ELECTRICAL ENERGY OVERVIEW

Réseau de transport d'électricité

December 2011

The purpose of this document is to provide information on the results of operation of the French public transmission network and power system during the past month. Information sources: ERDF, METEOFRANCE, electricity generators, RTE. The data published are correct as of **6 January 2012**, unless indicated otherwise.

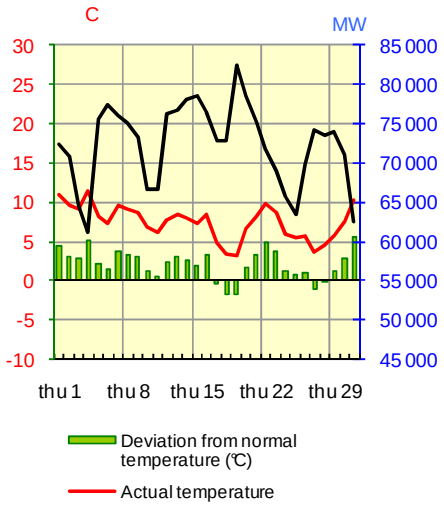
INTERNAL ELECTRICITY CONSUMPTION - perimeter France

Results at end of past month

	December 2011	Trend since December 2010	Cumulative trend since Jan 1st
National consumption	48.1 TWh	-16.4%	-6.8%
Adjusted consumption *	51.4 TWh	-1.0%	-0.7%

Temperature		
Monthly average	7.5	°C
Deviation from ref. value	+2.2	°C/ reference
Deviation from December 2010	+5.3	°C

RTE-in house references drawn up on basis of METEOFRANCE data



The month of December was marked by an historically high mean temperature, equal to 7.5°C, close to the level recorded in December 2002 (7.4°C) but lower than that of December 2000 (around 7.9°C). Temperatures remained above reference values for the vast majority of the month, with deviations varying between +5.7°C on the 31st and -1.7°C on the 19th. These meteorological conditions led to a reduction in electricity consumption in the order of 3.3 TWh (+6.4%).

Gross consumption fell by 16.4% compared with December 2010. Adjusted for meteorological contingencies, monthly demand remained lower than in 2010. The fall in December (-1.0%) was less marked than those observed in November and October (-1.7%, -2.7%) and on average over the 3rd quarter (-2.4%); Excluding the energy sector, consumption fell by 0.3% in December.

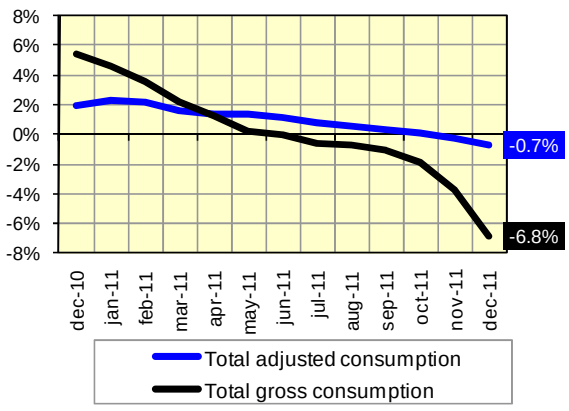
Cumulative trend over last 12 months

In cumulative figures over a 12 month period, gross consumption was down by 6.8% on December 2010, following a fall of 3.7% in November, and a 1.9% drop in October. The rate of growth in gross consumption has been falling steadily since December 2010 (+5.5%), and has been negative since the end of Jun (-0.1%).

Adjusted consumption* was down at the end of December (-0.7%), having fallen steadily since the end of May (+1.4%). Excluding the energy sector, adjusted consumption was up by 0.8% at the end of December, following rises of +1.3% recorded at the end of September, +1.6% at the end of June and +2.0% at the end of March.

