

# European Power Daily

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## THE MARKET

### German traders concerned by production data

German power traders said Thursday they were concerned that the incorrect reporting of power production data on a generation and consumption information platform by grid operator Vattenfall may have influenced prices on the intraday market.

"It is possible the data could have had an impact on the intraday market, where the transmission system operators could have traded wind power too," a trader said Thursday.

"We cannot be sure when the data was incorrect, it could possibly be since the launch of the homepage onwards," he added. "The incorrect data was not the voluntarily published data, but the data [issued] under statutory publication requirements of the transmission system operators."

Late Wednesday, Vattenfall said a technical error was to blame for incorrect published data.

"A programming error in the automatic data transfer to the EEX was discovered on the Vattenfall side for actual production data [exports] for the current day," Vattenfall said in a statement on the EEX web site.

"Vattenfall has directly fixed the error. On the 18th of March we...also sent out revised data to the EEX, including data published in the past," it said.

Vattenfall said the error did not impact any other data published on the EEX web site.

"This error did not affect the actual production data which were sent out the day after according to the voluntary commitment of the market participants," Vattenfall said.

Vattenfall was not available for any further comment when contacted.

EEX and the four German transmission TSOs launched the generation and consumption data platform in October 2009 to increase transparency in European energy trading markets.

The four TSOs involved in the transparency platform are Amprion, EnBW Transportnetze, Transpower and Vattenfall Europe Transmission. The TSOs and the exchange are responsible for the operation and financing of the platform.

EEX denied any responsibility for the incorrect data, but said the error was significant enough to deem a correction.

"As the operator of the platform, EEX accomplishes the following tasks: plausibility checks, anonymization as well as aggregation and publication of the data. Against this backdrop the platform is working without any problems," EEX spokeswoman Eileen Hieke said.

"EEX is not responsible for the correctness of the data. A subsequent correction of the values transmitted by the reporting companies is possible, in particular, in order to improve data quality. A modification time stamp makes the time of the subsequent correction transparent," she added.

"In this case, as the deviations were significant, it was decided to publish the news message," Hieke said.

Power plant operators report installed capacity, scheduled and

### Dutch, German Q2 10 base



Source: Platts

### Platts Power Index commentary

Platts Power Index for the German forward market inched higher Thursday as most contracts were trading in a narrow range on a slightly higher spot price and a stable fuel-complex. In the early morning, April base started to fall but was trading unchanged at Eur35.90 by lunchtime as the prompt inched higher on a low wind forecast and some coal plant outages while some players were trying to push up prices ahead of Friday's expiry of monthly and quarterly options, a trader said. Further forward, Cal 11 found some support after Wednesday's losses, up 5 euro cent to Eur45.40/MWh as front-month Brent Crude oil was trading above \$80/barrel once more. This meant the PPI re-gained 2 euro cent to Eur43.01/MWh by lunchtime. In the afternoon, most contracts were trading in a very narrow range, with front-quarter base recovering 5 euro cent to Eur35.85/MWh. Further forward, Cal 11 closed unchanged just above its 2010 low at Eur45.40/MWh as front-month Brent crude was trading stable above \$80/barrel by close.

### German Platts Power Index (PPI)

	25-Mar-10	Change
<b>Midday assessments</b>		
PPI (Month-ahead – Eur/MWh)	35.900	+0.000 —
PPI (Quarter-ahead – Eur/MWh)	35.800	-0.100 ▼
PPI (Year-ahead – Eur/MWh)	45.400	+0.050 ▲
<b>Platts Power Index Midday</b>	<b>688.100</b>	<b>+0.300 ▲</b>
<b>PPI Midday (Eur/MWh)</b>	<b>43.010</b>	<b>+0.020 ▲</b>
<b>End of day assessments</b>		
PPI (Month-ahead – Eur/MWh)	35.900	+0.000 —
PPI (Quarter-ahead – Eur/MWh)	35.850	+0.050 ▲
PPI (Year-ahead – Eur/MWh)	45.400	+0.000 —
<b>Platts Power Index EoD</b>	<b>688.250</b>	<b>+0.150 ▲</b>
<b>PPI EoD (Eur/MWh)</b>	<b>43.020</b>	<b>+0.010 ▲</b>

Platts Power Index (PPI): The PPI is a weighted forward power index, based on German front-month, front-quarter and front-year base load wholesale prices to indicate curve movements in continental Europe's benchmark power market. Front-month is weighted singularly, front-quarter three-fold and front-year 12-fold. The midday PPI index compares changes with the last end of day PPI, and the last end of day PPI compares changes with the last Midday PPI.

unscheduled outages and planned and actual generation of power to the new platform, while consumption data is also available. The TSOs also provide expected and actual generation of wind farms.—*Darren Stetzel*

## Norway to review soaring power prices

Norway's government Water Resources and Energy Directorate, or NVE, said it will mount a wide-ranging review on how to improve the Nordic power sector following an exceptionally harsh winter, which resulted in power consumption and prices soaring to record levels.

NVE deputy director Marit Fossdal said in a statement on the directorate's website that it wanted to evaluate the power situation after a very dry and cold winter, which saw little contribution from nuclear power production in Sweden.

She said these factors led to high electricity prices in parts of the Nordic power market and large price differences between regions.

On January 9, Norwegian national grid operator Statnett declared an all-time record for daily consumption when between the hours of 8:00 am and 9:00 am slightly less than 24 million kWh were consumed.

Statnett said there was surplus capacity in Norway's power plants even at those levels and the production system had a solid reserve, with available winter capacity of 26.5 million kWh.

But soaring demand continued, and on February 22 Norway's industry and other consumers were shocked when Nord Pool Spot, the Nordic power market, pushed up Norway's NO3 and NO4 regional prices from normal levels of above Eur60/MWh (\$80.07/MWh) to Eur505.68/MWh, setting an all-time price high.

An investigation into power prices was announced by Statnett into the power price spikes.

On Thursday, Nord Pool Spot reported prices in Norway in the NO3 and NO4 sub regions at Eur52.34/MWh and Eur48.51/MWh respectively, with the system price for the entire Nordic region grouping Sweden, Norway, Finland and Denmark at Eur47.36/MWh.

"The [NVE] review will be important to point out how the framework and regulation can be developed further and to ensure customers' and the players' confidence in the power market," Fossdal said.

Fossdal said the period experienced "historically high" prices in a single hour which could provide signals that the system had too little flexibility.

"The NVE believes it is appropriate to undertake a broad review of how the power system and the market has worked, and how the security of supply is ensured," Fossdal said.

An assessment of transmission capacity would be part of such an analysis, she added.

"The review will be important to point out how the framework and regulation can be developed further and to ensure customers' and the player's confidence in the power market," Fossdal said.—*Patrick McLoughlin*

## German ERU program cleared

Imtech has been cleared by Germany's Emissions Trading Authority DEHSt to run a program that transforms clients' energy savings into Emission Reduction Units, the technical services provider said in a statement Thursday.

Imtech's Climate Protection Program bundles energy savings and reduced carbon emissions resulting from certain tightly-defined actions, and "transforms these into carbon emission rights and

## Platts European Power Assessments

### At-A-Glance Day-Ahead Baseload Comparisons

March 25, 2010	(Eur/MWh)	Change (%)
Platts UK Power Index	36.4200	-3.80%
Platts Mid Germany	35.8500	1.56%
Platts Mid Switzerland	51.0000	-4.67%
Platts Mid France	35.7500	7.52%
Platts Mid Netherlands	35.2500	1.44%
Platts Mid Belgium	35.5000	2.16%
Platts Mid Spain	16.0000	-23.81%

<b>Platts PEP Index</b>	<b>33.7783</b>	<b>-0.54%</b>
<b>Platts Conti Index</b>	<b>37.0150</b>	<b>3.22%</b>

**Platts Indices:** Platts Pan-European Power (PEP) Index and the Continental Power (Conti) Index are demand-weighted (Source: ENTSO-E), baseload indices to indicate trends in the free European electricity market as a whole. The Conti Index is based upon assessments in Germany, Switzerland, France, Belgium and the Netherlands. The PEP Index is based on these six assessments plus the UK's GTMA day-ahead market and Spanish bilateral week-ahead assessment.

## Platts UK Assessments (GTMA, GBP/MWh)

March 25, 2010	Euro Equivalents			
	Baseload	Peak	Baseload	Peak
Day-ahead	32.35–32.85	36.15–36.65	36.15–36.70	40.39–40.95
Weekend	—	—	—	—
Week Ahead	32.80–33.30	37.05–37.55	36.65–37.21	41.40–41.96
Apr	33.15–33.65	37.95–38.45	37.04–37.60	42.40–42.96
May	33.15–33.65	38.05–38.55	37.04–37.60	42.51–43.07
Jun	33.00–34.00	38.10–39.10	36.87–37.99	42.57–43.69
Q2 10	32.40–34.40	37.40–39.40	36.20–38.44	41.79–44.02
Q3 10	33.70–34.20	38.00–40.00	37.65–38.21	42.46–44.69
Summer 10	33.35–33.85	38.45–38.95	37.26–37.82	42.96–43.52
Winter 10/11	38.35–38.85	43.05–43.55	42.85–43.41	48.10–48.66
Summer 11	36.05–36.55	41.75–42.75	40.28–40.84	46.65–47.77
Winter 11/12	41.15–41.65	46.50–47.00	45.98–46.54	51.96–52.51
April 10 Annual	35.75–36.25	40.65–41.15	39.94–40.50	45.42–45.98

Baseload=2300-2300, Peak=0700-1900

### Daily indices

	GBP/MWh	Eur/MWh	Change D-1 (GBP/MWh)
Day-ahead	32.60	36.42	-1.40
Weekend	—	—	—
Apr	33.40	37.32	+0.00

Index definitions are published in the Platts methodology guide available on the Platts website.

## Platts Central European Spot Assessments (Eur/MWh)

March 25, 2010	Baseload	Peak
Day-Ahead (Germany)	35.70 - 36.00	41.65 - 41.95
Day-Ahead (Switzerland)	50.75 - 51.25	61.25 - 61.75
Swiss Franc equivalent	72.42 - 73.13	87.40 - 88.12
Week Ahead (Germany)	33.70 - 34.00	41.10 - 41.40
Weekend (Germany)	31.35 - 31.65	

Baseload = 0000-2400, Peak = 0800-2000.

