produce more energy than they consume receive compensation for the energy that flows back into the electricity grid.
- Essent offers 'Groen voor Gas', which means that for two cents extra per cubic meter of gas, Essent compensates the CO₂ emissions of clients' gas consumption by investing in two types of projects; projects that compensate CO₂ that has already been emitted (f.e. planting trees), and projects that reduce CO₂ emissions and meet the criteria of the Gold Standard Voluntary Emission Rights, an initiative of the WWF. At present, 80% of the compensation is done by Gold Standard projects. Essent aims to increase this percentage to 100%.¹⁵
- Essent offers high efficiency boilers. Clients can rent, lease or buy them. At this moment clients can receive €125 trade-in discount when they replace their boiler for a high efficiency boiler. In addition, Essent offers its clients this summer a 'saving package' when they choose a boiler maintenance contract. The saving package contains products that help clients to lower their energy consumption, like a low-energy light bulb, a weather strip, etc.
- Essent advises its clients about energy labels and provides official labels.
- Essent offers solar panels and boilers to its clients including advice and installation.

-
- ¹ Essent Annual Report 2007, p. 53.
- ² CSR Report Essent 2006, p. 50 & CSR report Essent 2007, p. 26 t/m 29 & Annual Report Essent 2007, p. 55.
- ³ Essent, Eerste windturbines westereems leveren stroom, 24 July 2008, http://www.essent.nl/content/overessent/actueel/nieuwsberichten/eerste_windturbines_westereems_leveren_stroom.jsp (19-08-08).
- ⁴ Essent website, Contact, Bouwprojecten, "Windpark Westereems", no date, http://www.essent.nl/content/overessent/contactmetessent/bouwprojecten/windpark_westereems/index.jsp (25-07-08).
- ⁵ Investering door swb AG, Essent has a 51% share in this company.
- ⁶ Hoog en laag, "Essent stopt met bouw kolencentrale", 29 May 2008, <http://www.hoogenlaag.nl/page/Quick-menu/Plaatsnamen/Arnhem/Essent-stopt-met-bouw-kolencentrale.220266.news> (28-07-08).
- ⁷ Coal gasification installation with an IGCC in combination with a CCS to capture and store carbon dioxide.
- ⁸ ANP, "Essent investeert 1.5 miljard euro in gas", 28 May 2008.
- ⁹ Essent, "Essent investeert in gas en wind", 28 May 2008, http://www.essent.nl/content/overessent/actueel/persberichten/essent_investeert_in_gas_en_wind.jsp (28-07-08).
- ¹⁰ ANP, "Essent investeert 1.5 miljard euro in gas", 28 May 2008.
- ¹¹ Essent, "Essent sluit contract met Alstom", 13 June 2008, http://www.essent.nl/content/overessent/actueel/persberichten/essent_sluit_contract_met_alstom.jsp (28-07-08).
- ¹² The installation of a gas turbine.
- ¹³ Essent Annual Report 2007, p. 55.
- ¹⁴ ANP, "Essent investeert 1.5 miljard euro in gas", 28 May 2008.
- ¹⁵ Essent Website, Thuis, Producten, Gas, Groen voor gas, "Wat is groen voor gas?", no date, http://www.essent.nl/content/thuis/producten/overzicht_gas/groen_gas/hoewerkthet.jsp (02-09-08).