** adjusted for the impact of meteorological contingencies in winter and summer*

Evolution of National consumption in sliding year



BALANCE OF ELECTRICAL ENERGY IN FRANCE

Results at end of past month

	December 2011 (GWh)	Deviation from December 2010 (GWh)	Trend vs. December 2010	Cumulative trend since Jan 1st
NET GENERATION				
Nuclear	39 819	-2 070	-4.9%	+3.2%
Fossil-fuel thermal	5 436	-3 162	-36.8%	-13.8%
Hydro	5 589	-1 396	-20.0%	-25.6%
Wind	2 012	+1 009	+100.5%	+22.8%
Other renewables *	696	+193	+38.4%	+32.6%
Total net generation	**53 552**	**-5 426**	**-9.2%**	**-1.5%**
GROSS INTERNAL CONSUMPTION				
Consumers directly connected to the RTE grid **	5 591	-784	-12.3%	-8.4%
Other consumers and losses on all networks ***	42 555	-8 682	-16.9%	-6.5%
Total gross internal consumption	**48 146**	**-9 466**	**-16.4%**	**-6.8%**
Energy extracted for pumping	**607**	**+29**	**+5.0%**	**+5.2%**
Balance of physical exchanges ****	**4 799**	**+4 011**	**n.s***	**+86.4%**

** mainly: household waste, paper waste, biogas, solar*

*** extractions by these consumers on the RTE network*

**** SMEs, professional and individual consumers served by the distribution networks, generation auto-consumed by industrials at their sites, losses on the transmission and distribution networks*

***** a negative value indicates a net import balance, whilst a positive value indicated a net export balance*

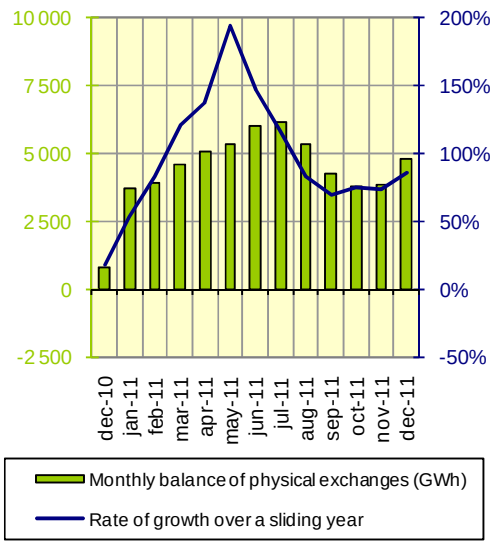
Nuclear generation for the month (39.8 TWh) was above the levels seen in 2009 (37.8 TWh), but lower than the levels seen in 2010 (41.9 TWh) and over the period 2003-2008.

Monthly hydro-electric generation (5.6 TWh) remained strongly down on 2010 (-20%), in line with previous months. However, it was higher than the values observed since 2003, with the exception of 2008.

The balance of physical exchanges

The exchange balance remained positive (i.e. France was a net exporter of energy) throughout the month. The export balance reached 4.8 TWh, compared with 0.8 TWh in December 2010. The export balance for 2011 was 86% higher than the figure for 2010, which was itself 19% higher than 2009.

Balance of physical exchanges



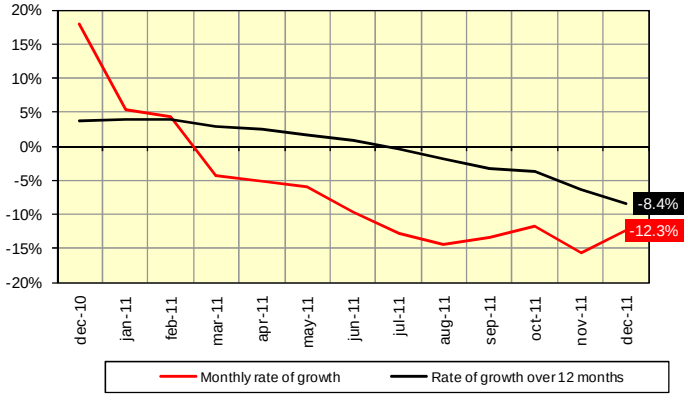
Extractions by heavy industry

In December 2011, the rate of growth in monthly extractions by consumers directly connected to the RTE network (-12.3%) rose compared with November (-15.7%), taking the average growth rate over the last three months to -13%, similar to that of the 3rd quarter, after values of -7% in Q2 and a rise of 1% in Q1.