Swiss Franc equivalents are for Swiss prices.

## Platts French Assessments (Eur/MWh)

March 25, 2010	Baseload	Peak
D/A	35.50 - 36.00	41.50 - 42.00
Weekend	30.35 - 31.35	
Week Ahead	36.25 - 37.25	43.50 - 44.50
Apr 10	37.00 - 38.00	45.25 - 46.25
May 10	32.75 - 33.75	41.50 - 42.50
Jun 10	37.50 - 38.50	48.00 - 49.00
Q2 2010	35.80 - 36.80	43.75 - 45.75
Q3 2010	37.75 - 38.75	50.25 - 51.25
Cal 2011	48.00 - 49.00	65.65 - 67.65
Cal 2012	49.75 - 50.75	68.95 - 70.95
Cal 2013	50.50 - 52.50	69.35 - 71.35

subsequently trades them on the European market," it said.

The revenue from the sale of ERUs is then transferred pro rata to the participants' accounts, Imtech said. "This way, Imtech gives its clients a financial incentive to invest in sustainable solutions like geothermal heat storage, the generation of own energy from biomass and thermal energy," it said.

"The program is restricted to German clients who are going ahead with pre-term conversions of heating systems, or fuel switching from oil to gas, or gas to biomass," Imtech's Peter Eilers told Platts. "These are small-scale projects, and the investment must be voluntary, not enforced by external conditions."—*Henry Edwardes-Evans*

## POLITICS & POLICY

### Nuclear, CCS need \$60/mt carbon price: OECD

A carbon price of \$30/mt is not enough to make electricity from new nuclear power plants or coal-fired plants with carbon capture and storage competitive with power from new conventional coal- or gas-fired power plants, two OECD agencies said in a joint study released Thursday.

At a carbon price of \$60/mt, however, "fossil fuel technology is no longer really competitive with low-carbon" technologies, OECD International Energy Agency executive director Nobuo Tanaka told a Paris press conference.

In the seventh and latest edition of their periodic study of projected generating costs, the IEA and the OECD Nuclear Energy Agency for the first time included a \$30/mt carbon price in calculations of costs from fossil-fired power plants, a level it termed "a reasonable assumption for the coming years."

The other major factor affecting competitiveness of different technology options is the discount rate, or the cost of financing a project, the joint study said. Assuming a \$30/mt carbon cost, the study found that new nuclear power plants and coal-fired facilities with CCS in OECD countries would produce electricity at the lowest levelized cost of the technologies considered, at a real discount rate of 5%.

But at a discount rate of 10%—corresponding to commercial rates of return a few points higher—power from capital-intensive nuclear plants becomes much more expensive, and the most competitive technologies are coal with CCS and combined-cycle gas turbine plants.

In "Projected Costs of Generating Electricity: 2010," OECD staff and an expert group of over 50 people analyzed data provided by OECD member country governments to calculate the levelized lifetime cost of electricity from power plants entering service around 2015. It considered nuclear, coal, coal with CCS, gas and a variety of renewables, including onshore wind power stations for the first time.

It also included some non-OECD cost projections, which were in general much lower than those for the OECD region.

European countries projected the highest costs for all technologies compared with North America. The lowest costs were in Asia.

Power from renewables in all cases came in much higher than that from the other technologies, between \$97/MWh and \$137/MWh in OECD countries and between about \$70/MWh and \$98/MWh in non-OECD countries.

Internalizing a \$30/mt carbon cost, projections for the cost of power from a new coal-fired power plant (at a 5% discount rate and with or without CCS) ranged from \$54/MWh in Australia to \$120/MWh in Slovakia. At a 10% discount rate, the costs ranged

### Platts German Forward Assessments (Eur/MWh)

March 25, 2010	Baseload	Peak
Apr 10	35.75 - 36.05	43.75 - 44.25
May 10	33.80 - 34.10	42.50 - 43.00
Jun 10	37.55 - 37.85	47.55 - 48.05
Jul 10	38.60 - 38.90	51.00 - 51.50
Aug 10	35.85 - 36.15	45.60 - 47.60
Sep 10	39.85 - 40.15	51.10 - 53.10
Q2 2010	35.70 - 36.00	44.75 - 45.25
Q3 2010	38.10 - 38.40	50.00 - 50.50
Q4 2010	44.80 - 45.10	58.40 - 58.90
Q1 2011	47.45 - 47.75	61.75 - 62.25
Cal 2011	45.25 - 45.55	59.60 - 60.10
Cal 2012	49.15 - 49.45	64.50 - 65.00
Cal 2013	51.85 - 52.15	67.55 - 68.05

### Platts Belgian Assessments (Eur/MWh)

March 25, 2010	Baseload
D/A	34.50 - 36.50
Weekend	30.50 - 31.50
Week Ahead	34.30 - 36.30
Apr 10	34.70 - 36.70
May 10	32.10 - 33.10
Jun 10	35.60 - 37.60
Q2 2010	34.50 - 35.50
Q3 2010	36.70 - 37.70
Cal 2011	44.20 - 45.20
Cal 2012	46.85 - 47.85
Cal 2013	49.05 - 51.05

### Belpex Spot Prices (Eur/MWh)

	26-Mar-10	25-Mar-10
Average Base	34.39	34.66
Average Peak	40.61	40.00
Average Off-Peak	28.18	29.32
Base Volume (MWh)	22331.20	31474.50
Peak Volume (MWh)	11688.10	16779.60
Off-Peak Volume (MWh)	10643.10	14694.90

Base = 01:00-24:00, Peak = 09:00-20:00, Off-peak = 01:00-08:00, 21:00-2400

### Platts Dutch Assessments (Eur/MWh)

March 25, 2010	Baseload	Peak
D/A	34.75 - 35.75	40.50 - 41.50
Weekend	31.00 - 32.00	
Week Ahead	32.85 - 34.85	40.25 - 42.25
Apr 10	35.15 - 36.15	43.30 - 44.30
May 10	32.40 - 34.40	41.20 - 43.20
Jun 10	36.80 - 37.80	45.60 - 47.60
Q2 2010	34.90 - 35.90	43.20 - 45.20
Q3 2010	37.10 - 38.10	47.00 - 48.00
Q4 2010	43.80 - 44.80	55.20 - 57.20
Q1 2011	45.45 - 47.45	58.50 - 60.50
Bal 2010	38.60 - 39.60	48.30 - 50.30
Cal 2011	42.90 - 43.90	55.40 - 57.40
Cal 2012	45.60 - 46.60	58.20 - 60.20
Cal 2013	48.50 - 49.50	63.05 - 65.05

### APX Spot Prices (Eur/MWh)

	26-Mar-10	25-Mar-10	26Mar09
Baseload	34.84	34.90	38.17
Peakload	40.96	40.00	41.28
Off-Peak	28.71	29.80	31.95
Total Volume (MWh)	86302.3	80203.4	74641.4
Peak Volume (MWh)	43068.3	40012.5	54996.7
Off-Peak Volume (MWh)	43234.0	40190.9	19644.7

Baseload: 0000-2400, Peakload: 0700-2300, Peakload\*: 0800-2000, Off-peak: 2000-0800

between \$67/MWh in Australia to \$142/MWh in Slovakia.

Gas-fired power plants were projected to produce power between \$67/MWh (Australia) and \$105/MWh (Italy), assuming a gas price of \$10-\$12/million Btu for importing countries over the lifetime of the plants. At a 10% discount rate, gas-fired power was projected to cost between \$76/MWh (Australia) and \$120/MWh (Italy). The levelized cost of power from a new nuclear power plant at a 5% discount rate, over a 60-year lifetime, was between \$29/MWh (South Korea) and \$82/MWh (Hungary), and at a 10% discount rate it was between \$42/MWh (South Korea) and \$137/MWh (Switzerland).

The UK, Denmark, Sweden, Norway, Spain and New Zealand either didn't participate or presented very limited data, Tanaka said. The lack of data from several large countries skewed some of the results, according to the OECD Nuclear Energy Agency's Ron Cameron, who said Australia's low coal price—\$26/mt compared with the study's assumption of \$90/mt for importing countries—led to corresponding low power prices from coal-fired plants that may not be representative of those in other countries.

Tanaka and NEA director general Luis Echavarri said the results show the importance of government policies to promote low-carbon technologies such as nuclear, renewables and CCS, since governments can take measures to penalize CO2 emissions or provide loan guarantees that lower the financing costs of new nuclear power plants.

They said the main message of the study is that the uncertainties surrounding investments in power markets have increased since the last cost comparison.

They said that what is most needed is a clear and stable policy and regulatory framework in which investors have enough information to decide on which technologies to deploy in the coming years.—*Ann MacLachlan*

## UK 2009 coal generation down sharply on year

The proportion of the UK's electricity generated from coal-fired power stations fell sharply in 2009, contributing 27.7% to the total against 31.4% the previous year, according to figures released Thursday by the department of energy and climate change.

Between 2008 and 2009, nuclear's share of electricity supplies rose by 5.2 percentage points to 17.8%, while coal's share fell 3.7 percentage points to 27.7% and that of gas fell 0.7 percentage points to 45.1%.

Renewables' share of total supply rose 1.1 percentage points to 6.8%.

Electricity supplied by all generators in 2009 was 6.7% lower than in 2008. Nuclear generation, at 62.8 TWh, had the largest year-on-year increase of the smaller overall total, at 31.8%, while electricity supplied from coal-fired stations fell 17.5% to 98.1 TWh. Power from gas fell 8.2% to 159.3 TWh and renewable sources rose 12.7% to 24.4 TWh.

Final consumption of power in the UK fell 6.8% in 2009 from 2008, likely reflecting a decline in economic activity and moves by industry to cut electricity use to save costs in the recession, the data showed.

Domestic use fell 3.2%, while industrial consumption was down 11%, the data showed. Consumption by other final users—including transport sector use—fell by 6.4%.

