

# OVERVIEW OF ELECTRICAL ENERGY

## SEPTEMBER 2009

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 : electricity generators, ERDF, METEOFRANCE, RTE. The data published are interim figures dated **7 October 2009**, unless indicated otherwise.

### NATIONAL ELECTRICITY CONSUMPTION - perimeter France

#### Results at end of past month

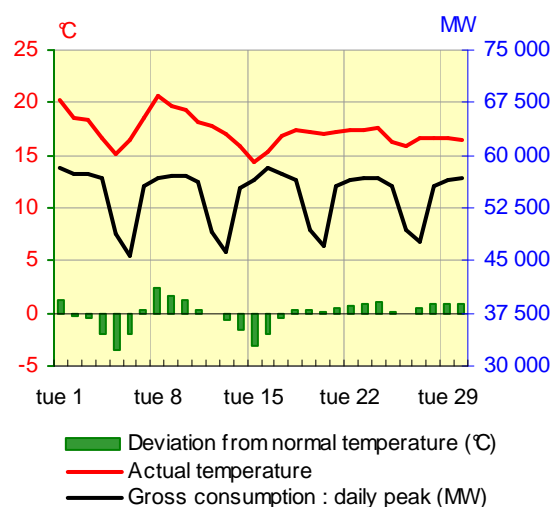
	September 2009		Trend compared with Sept 2008	Cumulative trend since 1 <sup>st</sup> January	Cumulative trend over last 12 months
Gross consumption	34,6	TWh	-3,3%	-1,2%	-1,2%
Adjusted consumption *	34,5	TWh	-2,2%	-2,6%	-2,2%

\* adjusted for winter and summer climate contingencies and the inclusion of 29 February 2008

#### Temperature

Monthly average	17,3 °C
Deviation from normal temperature	0,0 °C/normal
Deviation from September 2008	+ 2,0 °C

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



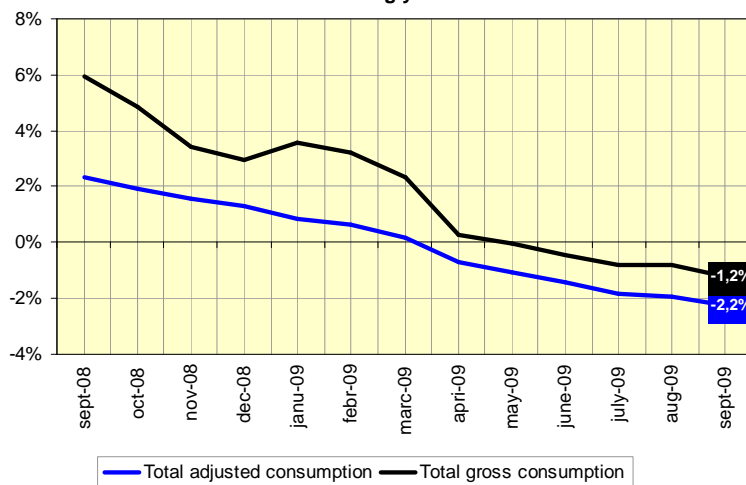
In September 2009, gross consumption was down by 3,3% compared with September 2008, with an average temperature 2,0°C higher. Adjusted for climatic contingencies, monthly demand was down by 2,2%.

#### Cumulative trend over last 12 months

In cumulative figures over a sliding 12 month period, the rate of growth in gross consumption slowed compared with the previous month, from -0,8% at the end of August, to -1,2% at the end of September 2009.

In cumulative figures over 12 months, the falling trend in adjusted consumption\* continued; the growth rate slowed from -1,9% at the end of August, to -2,2% at the end of September 2009.

Evolution of National consumption in sliding year



\* adjusted for winter and summer climate contingencies and the inclusion of 29 February 2008

## BALANCE OF ELECTRICAL ENERGY IN FRANCE

### Results at end of past month

	September 2009 (GWh)	Deviation from Sept 2008 (GWh)	Deviation from Sept 2008	Cumulative trend since 1st January	Cumulative trend over last 12 months
<b>NET GENERATION</b>					
Nuclear	28 679	-2 560	-8,2%	-5,6%	-4,4%
Fossil-fuel thermal generation	3 612	518	16,7%	0,5%	-3,9%
Hydro-electric	3 001	-1 831	-37,9%	-7,4%	-2,0%
Wind	550	111	25,3%	20,8%	23,6%
Other renewable sources *	338	32	10,5%	4,6%	5,1%
<b>Total net generation</b>	<b>36 180</b>	<b>-3 730</b>	<b>-9,3%</b>	<b>-5,0%</b>	<b>-3,7%</b>
<b>GROSS NATIONAL CONSUMPTION</b>					
End customers connected to the RTE network **	7 163	-486	-6,4%	-11,1%	-11,5%
Other customers and losses on all networks ***	27 397	-683	-2,4%	1,1%	1,0%
<b>Total gross national consumption</b>	<b>34 560</b>	<b>-1 169</b>	<b>-3,3%</b>	<b>-1,2%</b>	<b>-1,2%</b>
<b>Energy extracted for pumping</b>	<b>364</b>	<b>-134</b>	<b>-26,9%</b>	<b>8,3%</b>	<b>0,2%</b>
<b>Balance of physical exchanges (export)</b>	<b>1 256</b>	<b>-2 427</b>	<b>-65,9%</b>	<b>-40,0%</b>	<b>-31,4%</b>