Excluding the energy sector, the monthly growth rate was -7.4%, having slowed steadily since the start of the year (-1.3% in September, +1.7% in June, +4.6% in March 2011, +12.4% in December 2010). Extractions in December 2011 were higher than in December 2009 and December 2008 (+4%, 5%) but still down by 15% on December 2007.

The rate of growth in extractions by consumers connected directly to the RTE network, over a sliding year, continues to fall (-8.4%), after a figure of -6.3% recorded at the end of November. It has been slowing steadily since March (+2.8%), after reaching a plateau around +3.8% in early 2011. Excluding the energy sector, the monthly growth rate was up by 0.6% at the end of December.

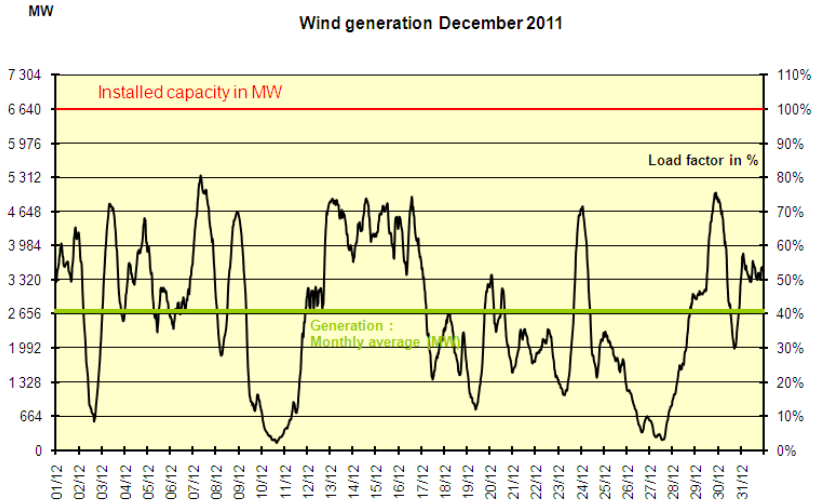
Evolution of extractions by end customers connected to the RTE network (gross values)



Wind generation over the past month

Wind generation and operational installed capacity

At the end of December, operational installed capacity was approximately 6 640 MW. Average wind generation for the month was 2 700 MW. There was more wind in December 2011 than in December 2010. The average load factor was high at 41%, compared with 24% in December 2010 (when average generation was 1 345 MW for installed capacity of 5 603 MW). At 7.30am on 7 November, a new wind generation record of 5 350 MW was set corresponding to a load factor of 80%; the maximum figure for wind energy generated over a single day was reached the same day, with 109 GWh.

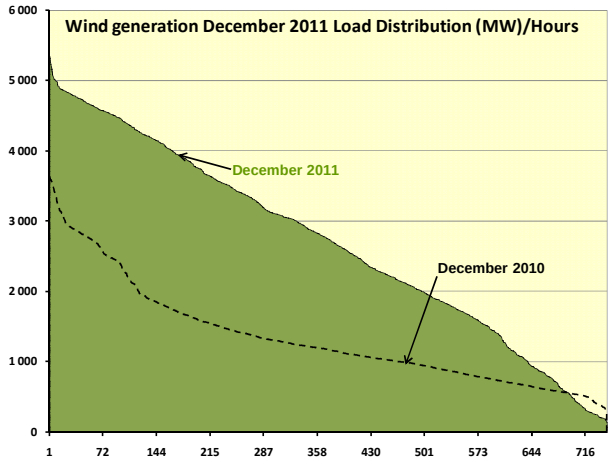


Dec-11	Wind generation (MW)	Load factor (%)	Date/time
Max value	5 350	80%	Fri 7 at 7.30am
Mean value	2 700	41%	
Min value	141	2%	Mon 10 at 4pm