### Coal, gas consumption at power stations falls

The shift in power generation away from coal to gas reflects the relative profit margins of the two fuels for generators. An abundance of natural gas pushed clean dark spreads—the profit margin for operators of coal-fired stations, including the cost of

## ENDEX Dutch futures (Eur/MWh) – March 25, 2010

Product	Baseload			Peak			Peak*		
	Settle	Change	Volume	Settle	Change	Volume	Settle	Change	Volume
Apr 10	35.69	+0.07	-	43.17	+0.05	-	43.85	+0.03	-
May 10	33.47	-0.07	-	41.22	-0.05	-	42.25	-0.01	-
Jun 10	37.29	-0.16	-	45.41	-0.22	-	46.66	-0.31	-
Jul 10	38.25	-0.10	-	47.72	-0.01	-	48.96	+0.09	-
Aug 10	34.89	-0.04	-	43.44	+0.16	-	44.31	+0.34	-
Sep 10	39.89	-0.01	-	49.23	-0.02	-	49.67	-0.02	-
Q2 2010	35.46	-0.05	-	43.41	-0.08	-	44.28	-0.10	-
Q3 2010	37.65	-0.05	-	46.80	+0.05	-	47.65	+0.14	-
Q4 2010	44.33	+0.03	-	55.58	+0.09	-	56.28	+0.13	-
Q1 2011	46.49	+0.08	-	58.96	-0.01	-	59.58	-0.08	-
Q2 2011	39.10	-0.13	-	50.09	-0.08	-	50.51	-0.01	-
Q3 2011	41.21	+0.12	-	53.77	+0.23	-	54.50	+0.28	-
Cal-11	43.34	+0.00	8760	55.92	+0.02	-	56.44	+0.05	-
Cal-12	46.15	-0.07	26352	56.79	-0.05	-	59.26	-0.05	-
Cal-13	48.99	-0.09	-	61.42	+0.05	-	64.09	+0.06	-
Cal-14	53.65	-0.06	-	-	-	-	73.64	-0.33	-
Cal-15	56.32	+0.03	-	-	-	-	78.14	-0.06	-
<b>Total Volume</b>			-			-			-

\*This Dutch power peak load product contains 12 hours (08:20) and includes public holidays.

## Italian Exchange

	26-Mar-10	25-Mar-10	26Mar09
Average Hourly Price	59.04	57.36	70.18
IPEX Traded Volume (MWh)	597,479.0	580,725.0	579,546.0

Source: IPEX

## Platts Spanish Assessments (Eur/MWh)

March 25, 2010	Baseload
D/A	15.75 - 16.25
Week Ahead	22.75 - 23.25
BOM	22.75 - 23.25
Apr 10	27.65 - 28.15
May 10	29.75 - 30.25
Q2 2010	30.50 - 31.00
Q3 2010	34.50 - 35.00
Q4 2010	37.60 - 38.10
Balance 2010	34.20 - 34.60
Cal 2011	38.90 - 39.40

## Spain Pool Average Spot Prices (Euro cents/kWh)

	26-Mar-10	25-Mar-10	26Mar09
Systemwide	1.133	1.807	4.000
Volume Matched (MWh)	576,584.0	570,569.0	502,877.0

Source: OMEL, Daily Turnover in MWh, prices Eur cts/kWh

## Subscriber note

### Enhanced UK electricity assessments

Platts is proposing to launch daily UK electricity price assessments for Weekend baseload, Week Ahead +2 baseload and peakload and baseload and peakload contracts for the fifth front season, currently Summer 2012. The assessments would complement our existing coverage of the UK electricity market with assessments published each UK working day, in GBP/MWh with a conversion to Eur/MWh. In line with our existing European electricity market assessments, Platts would apply the market-on-close methodology for the proposed assessments. Please address any comments to [power@platts.com](mailto:power@platts.com) with a copy to [pricegroup@platts.com](mailto:pricegroup@platts.com) by March 31, 2010.

carbon—to historic lows over the course of the year, encouraging generators to switch off coal-fed units in favor of those fired by gas.

The deep contango structure in the coal markets for most of 2009 also encouraged large amounts of stockpiling by UK electricity generators, the data showed Thursday.

Coal stocks at UK generators showed a seasonal fall of 0.6 million mt during the fourth quarter of 2009 after a rise of 4 million mt in the third, and at the end of December 2009 stood at 24.4 million mt, 6 million mt higher than at the end of December 2008.

Coal consumption by electricity generators was down by 16.9% to 39.7 million mt, while gas use for electricity generation was 6.6% lower than in 2008, at 348.80 TWh.

### Gas demand down 7.7% against 2008 on recession

UK gas demand in 2009 was also weaker, falling 7.7% against 2008.

The drop was moderated by UK power generators almost exclusively burning gas over coal due to more competitive gas prices.

Total demand for coal last year—at 48.8 million mt—was 16.1% lower compared with 2008, with consumption by electricity generators down 16.9%.

The profit margin of burning gas vs coal, known as the clean spark and dark spread, clearly favored gas as the cheaper feedstock, incentivizing generators to scale-back coal-fired generation in favor of gas.

But because the overall share of electricity production fell last year due to demand destruction caused by the recession, the share of gas used for electricity production was 6.6% lower, at 349 TWh, than 2008's record level.

Indigenous UK gas production was 14.3% lower than in 2008. BP's Statistical Review of World Energy 2009 accounted for a 3.7% decline in indigenous production in 2008 compared with 2007.

That suggests declines in 2009 were driven more by collapsing gas prices and widespread oversupply on European markets, which forced domestic producers to idle fields until prices recovered to profitable levels.

The Centrica-operated Barrow South terminal was offline for much of 2009 owing to prices in the spot market.

Gas prices collapsed by around 50% last year compared with pre-recession levels in 2008, with within-day currently trading at around 30 p/therm.

Gas imports and exports last year were 12% and 11.8% higher respectively than during the previous year.

LNG accounted for a quarter of 2009 imports.

Retail gas consumption fell by 5.4% over 2009 but industrial sector demand dropped 22.2%, the report said.—*Darren Stetzel, Oleg Vukmanovic*

### UK's 2009 emissions down 8.6% on year

The UK's emissions of a basket of six greenhouse gases covered by the Kyoto Protocol fell 8.6% last year to an estimated at 574.6 million metric tons of carbon dioxide equivalent from 628.3 million mt CO<sub>2</sub>e in 2008, the government said Thursday.

"We already know from our 2008 figures that we are well on track to exceeding our Kyoto target of 12.5% below 1990 levels and are making good progress towards our first carbon budget target in 2012. Today's results indicate that we are still moving in the right direction," said Joan Ruddock, minister for energy and climate change

But she admitted that the main reason for the fall in 2009 was not a long-term improvement to the energy system, but the simple effect of economic downturn and lower energy consumption.

"The significant reduction in emissions would no doubt have been impacted by the recent economic circumstances," she said.

### Polish Power Exchange Spot (Zloty/MWh)

	(Zloty/MWh)		(Eur/MWh)	
	26-Mar-10	25-Mar-10	26-Mar-10	25-Mar-10
Total Trade (MWh)	11261	8823	11261	8823
Max per hour	1040	602	1040	602
Min per hour	241	231	241	231
Weighted average price	170.34	164.81	43.78	42.41
Simple average price	164.53	163.19	42.29	42.00
Maximum price	204.44	203.71	52.54	52.42
Minimum price	142.75	140.07	36.69	36.05

### Platts Czech Market Assessments (Eur/MWh)

March 25, 2010	Baseload	Peak
D/A	35.50 - 36.00	41.50 - 42.00
Weekend	30.25 - 30.75	NA - NA
Week Ahead	32.50 - 33.00	41.25 - 42.25
April	34.15 - 34.65	43.30 - 43.80
Q2 2010	34.25 - 34.75	44.25 - 44.75
Cal 2011	42.70 - 43.20	59.35 - 59.85
Cal 2012	46.50 - 47.00	64.10 - 65.10

### Prague Energy Exchange Futures Prices (Eur/MWh)

March 25, 2010	Base			Peak		
Day	Settle	Change	Volume	Settle	Change	Volume
D/A	38.72	+0.00	0	47.75	+0.00	0
D/A +1	29.69	-9.03	0	47.75	+0.00	0
D/A +2	29.69	-9.03	0	NA	NA	NA
D/A +3	38.72	+0.00	0	NA	NA	NA
D/A +4	NA	NA	NA			
D/A +5	NA	NA	NA			
Month	Settle	Change	Volume	Settle	Change	Volume
First Month	34.55	+0.10	0	43.45	+0.35	0
Second Month	32.85	+0.05	0	42.50	+0.25	0
Third Month	35.80	-0.50	0	47.40	-0.10	0
Fourth Month	37.40	+0.00	0	51.65	+0.00	0
Fifth Month	34.10	+0.00	0	46.85	+0.00	0
Sixth Month	39.00	+0.00	0	51.75	+0.00	0
<b>Total</b>			<b>0</b>			<b>0</b>
Quarter	Settle	Change	Volume	Settle	Change	Volume
First Quarter	34.40	+0.00	0	44.35	+0.10	0
Second Quarter	36.85	+0.00	0	49.75	+0.00	0
Third Quarter	42.70	+0.15	5	58.75	-0.45	0
Fourth Quarter	46.35	+0.00	0	61.70	-0.30	0
<b>Total</b>			<b>5</b>			<b>0</b>
Year	Settle	Change	Volume	Settle	Change	Volume
First Year	42.90	+0.10	0	59.50	+0.00	0
Second Year	46.75	+0.10	0	64.75	-0.35	0
Third Year	51.00	+0.00	0	67.80	-1.40	0
<b>Total</b>			<b>0</b>			<b>0</b>

### Czech OTE Market Operator Day-Ahead Indices

March 26, 2010	Euro	Change
Base	36.16	+0.68
Peak	41.76	+1.81
Offpeak	30.56	-0.44

Index calculation does not include marginal prices for hours when no volume of electricity was traded.