\* mainly : household waste, paper waste, biogas

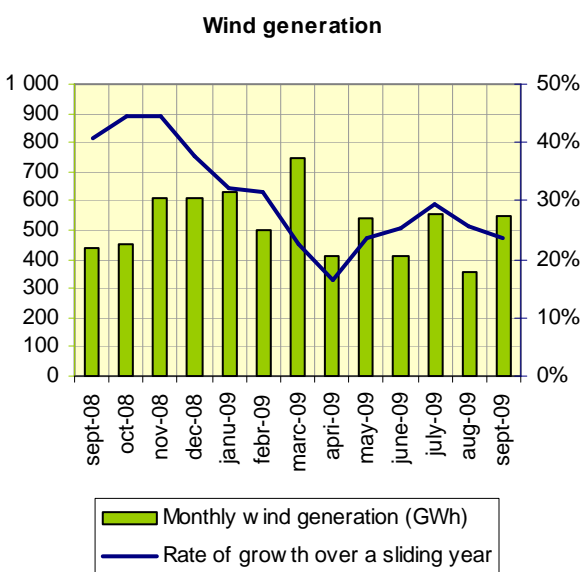
\*\* extractions by these consumers on the RTE network

\*\*\* SME, SMI, business and private consumers supplied by the distribution networks + generation auto-consumed by industrials at their sites + losses on the transmission and distribution networks

The balance of physical exchanges was negative (i.e. France was importing) for energy on two days, Tuesday 1<sup>st</sup> and Friday 4<sup>th</sup>, and for power over several time intervals on 23 different days.

### Development of wind generation in France

With installed capacity up by 1 100 MW at the end of September 2009 compared with the same time the previous year, monthly wind generation was up by 25,3%. In cumulative terms over 12 months, the rate of growth in wind generation remains high with a value of +23,6% at the end of September.

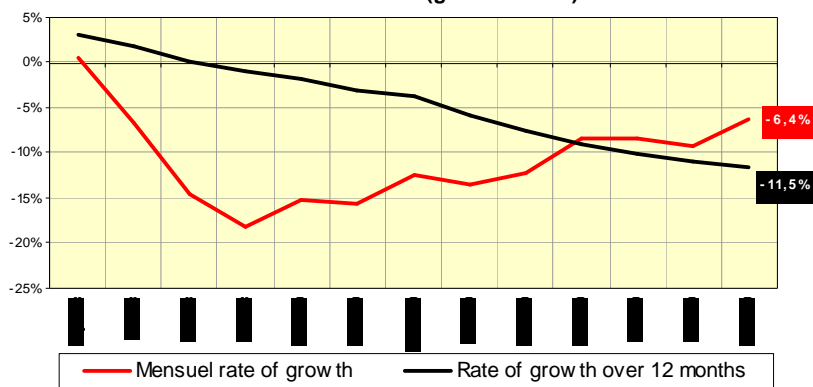


### Development of extractions by large-scale industry

In monthly figure, the fall in extraction by consumers connected directly to the RTE network reached its lowest value in December (-18,2%). Between January and May 2009, monthly extractions remained 12% to 15% below those of the previous year; over the months June-July-August, they were down by approximately 9% on the same period the previous year. In September 2009, this downward trend eased to 6,4%.

With the monthly trend in extractions by consumers connected directly to the RTE network remaining negative, the rate of growth in these extractions over a sliding year fell from -10,9% at the end of August to -11,5% at the end of September 2009. Adjusted for the impact of 29/02/2008, this rate is 11,3%.

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



## EXTREME values for consumption, exchanges – perimeter France\*

		September		Last 12 months		Absolute **	
<b>Gross national consumption</b>	Maximum	1 219 GWh	Wednesday 16	2 035 GWh	07/01/2009	2 035 GWh	07/01/2009
		58 100 MW	Tuesday 1	92 400 MW	07/01/2009	92 400 MW	07/01/2009
	Minimum	961 GWh	Sunday 6	903 GWh	09/08/2009	856 GWh	06/08/2006
		33 975 MW	Sunday 6	31 456 MW	09/08/2009	29 816 MW	06/08/2006
<b>Balance of physical exchanges ***</b>	Maximum	106 GWh	Sunday 13	264 GWh	11/11/2008	298 GWh	08/05/2008
		8 328 MW	Thursday 24	13 746 MW	11/11/2008	13 746 MW	11/11/2008
	Minimum	-8 GWh	Friday 4	-50 GWh	02/07/2009	-95 GWh	02/03/2006
		- 2 695 MW	Monday 28	- 5 109 MW	01/07/2009	- 6 690 MW	02/03/2006

\* Excluding Corsica . \*\* The minimum values concern the last 30 years for the balance of physical exchanges, and the last 5 years for consumption.