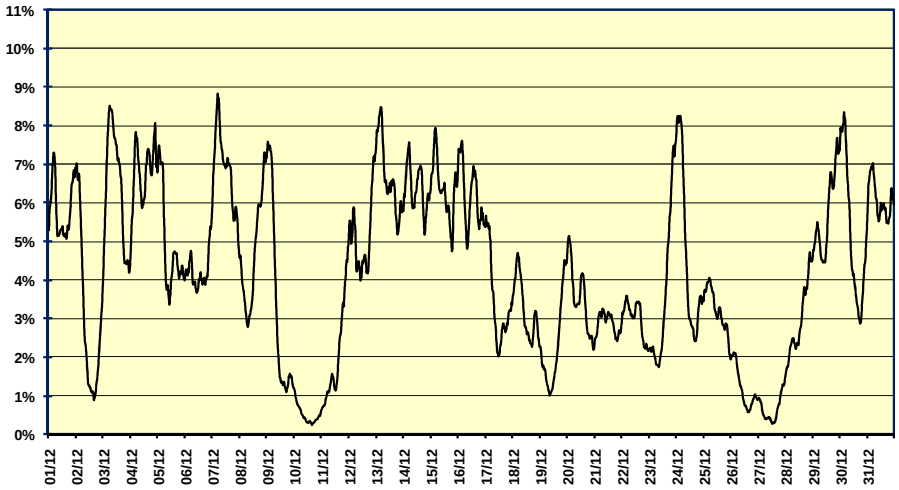
Hourly coverage rate

The average rate of coverage of demand by wind generation was 4.2% in December 2011, compared with 1.8% in December 2010.

Dec-11	Coverage rate	Date/time	Wind generation	Consumption
Mean value	4.2%			
Max value	8.8%	Fri 7 at 5am	4 864 MW	55 047 MW
Value at consumption peak	3.4%	Weds 19 at 7pm	2 801 MW	82 464 MW



Rate of coverage of consumption by wind generation (%)



EXTREME values for consumption, exchanges – perimeter France*

		December			Last 12 months			Absolute **		
Gross internal consumption	Maximum	1 764	GWh	Mon 19	2 004	GWh	01/02/2011	2 096	GWh	15/12/2010
		82 464	MW	Mon 19	91 718	MW	04/01/2011	96 710	MW	15/12/2010
	Minimum	1 299	GWh	Sun 4	894	GWh	07/08/2011	894	GWh	07/08/2011
		46 438	MW	Sun 4	31 037	MW	07/08/2011	31 037	MW	07/08/2011
Balance of physical exchanges ***	Maximum	275	GWh	Sat 31	277	GWh	15/01/2011	298	GWh	08/05/2008
		12 480	MW	Fri 30	13 887	MW	16/01/2011	13 887	MW	16/01/2011
	Minimum	70	GWh	Mon 19	-32	GWh	04/01/2011	-140	GWh	16/12/2009
		290	MW	Mon 19	-3 446	MW	04/01/2011	-7 795	MW	06/01/2010

** Excl. Corsica ** The minimum values concern the last 30 years for the physical exchange balance, and the last 5 years for consumption.*
**** A positive value indicates a net export balance, a negative value indicates a net import balance.*