UK net emissions of CO<sub>2</sub> in 2009 were 480.9 million mt, down 9.8% from 532.8 million mt the year before. CO<sub>2</sub> is the main greenhouse gas in the basket measured by the Kyoto Protocol.—*Alex Froyley*

### New Italian sites 'could double coal use'

New coal power projects planned in Italy are set to double consumption of steam coal in the country over the next five years, the president of Italy's coal association Assocarboni,

Andrea Clavarino, said Thursday.

“There are Eur5 billion (\$6.67 billion) of investments proposed for new coal-fired capacity or conversions that, if authorizations are given and local opposition overcome, could lead to a near-doubling in steam coal use to 30 million mt/year in five years’ time,” said Clavarino.

“This would improve coal’s contribution to Italian power generation from 12% to 16%, and reduce our dependence on gas-fired power, which is up to 60%,” he said.

The biggest and most advanced of Italy’s coal projects is Enel’s 2,000 MW oil-to-coal conversion of its Porto Tolle power plant in Veneto, the sister project to Enel’s recently completed Civitavecchia power plant that today supplies a third of Lazio’s power, Clavarino said.

Porto Tolle has environmental clearance to proceed and “should begin construction this year” if the anticipated executive decree is granted this summer, Clavarino said.

“The Eur2 billion project will take four years to complete, employ 1,000 people during construction and result in a 45% efficiency,” he said. “Conversion will lead to a 20% reduction in CO2 emissions at the site.”

One of the three 660 MW units at Porto Tolle is to host a demonstration carbon capture and storage plant, following the award of Eur100 million in December as part of the EU’s the economic recovery program, Clavarino said.

Meanwhile German utility E.ON plans to start work this year on converting two old oil-fired groups at its Fiumesanto plant, Sardinia, to 410 MW of coal capacity, Clavarino said.

Also in the pipeline are a new 460 MW coal unit at Tirreno Power’s Vado Ligure power station site, which obtained environmental impact assessment clearance last year, and SEI’s 1,320 MW coal dust power plant project at Saline Joniche. Clavarino said this project was expecting environmental clearance “within the next three months,” having begun the authorization procedure in June, 2008.

Assocarboni represents over 90 companies involved in the coal value chain, including producers, traders and end users.—  
*Henry Edwardes-Evans*

## German retailers react to heating oil ruling

Two German energy retailers have reacted to a court ruling Wednesday that banned them from linking the price of gas sold to their household and business customers to the price of heating oil.

German energy supplier RheinEnergie said on its website that it has no need to amend its retail gas prices following the court ruling, because it has not been using heating oil-linked tariffs for two years.

The Cologne-based company said in a statement that “since RheinEnergie has no longer used the clause linking heating oil to natural gas for two years, there is no reason to change the customer contracts.”

RheinEnergie said it would now “examine the reasoning of the court to determine on what arguments the court takes its position.” It had applied the tariffs to residential and commercial customers, but stopped using the price formula in 2008.

Meanwhile, a spokesman for Stadtwerke Dreieich, based near Frankfurt, said the ruling affected around 40% of its customers, whose prices were still linked to heating oil. It would now need to find a new pricing arrangement for those customers, the spokesman added.

## Platts Spark Spread Assessments, March 25, 2010

	Spark Spread		Clean Spark Spread	
	50% Efficiency	60% Efficiency	50% Efficiency	60% Efficiency
<b>UK (GBP/MWh)</b>				
Day-Ahead	12.0154	15.4462	7.7427	11.8856
Month-Ahead	12.7896	16.2249	8.5168	12.6643
Month-Ahead +1	13.2639	16.6202	8.9912	13.0596
Month-Ahead +2	13.2908	16.6589	9.0180	13.0983
Quarter-Ahead	13.1297	16.5083	8.8569	12.9477
Quarter-Ahead +1	13.5682	16.9647	9.2955	13.4041
Season-Ahead	13.2550	16.6455	8.8408	12.9671
Season-Ahead +1	11.7782	16.2487	7.2513	12.4763
Season-Ahead +2	11.5903	15.7087	6.9505	11.8423
Season-Ahead +3	10.9548	16.0295	6.3151	12.1630
<b>UK (Eur/MWh)</b>				
Day-Ahead	13.4250	17.2583	8.6510	13.2800
Month-Ahead	14.2900	18.1283	9.5160	14.1500
Month-Ahead +1	14.8200	18.5700	10.0460	14.5917
Month-Ahead +2	14.8500	18.6133	10.0760	14.6350
Quarter-Ahead	14.6700	18.4450	9.8960	14.4667
Quarter-Ahead +1	15.1600	18.9550	10.3860	14.9767
Season-Ahead	14.8100	18.5983	9.8780	14.4883
Season-Ahead +1	13.1600	18.1550	8.1020	13.9400
Season-Ahead +2	12.9500	17.5517	7.7660	13.2316
Season-Ahead +3	12.2400	17.9100	7.0560	13.5900
<b>German (Eur/MWh)</b>				
Day-Ahead	13.7500	17.4333	8.9760	13.4550
Month-Ahead	12.6000	16.4833	7.8260	12.5050
Month-Ahead +1	11.2500	15.0333	6.4760	11.0550
Quarter-Ahead	12.8500	16.6833	8.0760	12.7050
Quarter-Ahead +1	15.2500	19.0833	10.4760	15.1050
Cal+1	15.5000	20.4833	10.5680	16.3733
<b>Dutch (Eur/MWh)</b>				
Day-Ahead	13.1500	16.8333	8.3760	12.8550
Month-Ahead	12.3500	16.2333	7.5760	12.2550
Month-Ahead +1	10.7000	14.4833	5.9260	10.5050
Quarter-Ahead	12.4000	16.2333	7.6260	12.2550
Quarter-Ahead +1	14.6000	18.4333	9.8260	14.4550
Cal+1	13.5000	18.4833	8.5680	14.3733
<b>Belgian (Eur/MWh)</b>				
Day-Ahead	12.5900	16.4083	7.8160	12.4300
Month-Ahead	12.4700	16.3417	7.6960	12.3634
Month-Ahead +1	9.9500	13.7250	5.1760	9.7467
Month-Ahead +2	13.6800	17.5000	8.9060	13.5217
Quarter-Ahead	12.1600	15.9667	7.3860	11.9884
Quarter-Ahead +1	13.7100	17.6250	8.9360	13.6467

Clean spreads based on typical kg CO2/mmBtu rates of 55 for natural gas. Power and gas contracts used are midpoints of Platts assessments for those commodities.

Details of methodology at [www.platts.com](http://www.platts.com)

## German Dark Spreads, March 25, 2010 (Eur/MWh)

	Dark Spread	Clean Dark Spread
	(35% efficiency)	(35% efficiency)
Month-Ahead	13.97	1.79
Month-Ahead +1	11.82	-0.36
Quarter-Ahead	13.69	1.51
Quarter-Ahead +1	15.19	3.01
Year-Ahead	19.70	7.12
Year-Ahead + 1	20.21	6.98

The German Federal Court of Justice in Karlsruhe ruled Wednesday, at the end of a long legal case, that the two companies had put customers at an unreasonable disadvantage by linking their gas prices to the cost of heating oil.

The court's ruling only related to retail pricing for gas. But it comes as the gas industry discusses more widely whether wholesale prices for gas should be linked to oil.

**Retail decision echoes wholesale market debate**

Many long-term gas supply contracts between producers and wholesale gas importers tie the cost of gas to fuel oil and gasoil prices. Gas is typically charged at a price related to the oil prices over the preceding six to nine months.

Over the last year, the price of oil-indexed gas has diverged sharply from spot gas prices. The oil-indexed gas is being supported by strong global oil prices. But the economic downturn and increased LNG deliveries have sent European

spot gas prices plummeting.

Long-term oil-indexed gas has typically been around twice as high as spot gas. That has prompted contract renegotiations between buyers of long-term gas, such as German energy giant E.ON, and their key suppliers, such as Norway's Statoil and Russia's Gazprom.

A greater element of spot pricing has been introduced into long-term contracts, although Gazprom has said the measure is only temporary, and only for a small percentage of the volume.

Algeria has recently proposed cutbacks in global gas production to boost the price of spot gas back up towards long-term contract levels.

The Platts Northwest Europe Gas Contract Indicator assesses the price of oil-indexed long-term contract gas for March at Eur21.00/MWh. Spot gas at the NetConnect Germany trading hub closed Wednesday at Eur11.70/MWh, some Eur9.30/MWh lower.—Alex Froyle, Andreas Franke

**PLATTS CONTINENTAL EUROPEAN POWER INDICES**

**Platts Continental European Indices (Eur/MWh)**

	25-Mar-10	Change
ContiMonth	36.490	-0.020
ContiQuarter	35.920	+0.000
ContiCal	46.380	+0.030

**Deviation from Continental European Indices and Germany (Eur/MWh)**

	ContiMonth	Germany
France	+1.010	+1.600
Netherlands	-0.840	-0.250
Belgium	-0.790	-0.200

	ContiQuarter	Germany
France	+0.380	+0.450
Netherlands	-0.520	-0.450
Belgium	-0.920	-0.850

	ContiCal	Germany
France	+2.120	+3.100
Netherlands	-2.980	-2.000
Belgium	-1.680	-0.700

ContiMonth, ContiQuarter, ContiCal: The Conti-indices are monthly, quarterly and yearly base load indices of consumption-based German, French, Belgian and Dutch assessments to indicate trends in continental European forward power prices in the wholesale market.