\*\*\* A positive value indicates a net export balance, a negative value indicates a net import balance.

## ELECTRICITY MARKET MECHANISMS

### CONTRACTUAL CROSS-BORDER ELECTRICITY EXCHANGES

	EXPORTS			IMPORTS			CUMULATIVE TOTAL			EXPORT BALANCE *		
	September 2009 (GWh)	Trend / Sept 2008	Cumulative trend since 1st Jan	September 2009 (GWh)	Trend / Sept 2008	Cumulative trend since 1st Jan	September 2009 (GWh)	Trend / Sept 2008	Cumulative trend since 1st Jan	September 2009 (GWh)	Trend / Sept 2008	Cumulative trend since 1st Jan
Belgium	78	-91%	-74%	450	160%	n.s.**	528	-49%	-38%	-372	-153%	-116%
Germany	595	-4%	8%	1 410	26%	-9%	2 005	15%	-4%	-815	61%	-20%
Switzerland	2 011	-6%	-1%	918	-35%	25%	2 929	-17%	5%	1 093	47%	-12%
Italy	1 379	-8%	0%	27	-87%	-71%	1 406	-18%	-6%	1 3521	4%	7%
Spain	341	-14%	-3%	261	8%	26%	602	-6%	6%	80	-49%	-30%
Great Britain	260	-78%	-37%	425	n.s.**	284%	685	-43%	-23%	-165	-114%	-54%
<b>TOTAL</b>	<b>4 664</b>	<b>-30%</b>	<b>-17%</b>	<b>3 491</b>	<b>10%</b>	<b>+18%</b>	<b>8 155</b>	<b>-17%</b>	<b>-7%</b>	<b>1 173</b>	<b>-67%</b>	<b>-40%</b>

\* A negative value indicates a net import balance. \*\* Since the beginning of 2009, the volume of imports from Belgium totals 4 110 GWh, compared with 880 GWh in 2008 ; imports from Great Britain totalled 24 GWh in September 2008.

### BALANCING MECHANISM - BALANCE RESPONSIBLE ENTITIES

	September 2009	Deviation compared with Sept 2008	Trend compared with Sept 2008	Cumul. trend since 1st January
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#### Balancing Mechanism

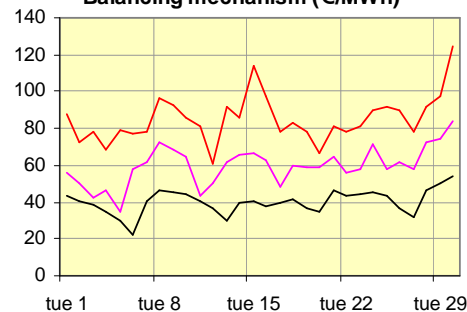
Total energy activated upward	126 GWh	17 GWh	16%	41%
Total energy activated downward	370 GWh	- 3 GWh	-1%	1%
Number of actors	36	+1		

#### Exchanges between Balance Responsible entities\* (BR) via block exchange notifications (NEB)

Energy exchanged between BR via NEB	23 832 GWh	+2 907 GWh	+14%	-4%
Number of BR	146	+8		

\* Balance Responsible Entity : any legal entity who is committed to RTE, under a Balance Responsible contract, to settling the costs of the imbalances calculated a posteriori, 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.

#### DAILY AVERAGE PRICES Balancing mechanism (€/MWh)



— Maximum price of up ward activated bids for balancing generation with consumption  
— Average weighted price of up ward bids  
— Prix Pow ernetx (source : Pow ernetx internet)

## TRANSMISSION NETWORK DEVELOPMENT

In September, the following installations entered service:

- the 225 kV Commerciel – Les Quintes – Claire Fontaine overhead line, as part of moves to improve the power supply to the Le Mans area in the Sarthe department.
- the 63 kV Ronchamp – Giromagny spur and Argiesans – Ronchamp n°1 overhead lines in the Franche-Comté region close to Belfort, following partial replacement of the conductors.
- the 63 kV Mouche – Ramboz underground line, as part of work to secure the power network to the south of Lyon.
- a 600 MVA, 400 kV/225 kV autotransformer at the Albertville substation, the first stage in work to strengthen the network in the Savoie – Haute Savoie zone.