THE ELECTRICITY MARKET

CONTRACTUAL CROSS-BORDER ELECTRICITY EXCHANGES

	EXPORTS			IMPORTS			CUMULATIVE VOLUME OF EXCHANGES			EXPORT BALANCE*		
	December 2011 GWh	Trend vs. Dec-10	Cum. trend since Jan 1st	December 2011 GWh	Trend vs. Dec-10	Cum. trend since Jan 1st	December 2011 GWh	Trend vs. Dec-10	Cum. trend since Jan 1st	December 2011 GWh	Trend vs. Dec-10	Cum. trend since Jan 1st
Belgium	516	-6%	102%	361	28%	-57%	877	6%	15%	155	-42%	n.s***
Germany	613	167%	16%	884	-51%	-47%	1 497	-27%	-24%	-271	83%	n.s***
Switzerland	2 416	3%	8%	230	-79%	-60%	2 646	-23%	-5%	2 186	72%	29%
Italy	1 718	55%	-3%	117	-68%	-38%	1 835	25%	-5%	1 601	114%	0%
Spain	673	n.s*	138%	378	-19%	-13%	1 051	96%	39%	295	n.s**	n.s***
GB	986	9%	-9%	220	-58%	-46%	1 206	-15%	-24%	766	98%	59%
TOTAL	**6 922**	**33%**	**13%**	**2 190**	**-52%**	**-47%**	**9 112**	**-6%**	**-8%**	**4 732**	**n.s****	**+89%**

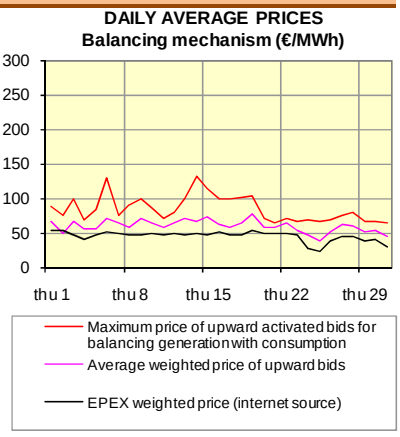
** A negative value indicates a net import balance **In December 2010, exports to Spain totalled 71 GWh. Overall, France imported a net total from Spain of 396 GWh. *** over the whole of 2011, the overall balance showed total net exports to Belgium of 5 793 GWh (compared with net imports of 872 GWh in 2010), total net exports of 2 388 GWh to Germany (compared with net imports of 6 713 GWh in 2010), and net exports to Spain of 1 458 GWh (compared with net imports of 1 625 GWh in 2010).*

In December 2011, the monthly balance of exchanges with Germany showed net imports, as in October and November 2011. After showing net imports from Spain in November, France was a net exporter to that country in December. After showing net imports from Belgium in October, France was a net exporter to that country in November and December.

BALANCING MECHANISM - BALANCE RESPONSIBLE ENTITIES

	December 2011		Deviation from Dec-10		Trend vs. Dec-10	Cum. trend since Jan 1st
Balancing Mechanism						
Total energy activated upward	360	GWh	-315	GWh	-47%	-32%
Total energy activated downward	368	GWh	+98	GWh	+36%	+5%
Number of parties	40		+3			
Exchanges between Balance Responsible entities* via (NEBs)						
Energy exchanged between BRs via NEBs	29 153	GWh	-1 297	GWh	-4%	+6%
Number of BRs	160		+0			

** Balance Responsible Entity: any legal entity who is committed to RTE, under a Balance Responsible contract, to settling the costs of the imbalances calculated retrospectively, on behalf of one or more network users attached to its scope. These imbalances result from the difference between all of the supplies and consumption for which it is responsible .*



NEW or REFURBISHED INSTALLATIONS

In December, the following RTE installations were electrified for the first time: a 400/225 kV (600 MVA) autotransformer at the **Marsillon** substation in the Pyrénées Atlantiques department; a 400/90 kV (240 MVA) transformer at the **Méry sur Seine** substation in the Aube department; new 225/63 kV transformers at the following substations: **Poteau rouge** in Morbihan (170 MVA), **Patis** in Oise (100 MVA), **Cossigny** in Seine-et-Marne (170 MVA); shunt capacitor banks (80 MVAR): at the 225 kV substations at **Domloup** in Ile-et-Vilaine, **Masquet** in Gironde, and **Romainville** in Seine-Saint-Denis; a 150/63 kV (100 MVA) transformer at the **Tarascon** substation in the Ariège department; the 90 kV Auvers-Molière n°1 and Molière-Sablé n°1 lines in the Sarthe, after connection to the **Molière** substation; shunt capacitor banks at the 63 kV substations at **Bruges** in Gironde (30 MVAR) and **Feurs** in the Loire (15.4 MVAR).

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