**Power Price Fundamentals**

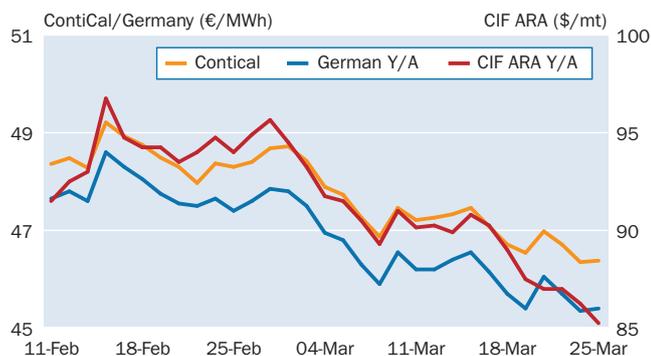
	25-Mar-10	Change
Brent Oil (Month-ahead – \$/bbl)	80.150	+0.620
Coal CIF ARA (Year-ahead – \$/mt)	85.250	-1.000
EUA (Year-ahead – Eur/mt)	12.690	-0.090
UK NBP (Year-ahead – Eur/MWh)	14.395	+0.105

**Germany Year-Ahead – ContiCal Spread (Eur/MWh)**



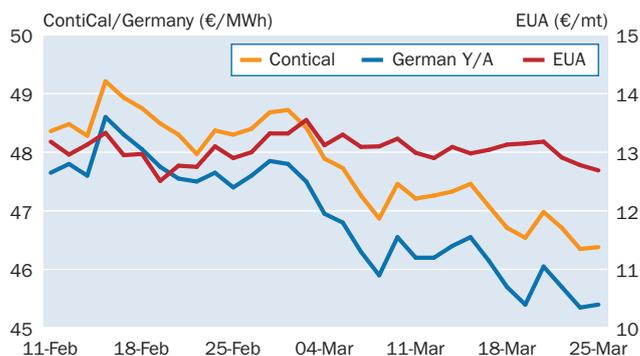
Source: Platts

**Coal CIF ARA Y/A (\$/mt) vs ContiCal vs German Y/A**



Source: Platts

**Emissions vs ContiCal vs German Y/A**



Source: Platts

## CAPACITY &amp; GRID

## Polish grid can take 13 GW wind power: lobby

The Polish grid is able to accommodate 13,000 MW of wind capacity, the Polish Wind Energy Association (PSEW) said Thursday.

PSEW said an analysis it conducted to determine the real capabilities of the network determined that the grid is able to connect 13,000 MW of wind capacity, or nearly twice what was announced by the country's main network operators.

The wind power group said more than 10,000 MW of capacity could be connected to the grid without major investment costs.

Poland's state-owned transmission system operator, PSE Operator, estimates that only up to 8,000 MW of wind power can be safely connected to the network in its current status.

PSEW said that similar estimates have not been backed up by studies.

PSE Operator in January said it and other network distribution operators have already granted connection permits for 12,300 MW of wind power, although much of that capacity may never be built given that a number of the permits have been acquired by speculators.

At the end of 2009, just 570 MW of wind power generation capacity had been connected to the grid.—*Adam Easton*

## Belgium grants offshore permit for 245 MW

Belgium has given authorization for the 245 MW Seastar offshore wind project, which was planned by a consortium of investors including renewables firm Electrawinds and the Power@Sea group.

Belgian Energy Paul Magnette signed the concession Wednesday, a ministry spokeswoman said. The minister granted the concession after advise from the energy regulator CREG.

Power@sea is held by dredging firm DEME as well as public holding companies Ecotech Finance and Socofe.

Seastar, which will comprise 41 turbines, is the sixth project to gain one of seven state concessions for offshore projects. It will be located between the "Blighbank" and the "Bank without a name" section of the coastal waters, which the Belgian state designated for wind projects.

In February, the THV Seal, Blue4Power, and Northwester projects had their concession applications for the remaining zone refused. The Blue4Power consortium includes Belgium's largest power firm, Electrabel, a wholly owned GDF Suez subsidiary.

It is not clear at this stage what projects will compete for the outstanding permit, the government spokeswoman said. "The call for projects is yet to be re-launched," she said.

The C-power project is the only project under the government's offshore expansion plan to have turbines up and running. The project has six turbines in place capable of producing 30 MW of power.

A spokeswoman for C-power said Thursday the second phase of the project is underway, in which 24 additional 6 MW turbines will be installed by 2011, with commercial operations expected to start in 2012.—*Robin Sayles*

## French EDF restarts 1,300 MW Paluel-3

Electricite de France reconnected to the grid Wednesday its 1,300 MW Paluel-3 nuclear power reactor, the power company said Thursday.

The unit has been offline since September 25, 2009, when a

## Platts Cross Fuel Comparisons, March 25, 2010

	Euro cents/kWh	US cts/kWh
<b>UK gas prices at NBP <sup>1</sup></b>		
Balance month	2.1000	2.8000
April	2.0700	2.7600
May	2.0300	2.7000
Q2 2010	2.0400	2.7200
<b>Fuel Oil <sup>3</sup> (NW Europe)</b>		
April 1%	9.4000	12.5500
May 1%	9.4600	12.6300
Q2 2010 1%	9.4600	12.6300
April 3.5%	9.0600	12.1000
May 3.5%	9.1200	12.1700
Q2 2010 3.5%	9.1100	12.1700
<b>Gasoil <sup>2</sup> (NWE 0.1% cargoes)</b>		
Spot	13.1000	17.4800
April	13.1300	17.5200
May	13.1000	17.4800
Q2 2010	13.1200	17.5100

**Coal <sup>4</sup> (CIF ARA)**

Month Ahead	2.3000	3.0700
90-Days	2.3200	3.1000

Exchange rate = 1.335

Note: Prices in this table show the cost of electricity generated from each fuel, taking into account power plant efficiencies. Conversions assume the following efficiencies: Gas 55%, Fuel oil 32%, Gas oil 32%, Coal 34%. They are indications only.

1) Source: Platts European Gas Daily

2) Source: Platts Global Alert. 1%: Spot = 10-25 days ahead of publication. Forward swaps prices. Assumed calorific value 17,800 Btu/lb. 3.5%: Spot = 2-15 days ahead of publication. Forward swaps prices.

3) Source: Platts Global Alert. Spot = 10-25 days ahead of publication. ICE prices based on volumetric average. Assumed calorific value: 18,500 Btu/lb.

4) Source: International Coal Report, Europe, 10,800Btu/lb

## Forex Indicators, March 25, 2010

	NOK	SKr	DKr	SFr	GBP	US \$	Zloty
Euro	8.044	9.698	7.440	1.427	0.895	1.335	3.891
US \$	6.026	7.265	5.574	1.069	0.671	1.000	

## Weather Summary, March 25, 2010

**Week Normal high/low temps (C) and projected deviations from normal**

Celsius	Normal	25	26	27	28	29	30	31
<b>CENTRAL EUROPE</b>								
Berlin	11/2	+5	+7	+2	0	0	+3	-4
Frankfurt-am-Main	12/5	+5	+3	-1	-2	-3	0	-4
Prague	10/1	+5	+6	+1	+1	0	+3	-1
Vienna	12/3	+5	+6	+2	+1	0	+3	-2
Warsaw	10/1	+4	+8	+5	+3	-1	+2	+1
<b>NORTHWEST EUROPE</b>								
Amsterdam	12/4	+5	+2	0	-1	-1	-1	-4
Brussels	12/4	+6	+3	+1	-1	-1	-2	-3
London	12/4	+3	0	+1	-1	-1	-3	-3
Paris	13/6	+3	0	0	-1	+2	-1	-3
<b>SCANDINAVIA</b>								
Copenhagen	8/1	+3	+4	+1	+1	+1	+2	0
Helsinki	4/-2	-11	-3	0	0	0	0	-1
Oslo	5/-3	-1	0	-1	-1	-3	-5	-2
Stockholm	6/-1	-2	-1	0	0	0	-2	-1
<b>SOUTHERN EUROPE</b>								
Lisbon	18/11	-2	-2	-2	-1	0	-1	-1
Madrid	17/5	-2	-4	-1	+1	-1	0	+1
Milan	14/5	0	0	-1	+2	+1	+1	+1

Source: CustomWeather, 25Mar10/06:54 AM EDT/1054 GMT

fire broke out at the plant.

The other three 1,300 MW reactors at the Paluel nuclear park were available to the grid Thursday, EDF said.—*Robin Sayles*

## German RWE to ramp down Biblis A

German utility RWE is to ramp down its 1.2 GW Biblis A nuclear reactor from this weekend onwards to stretch its allocated run-time under Germany's still valid nuclear phase-out law, a company spokesman said Thursday.

"By reducing the capacity at Biblis A to 40%-50% we are able to extend the allocated run-time of the reactor from just six months to approximately a year," the spokesman said.

The reactor was restarted only last weekend after a 13 months outage, during which RWE spend Eur68 million (\$92 million) modernizing the reactor block.

Biblis A, which started operations in 1974, is among the oldest reactors in Germany and would be scheduled for final decommissioning later this year under Germany's nuclear phase-out law.

The current government wants to extend the run-times of all 17 German nuclear power plants provided they are safe to operate.

Germany's only other reactor to face a final switch off this year, EnBW's Neckarwestheim-1, is currently running at reduced capacity to stretch its remaining production allocation until October, when the government wants to publish its new energy concept and create a legal framework for the extension of nuclear run-times.—*Andreas Franke*

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## COMPANIES

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## French EDF to start supplying Exeltium May 1

French state-controlled utility EDF late Thursday said its power supply deal with the Exeltium consortium of electricity-intensive industrial users would start May 1.

"The EDF Group and Exeltium have finalized the conditions for the two-phase implementation of the partnership agreement concluded on July 31, 2008, whereby electricity supplies to about a hundred industrial sites in France at approximately half of the rights of their contract will start on May 1, 2010," EDF said in a statement.

The agreement has been subject to delays since it was first announced in July 2008, both due to competition concerns at the European Commission level and to financing issues for the consortium as the global financial crisis took hold.

The EC issued a statement of objections in December 2008 to EDF's long-term deals, arguing the contracts were anti-competitive and that EDF was abusing its dominant position in the French market.

The EC last week said it had accepted commitments made by EDF with respect to large customers.

EDF had said it would now ensure that "a significant number" of electricity consumers will be free to buy power from other suppliers and that it would remove resale restrictions.

The utility will ensure that 65% on average of the electricity that it has committed to contracts with large consumers will be available on the market. This could be either because the contract ends or because customers will be able to opt out of their contract at no cost.

The EC said EDF has some flexibility to meet this average over the 10-year lifetime of the commitments, but each year at least 60% of its total contracted electricity volumes must return to the market.

In addition, future contracts between EDF and large customers will be for no longer than five years, unless the customer can opt out from the contract for free at least every five years.

EDF must also now always offer customers the possibility to conclude non-exclusive contracts, allowing customers to partly source their electricity needs from other suppliers.

The commitments are binding for 10 years, although if EDF's market share falls below 40% for two consecutive years, it will be released from the 65% obligation.

EDF Thursday reiterated that the Exeltium agreement "meets European competition law."

"This agreement will contribute to furthering EDF's investment drive in the renewal of its electronuclear installations and to secure part of the sourcing of electricity of its industrial customers," the company said.

The Exeltium consortium includes companies such as Air Liquide, Rio Tinto, Alcan, Arcelor Mittal, Arkema, Rhodia and Solvay. Large industrial users account for some 40% of France's power demand.—*Anna Crowley*

## General Electric in offshore wind investment

US-listed General Electric said Thursday it will invest Eur340 million (\$455 million) into developing its offshore wind turbine manufacturing, engineering and service facilities in Europe, creating about 2,000 new jobs in the UK by 2020.

GE also plans to invest in Norway, Sweden and Germany.

"Offshore wind will play a vital role in meeting the growing global demand for cleaner, renewable energy and has a bright future here in Europe," said GE chief executive Ferdinando Beccalli-Falco in a statement.

"These investments will position us to help develop Europe's vast, untapped offshore wind resources, while also creating new jobs for both GE and our suppliers," Beccalli-Falco added.

In the UK, GE said it will invest Eur110 million in establishing its offshore wind turbine manufacturing presence, locating application and service engineering resources.

GE will also bring in partners and suppliers of towers, blades, nacelles and other wind components to the manufacturing facility.

The investment follows the UK government's infrastructure competition, which was aimed at supporting the development of renewable energy.

The UK's energy and climate change secretary Ed Miliband welcomed GE's announcement saying: "GE's investment will create new jobs and help the supply chain flourish, reinforcing the UK as the destination for offshore wind investment."

UK business secretary Lord Mandelson added: "This industry has enormous potential for further growth, with significant knock-on benefits for jobs throughout the supply chain."

Environmental group Greenpeace said wind technology will be the growth industry of the 21st century and proves that with the right incentives, Britain could be in the pole position to benefit from it.

"This factory alone will create thousands of new jobs and significant levels of new investment to our economy. Add to this the fact that the turbines will help secure our energy supplies and reduce emissions, and the news begins to look very good indeed," said Greenpeace policy director Doug Parr.

## Next generation turbine key, 250 more EU jobs expected

GE said the development of its 4 MW next generation wind turbine, the largest in its fleet, is a key component of its European offshore expansion program and uses technologies through its acquisition of ScanWind.

The turbine will feature technology which eliminates the need

for gearboxes and is currently being demonstrated at a test site in Hundhammerfjellet, Norway.

In Norway GE said it will invest about Eur75 million and create 100 additional jobs to its offshore wind business by 2016.

GE will do this by adding to its existing presence in Norway, through a new offshore technology development center in Oslo and the expansion of its demonstration unit production and service facilities in Verdal.

GE said it has also joined forces with the Nowitech Research Center in Norway to participate in offshore wind joint research projects.

In Sweden, GE said it will create around 50 new jobs through a Eur50 million investment by developing a conceptual and systems design center in Karlstad, Sweden.

It also plans a technology demonstration unit to be installed in Gothenburg harbor. The company will also join the Chalmers Wind Energy Center in Gothenburg.

Additionally, a new engineering center in Hamburg Germany will create about 100 new jobs, involving a Eur105 million investment in GE's offshore wind business by 2016.

The investment will include product development, application engineering and an advancement in technology, GE said.

The US-based company also plans to expand its resources at its existing wind turbine manufacturing facility in Salzbergen and its Global Research Center in Munich.

The European Wind Energy Association expects Europe's offshore wind sector to grow more than 70% in 2010, with continued growth forecast over the next several years.

If all of the offshore wind projects currently in development are completed, they could produce 10% of the European Union's total electricity while avoiding 200 million mt of CO2 emissions each year.—*Darren Stetzel*

## Poland to open Enea sale negotiation in June

Poland's deputy treasury minister Jan Bury said Wednesday the government plans to invite investors to negotiations in June to acquire a controlling 50% stake in the country's third largest power company, Enea.

Enea, based in Poznan, western Poland, produces around 7.7% of the country's electricity. It sold 17.5 TWh to 2.3 million customers in 2008.

"We certainly want to sell Enea in the second half of the year. In the second half of June we will invite sector investors to negotiations for the sale of our package of shares," Bury told state news agency PAP.

The sale is part of the government's plan to raise Zloty 25 billion (\$8.9 billion) from privatizations in 2010. It is planning to offer minority stakes in the country's two largest power groups, Polska Grupa Energetyczna (PGE) and Tauron, later this year.

In February, the government raised Zloty 1.13 billion when it sold off a 16.05% stake in Enea at a 9% discount, mainly to domestic institutional investors.

In October last year it failed to sell its 67.05% Enea stake after sole bidder RWE backed out, saying its offer could not meet market expectations, which valued the stake at Zloty 7 billion.

Enea held an initial public offering in November 2008, in which Sweden's Vattenfall acquired an 18.67% stake in the company.—*Adam Easton*

## Swiss EGL warns of net profit fall for '09/10

EGL's net profit for financial year 2009/10 "will be about half of last year's level" of CHF186.7 million (\$174.3 million) because of costs relating to capacity development, production outages and

procurement, the Swiss power utility said in a statement Thursday.

While the utility expects gross margins for the 2009/10 financial year, which runs from October 1 to September 30, in line with last year, "factors affecting the cost side will disproportionately burden the first half-year," it said.

These include settlement costs for EGL's Energy Plus gas-fired power plant project in Italy.

"Due to the difficult economic environment, sale of the planned gas-fired combined-cycle power plant project, Energy Plus, in Italy could not yet be realized," EGL said.

"In particular, one-off costs stemming from non-fulfillment of project contracts have reduced the result for the 2009/10 financial year."

Meanwhile unplanned additional power procurement costs are being incurred due to a Block 2 outage at Electricite de France's Bugey nuclear power plant, where EGL has a long-term power procurement contract, it said.

Further, "the consequences of decoupling of oil and gas prices and the lower euro exchange rate" are hitting profit margins, EGL said.

"The natural gas market remains strained. Supply backlog due to lower demand has led to decoupling of gas and oil prices. As a result, EGL is renegotiating prices in order to obtain purchasing conditions in line with the market. In addition, the weak euro vis-a-vis the Swiss franc will likely decrease earnings for the 2009/10 financial year," the utility said.—*Henry Edwardes-Evans*

## Spain's Gas Natural refinances

Spanish energy utility Gas Natural said late Wednesday it had secured a Eur4 billion (\$5.3 billion) loan to help refinance significant debt that was taken on to acquire power producer Union Fenosa last year.

The financing operation includes a Eur1 billion tranche that will be due in three years and a second of Eur3 billion that falls due in five years.

The loan was provided by an 18-member domestic and international banking syndicate.

As a result of the refinancing, Gas Natural now has a debt-repayment obligation of Eur991 million for 2010, Eur992 million for 2011, Eur2.055 billion for 2012, Eur2.339 billion for 2013, Eur2.363 billion for 2014 and Eur9.224 billion for 2015.—

*Henry Cybulski*

## Nuclear safety inspectors OK Belgian Doel

A nuclear inspection team has acknowledged existing safety practices at Belgian Electrabel's 820 MW Doel nuclear power plant, Electrabel said Thursday.

The Operational Safety Review Team (OSART), comprising 15 international experts from the International Atomic Energy Agency, presented its initial findings from a three-week safety audit to Electrabel Thursday morning.

"The OSART team acknowledges that safety is a priority at the nuclear power station and that efforts are continually being made to optimize safety and reliability at our facilities," Electrabel said in a statement.

The team noted 14 "good practices," the statement said. These include: the existence of individual training programs for emergency plan personnel, thorough training in the correct use of special protective clothing in controlled areas, and training and coaching for contractors, focusing on activities during overhauls.

The experts also formulated five recommendations and 10 suggestions to encourage development in line with OSART's reference framework, according to Electrabel. Areas covered

include: formalizing the existing cooperative arrangement with the local fire brigade, further developing and actively using a theoretical model for planning and carrying out activities, and formalizing the use of protective equipment in the control rooms.

“The power station is also encouraged to more quickly share its experiences with other nuclear power stations, to continue developing its workplace accident prevention plan and to pay even more attention to small anomalies at the facilities,” Electrabel said.

Doel site manager Jan Trangez said that the audit “states the high level of the security of the installations and this at the time the decision was taken to extend the lifetime of [Belgium’s] first three units (Doel 1, 2 and Tihange 1) by 10 years.”

Under a draft deal signed with the Belgian government on October 22 last year, Electrabel’s parent, French utility GDF Suez, agreed to make payments of Eur215-245 million/year (\$287-327 million) from 2010 through 2014 in exchange for Belgium extending the lifespan of the country’s three oldest nuclear reactors by 10 years to 2025.

GDF Suez/Electrabel own two of the reactors, the 390 MW Doel 1 and 430 MW Doel 2 units, and 50% of the third, the 960 MW Tihange 1, with French utility EDF.

The final conclusions of the OSART mission will be released in about four months with the publication of the full OSART report on the website of the Federal Agency for Nuclear Control, the statement said.

Electrabel added that it would now develop an action plan, in cooperation with the relevant authorities, in preparation for a follow-up audit by OSART in early 2012.—*Anna Crowley*

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## RENEWABLES

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### Cooperation needed to tap EU biomass energy

Cooperation between the EU countries with the greatest unexploited biomass potential and those with the most advanced biomass sectors could significantly contribute to achieving EU-wide renewable energy targets, according to German energy agency DENA.

Alexandra Lermen, DENA’s European Biomass Action Plan project driver, told a workshop organized by EU biomass association AEBIOM on Thursday that there is great potential for EU countries to cooperate on development of biomass—any renewable organic material that can be used to provide energy, including energy crops, wood waste, municipal biowaste or agricultural waste—as part of efforts for 20% of energy consumption being met from renewable sources by 2020.

“Countries with a lot of existing experience in biomass [such as Germany and Austria] are likely to participate in joint projects with or in other countries where there is greater potential. Poland, France, Spain and the UK all have a lot of potential that is yet to be developed,” said Lermen.

By contrast, countries like Denmark, the Netherlands and Portugal have low amounts of potential still to be developed.

Calliope Panoutsou of Imperial College at the University of London told the workshop that research by the college indicated that biomass could provide up to 50% of the energy needed to meet the 20% by 2020 renewables goal.

And several speakers at the workshop stressed the versatility of biomass as a key factor in its future potential, noting that it can be used for power generation, for heat—either through biomass-fired boilers or through grid quality biomethane displacing natural gas—and for transport, either as the feedstock for second-generation biofuels or compressed natural gas based on biomethane.

Each EU country has a national target for 2020 renewable

energy use, ranging from 10% in Malta to 49% in Sweden, and while most expect to meet the target on their own, at least five have already indicated they will need to take part in “cooperation mechanisms” to meet their target.

The cooperation mechanisms allow for simple statistical transfers so that states that exceed their targets can “export” to those that fall short (without any physical transfers taking place), or they can involve joint projects, where a renewable energy project in one country counts towards a target in another, or finally they can involve common support schemes where neighboring countries bring together their renewable energy support schemes so that capacity in one country can count towards the target in another.

Lermen said she did not think common support schemes would evolve but that there was potential for countries with large untapped biomass resources to export some of that resource through the other mechanisms.

“We don’t think common support schemes will be widely used beyond, perhaps, Scandinavia where there is already a history of close market integration, but joint projects or statistical transfers are more likely, she said.”—*Paul Whitehead*

### Red tape restricting Irish renewables

Unnecessary government red tape is putting Ireland at risk of missing its national 2020 target of 40% renewable electricity generation, according to the Irish Wind Energy Association.

“2010 is make or break time for the Irish energy sector,” IWEA chief executive Michael Walsh said in a statement ahead of the association’s conference in Dublin on Thursday and Friday.

He said that Ireland was on the brink of a significant economic and sustainable energy opportunity but that the government and other agencies needed to be “fully aligned and equipped to deliver on the key actions required.”

Walsh said that although the importance of the green economy has been repeatedly stressed by the Irish government, IWEA members were growing frustrated at the increasingly difficult investment environment, and the lack of coordination between official agencies.

As a solution to IWEA member’s concerns, Walsh called for the Irish government to provide a stable framework for investors.

“An IWEA Deloitte study published last year indicated that there would be approx EUR14.7 billion invested in the Irish energy sector from now to 2020 but this investment will not happen unless a stable policy framework is in place,” he said.—*Rachel Morison*

### Irish wind losing out on investment: SSE

A significant lack of cost-competitiveness on an international level and inadequate national support are making Ireland less attractive to investors in wind energy, Scottish and Southern Energy financial director Gregor Alexander told the IWEA conference in Dublin on Thursday.

“Increasingly SSE is being forced to turn down investment opportunities in Ireland as the returns do not come close to what we can achieve in other European markets, including those with lesser wind resources,” he said.

Ireland will be critically dependent on international investment to meet its ambitious 2020 target of 40% renewable energy.

“Ireland will need to either attack its cost base or increase support mechanisms, or preferably both, if the country is to deliver on the enormous potential of the Irish market,” Alexander said.

Investors view the country as a potential market to invest in because of its wind resources, but many feel that cost-

competitiveness needs to be addressed first.

Ireland ranked ninth in Europe last year in terms of wind installations, although these accounted for just 2% of the region's overall total, which does not position the country as a global player, said Michael Walsh, chief executive of IWEA, speaking at the conference.

"There is clearly something wrong. Quite simply we really need to do a lot better; we need to encourage rather than discourage the huge level of investment in the Irish market," he said.—*Rachel Morison*

## MARKET COMMENT

**UK prompt OTC power prices** were bearish Thursday on typically lower Friday demand, with a coal-plant outage this morning offering little support, but traders said overall fundamentals are stable and relatively unchanged on the rest of the week. Baseload power for Friday delivery closed GBP1.40 below Wednesday's close at GBP32.60/MWh, while peakload was heard GBP1.60 lower at GBP36.40/MWh. The day-ahead auction price on the UK's N2EX wholesale power exchange printed just 20 p below OTC at GBP32.42/MWh for Friday baseload, with 8,160 MWh traded in total. "We lost Longanett's unit two at 08:00 GMT this morning but it didn't really cause any hoo haa," one trader said. "The fundamentals are all pretty much the same with plenty of supply and warm enough weather." According to National Grid, Scottish Power's Longanett 2 600 MW coal-fired unit went offline at 08:14 GMT Thursday morning with no return date specified. Overall National grid data showed margins will improve despite lower Friday demand, an increase of 2.9 GW forecast with 16.2 GW spare capacity available, up from 13.3 GW Thursday. Temperatures in London are also expected to remain stable with warmer night time temperatures against a slight decrease during the day. According to Accuweather 9-12 degrees Celsius is expected Friday compared with 6-14 C Thursday. In Aberdeen Thursday temperatures will fall from 8-11 C to 7-9 C before warming up at the weekend. Further forward, sources said the emerging trend in peakload power for delivery next week was interesting as prices failed to fall despite a shorter working week due to the Easter holiday. "The Friday is cheaper next week because of Easter but the rest of the week must be particularly expensive to keep the price so high, maybe because of colder weather and tighter margins," a trader said. Week-ahead peakload fell by 20 p to GBP37.30/MWh, while baseload dipped 30 p to GBP33.05/MWh and further forward the front-month was heard changing hands unchanged on the day at GBP33.40/MWh. On the far end of the curve sources said: "Prices were a little firmer on gas in the morning, then they softened and firmed up again." So with contracts further forward clearly influenced by gas, Summer 2010 baseload ended the day at GBP33.60/MWh, down 20 p. Sources also heard deals done in the April spark spread at GBP12.50/MWh.

**German day-ahead power prices** inched higher Thursday as a relatively low wind power forecast and some lignite outages more than offset typically lower demand ahead of the weekend, while some players tried to push up prices ahead of Friday's expiry of monthly and quarterly options, a trader said. Baseload power for delivery on Thursday was last heard 55 euro cent higher at Eur35.85/MWh, while peakload traded Eur1.55 higher at Eur41.80/MWh. EPEX Spot closed the baseload price for Thursday Eur1.50 above OTC at Eur37.32/MWh. Peakload on the exchange was also around Eur1.50 above OTC at Eur43.51/MWh. Some

traders expressed surprise that the German day-ahead price on the exchange was about Eur3 above its French equivalent in base and in peak. "Friday was well supported, there will be very little wind especially during peak times and there are also some outages," a trader said. Average wind power production for peak hours Friday is forecast at about 1.5 GW, almost 1 GW down from Thursday's forecast, a market source said, adding that most of the wind was expected during off-peak hours. Total nuclear and fossil power availability for Thursday will be almost 1 GW lower at 61.2 GW as some lignite units will be taken offline, according to EEX data, which covers 75% of Germany's total installed capacity including its big four utilities. According to German weather service DWD, cooler weather will move in from the west during Friday and temperatures will fall from highs of 20 degrees C to just 12-17 degrees C with thundery showers forecast for many western parts of the country. Temperatures will fall the most in Dusseldorf, where the mercury will plunge from six above seasonal norms to just one degree above on Friday, while Berlin and many Eastern parts will still see temperatures well above seasonal norms on Friday, according to AccuWeather. Further out on the prompt, week-ahead base traded 15 euro cent lower at Eur33.85/MWh as the drop in temperatures early next week was already priced in, a trader said. There were some surprising moves on the near end of the curve, where April baseload dropped as low as Eur35.55/MWh during the morning before recovering to its previous closing value of Eur35.90/MWh. Further forward, Q2 base was down just 5 euro cent at Eur35.85/MWh, while Cal 11 baseload found some support after Wednesday's losses, up 5 euro cent at Eur45.40/MWh as front-month Brent crude oil was \$0.50 higher at \$80.20/barrel by close. "Trading on the curve was very rangebound, hardly anything moved more than 10 euro cent," a trader said.

**French and Dutch OTC prompt power** firmed Thursday as lower temperatures offset typically weaker Friday industrial demand. French day-ahead closed at Eur35.75/MWh in base and Eur41.75/MWh in peak, respective day-on-day rises of Eur2.50 and Eur2.25. The equivalent Dutch contracts saw smaller gains of 50 euro cent in base and Eur1.25 in peak to close at Eur35.25/MWh and Eur41/MWh, although sources pointed out that Dutch peak was only heard trading in the early morning, failing to follow other markets further up later in the session. Traders said that French OTC had moved up in line with Germany, where reduced capacity brought bullish momentum to prices. The region's exchanges came out below the OTC market and were again almost identical, barely changed on the day. EPEX Spot cleared French base and peak at Eur34.39/MWh and Eur40.61/MWh, in line with Belpex's Belgian settlements, while APX printed at Eur34.84/MWh in base and Eur40.96/MWh in peak. "Temperatures are lower on Friday than Thursday so there's a little bit more consumption and capacities are unchanged," said a trader. French grid operator RTE scheduled nuclear availability at 51.58 GW Friday, slightly up on its 51.45 GW estimate for Thursday, out of total power plant available capacity of 86.95 GW. Maximum demand was pegged at 62.80 GW, putting the minimum supply margin for Friday at 24.15 GW. In the Netherlands, EnegieNed expected a dip in power plant availability to 14.46 GW Friday from 15.36 GW Thursday. AccuWeather forecast temperatures in a range of 7-14 degrees Celsius in Paris and 7-13 C in Amsterdam Friday. Further out, traders said activity on the curve had been absent in a sideways market. "It's been extremely lackluster, it's just drifted," one trader said. In the Netherlands, two location spread trades with Germany were heard during morning trading, one for the Dutch-German Q2 base spread, at minus 35 euro cent, and one for the Dutch-German Cal 12 spread, at minus Eur3.10. This compared with closing discounts according to Platts

data of 45 euro cent and Eur3.20, respectively. Cal 11 base closed virtually flat on the day in France, the Netherlands and Belgium, at Eur48.50/MWh, Eur43.40/MWh and Eur44.70/MWh.

**Czech prompt power prices** edged higher Thursday on the back of a slightly stronger German power market, with liquidity fairly brisk according to traders. Day-ahead baseload traded in a fairly narrow range though ticked slightly higher by late morning to be valued at Eur35.75/MWh (\$47.72/MWh) at 12:00 GMT, 95 euro cents higher on the day. The equivalent peakload contract was assessed at Eur41.75/MWh, Eur1.50/MWh higher on the day. Traders said that prices inched higher in line with the German market where relatively low wind power production and coal plant outages provided some support to the prompt power complex. "It's fairly steady but Germany found some support mid-morning and we [Czech] followed in line," said one trader, "liquidity has been pretty good with good volumes on base and peak." Further forward, liquidity was more patchy though the April peakload contract saw plenty of activity with at least 250 MW trading, according to sources. One trade for 100 MW was reported to have changed hands at Eur43.30/MWh. Cal 11 baseload was assessed at Eur42.95/MWh, 10 euro cents higher on the day.

There was little respite in the **Spanish prompt market** Thursday with prices once again under heavy pressure due to healthy wind generation forecasts, though the far curve was supported by a lack of willingness to go short, said traders. Liquidity was

thin in the day-ahead baseload OTC market which was valued at just Eur16/MWh, Eur5 lower on the day. Sources said that with OTC trading at a significantly higher level than OMEL's exchange through the week, a number of traders were unwilling to step in to the OTC market to pick up volumes. "Given where OTC has traded versus the exchange all week it doesn't make much sense to buy OTC," said one trader. OMEL's spot exchange for Friday baseload settled at just Eur10.80/MWh, with two off-peak hours valued at Eur0/MWh. OMEL's settlement price for Friday is the lowest working day settlement price so far in 2010. Strong winds were the main factor in the market with Aeolis weather service forecasting 9.5 GW of wind power generation on Friday, though this could fall to as low as 3 GW by late Saturday. The near curve initially found a degree of support on news that generation was partially curtailed at the 1.1 GW Trillo nuclear reactor at around 12:00 local time. According to a note published by nuclear watchdog CSN, production at the reactor was curtailed to just 20% of capacity, but by early evening full capacity had been restored, according to data from grid operator, Red Electrica. The week-ahead baseload contract finally found some definition with a flurry of trades at around Eur23/MWh, while April base was assessed at Eur27.90/MWh, Eur1.20 lower on the day. The far curve was fairly steady with sources indicating a lack of willingness to sell heavy volumes. Cal-11 was assessed at Eur39.15/MWh, 5 euro cents higher on the day. "Everyone is short enough in this market already," said one trader.

## EXCHANGE SUMMARY

## EPEX France Spot Auction® Day-Ahead (Eur/MWh)

	26-Mar-10	25-Mar-10	26Mar09
Minimum Hourly Price	12.33	16.86	27.41
Maximum Hourly Price	49.60	49.53	46.21
Average Base Price	34.39	34.66	38.07
Average Peak Price	40.61	40.00	41.79
Total Volume (MWh)	183,106.0	157,607.0	148,569.0

## EEX French Power Futures (Eur/MWh)

March 25, 2010	Base			Peak		
	Settle	Change	Volume	Settle	Change	Volume
Month						
First Month	37.55	-0.04	0	45.23	-0.11	0
Second Month	33.45	-1.30	0	41.43	1.37	2520
Third Month	38.08	-0.30	0	47.44	-0.11	3960
First Quarter	36.33	-0.55	0	44.75	0.37	0
Second Quarter	38.30	-0.08	0	50.75	0.00	0
Third Quarter	52.42	-0.08	0	70.00	-2.00	0
Fourth Quarter	56.63	-0.77	0	76.00	1.00	0
First Year	48.38	-0.02	0	66.63	-0.41	0
Second Year	50.25	0.14	0	69.95	0.47	0
Third Year	51.13	-0.50	0	70.00	-0.50	0

## APX Power UK Spot Summary (GBP/MWh)

**Total Spot Market Volume for** **24-Mar-10**

The trading day runs from 00.15 on the previous day to 23.45 on the relevant day for all listed spot contracts **28,625**

## Vital Statistics for 25-Mar-10

## Half Hour Contracts

(The data includes trades done between 00.15 yesterday and 18.00 today for all listed Half Hour contracts)

Trading Volume by 6.00PM	contracts	17,371
	MWh	8,686
High	HH100325-39	£110.00
Low	HH100325-08	£20.50

## Nord Pool Average Spot Prices (Eur/MWh)

	26Mar10	25Mar10	26Mar09
Oslo	NA	47.84	37.04
Bergen	NA	47.84	37.04
Molde	NA	52.34	38.83
Trondheim	NA	52.34	38.83
Tromso	NA	48.51	38.83
Kristiansand	NA	47.68	37.04
Sweden	NA	46.71	38.83
Finland	NA	46.71	38.83
West Denmark	NA	41.26	37.74
East Denmark	NA	38.97	38.83
Kontek	NA	NA	39.61
Systemwide	NA	47.36	38.01

## Nord Pool Futures

Contract	Close	Change	High	Low	Volume
Day ahead (EUR/MWh)	46.25	-1.75	47.00	46.25	15
First Week (€/MWh)	43.60	-0.40	43.60	43.50	102
Second Week (€/MWh)	44.88	—	—	—	—
Third Week (€/MWh)	44.75	-0.30	—	—	—
First Month (€/MWh)	43.10	-0.80	44.19	42.90	279
Second Month (€/MWh)	40.00	-0.70	40.35	39.80	126
Third Month (€/MWh)	40.60	-0.60	41.49	40.25	106
Fourth Month (€/MWh)	38.65	-0.70	38.65	38.50	16
Fifth Month (€/MWh)	40.15	-0.60	40.60	40.15	4
Sixth Month (€/MWh)	42.00	-0.55	42.00	42.00	13
First Quarter (€/MWh)	41.10	-0.80	41.70	41.00	468
Second Quarter (€/MWh)	40.18	-0.62	40.50	40.00	231
Third Quarter (€/MWh)	42.90	-0.60	43.30	42.80	100
Fourth Quarter (€/MWh)	44.60	-0.30	45.00	44.35	74
First Year (€/MWh)	38.75	-0.25	39.05	38.60	49
Second Year (€/MWh)	39.03	+0.03	39.05	38.95	14
Third Year (€/MWh)	41.30	+0.10	41.30	41.30	3

## EPEX Germany/Austria spot Auction (Eur/MWh)

	26-Mar-10	25-Mar-10	26Mar09
Phelix base	37.32	35.38	40.44
Phelix peak	43.51	40.58	45.03
Total Volume (MWh)	544,019.0	551,138.8	362,205.9

Base = 0000-2400, Peak = 0800-2000

Source: EEX

## EEX Phelix Futures (Eur/MWh)

March 25, 2010	Base			Peak		
	Settle	Change	Volume	Settle	Change	Volume
Month						
Apr 2010	36.02	0.10	259200	44.00	0.14	1320
May 2010	34.00	0.07	130200	42.59	0.10	2520
Jun 2010	37.54	-0.08	110880	47.92	0.19	2640
Jul 2010	38.78	-0.11	0	52.13	0.31	0
Aug 2010	35.96	-0.23	0	46.59	-0.27	0
Sep 2010	39.95	-0.56	0	52.09	-0.27	0
<b>Total</b>			<b>500,280</b>			<b>6,480</b>
Quarter						
Q2 2010	35.83	0.03	449904	44.87	0.14	16380
Q3 2010	38.21	-0.30	209760	50.27	-0.08	75240
Q4 2010	44.90	0.00	81733	58.65	-0.05	57024
Q1 2011	47.51	0.12	86360	61.89	0.00	9984
<b>Total</b>			<b>827,757</b>			<b>158,628</b>
Year						
2011	45.32	0.08	876000	59.79	0.04	143520
2012	49.18	0.10	166896	64.77	0.22	3132
2013	51.78	0.00	17520	67.68	-0.22	0
2014	54.40	0.47	0	72.60	-0.05	0
2015	55.65	0.72	0	74.10	0.45	0
2016	56.65	0.80	0	75.10	0.80	0
<b>Total</b>			<b>1,060,416</b>			<b>146,652</b>

## Austria EXAA Power Exchange (Eur/MWh)

	26-Mar-10	25-Mar-10	26-Mar-09
Minimum Hourly Price	15.57	19.31	26.33
Maximum Hourly Price	49.35	48.92	51.42
Baseload	35.80	35.25	38.50
Peakload	41.98	40.60	43.40
Total Volume (MWh)	18,870.7	13,977.2	11,173.7

## Elexon UK Balancing Prices (GBP/MWh)

Sell-Buy		Sell-Buy		Sell-Buy		Sell-Buy	
P1	26.44-29.52	P13	23.70-29.60	P25	28.70-33.76	P37	29.00-36.97
P2	23.09-29.54	P14	24.99-34.13	P26	28.88-34.07	P38	56.62-101.06
P3	29.72-33.92	P15	27.17-32.73	P27	28.67-32.93	P39	58.49-96.57
P4	28.44-33.77	P16	27.64-35.26	P28	28.78-34.68	P40	39.72-82.84
P5	25.92-33.92	P17	37.93-68.43	P29	29.00-34.25	P41	40.16-73.99
P6	27.14-33.50	P18	28.50-40.49	P30	28.62-34.56	P42	28.91-38.04
P7	21.74-24.57	P19	28.43-39.66	P31	28.39-33.85	P43	31.16-54.51
P8	21.24-24.52	P20	26.70-40.31	P32	28.45-33.97	P44	30.77-56.11
P9	21.22-25.19	P21	26.29-38.08	P33	28.41-33.64	P45	23.16-30.19
P10	21.43-25.15	P22	28.04-38.98	P34	36.79-36.79	P46	21.53-29.29
P11	21.11-29.64	P23	28.41-35.20	P35	37.88-44.45	P47	23.18-27.85
P12	21.66-29.58	P24	28.48-35.50	P36	29.00-38.68	P48	20.86-26.27

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