

# OVERVIEW OF ELECTRICAL ENERGY

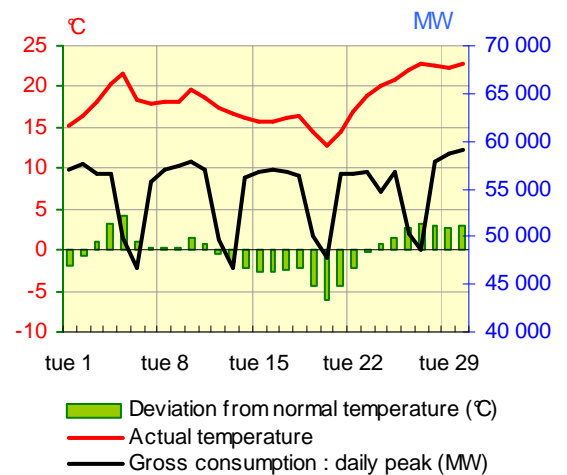
## JUNE 2010

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 July 2010**, unless indicated otherwise.

### INTERNAL ELECTRICITY CONSUMPTION - perimeter France

#### Results at end of past month

	June 2010		Trend compared with June 2009	Cumulative trend since 1 <sup>st</sup> January	Cumulative trend over last 12 months
Gross consumption	34.5	TWh	+1.8%	+4.9%	+1.3%
Adjusted consumption *	34.3	TWh	+1.5%	+2.2%	+0.9%



#### Temperature

Monthly average	18.3 °C
Deviation from normal temperature	-0.2 °C/normal
Deviation from May 2009	-0.1 °C

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

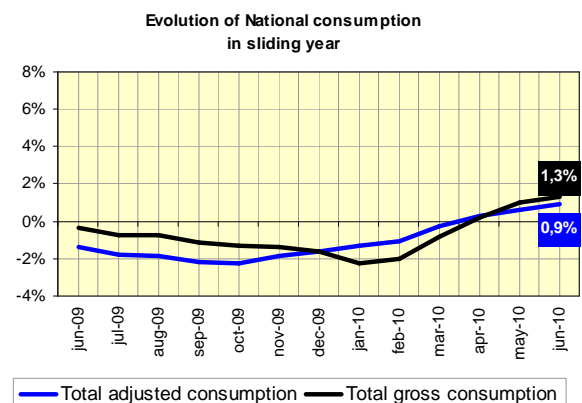
Despite temperatures fluctuating around normal values within a wide range (from +4.0°C at the beginning of the month to -6.0°C in the middle of the month), climatic conditions in June only led to a moderate increase in electricity consumption, of around 0.2 TWh (+0.7%) for heating and air-conditioning purposes. In June 2010, the average temperature was 0.1°C lower than June 2009, resulting in gross consumption 1.8% higher. Adjusted for the impact of climatic contingencies, monthly consumption is up by 1.5%, slightly down on the values observed in April and May 2010.

#### Cumulative trend over last 12 months

Gross consumption in cumulative figures over a 12 month period were up by 1.3% at the end of June 2010.

The rise in adjusted consumption\* that began in October 2009 is continuing. The rate of growth in adjusted consumption, which returned to a positive value in April, showed an increase of 0.9% at the end of June.

\* adjusted for winter and summer climate contingencies



## BALANCE OF ELECTRICAL ENERGY IN FRANCE

### Results at end of past month

	June 2010 (GWh)	Deviation from 2009 (GWh)	Deviation from June 2009	Cumulative trend since 1st January	Cumulative trend over last 12 months
<b>NET GENERATION</b>					
Nuclear	29 575	+2 446	+9.0%	-0.5%	-5.2%
Fossil-fuel thermal generation	2 374	+310	+15.0%	+15.9%	+13.4%
Hydro-electric	7 213	+901	+14.3%	-0.9%	-8.9%
Wind	576	+157	+37.4%	+45.3%	+50.8%
Other renewable sources *	398	+52	+15.1%	+15.9%	+15.3%
<b>Total net generation</b>	<b>40 136</b>	<b>+3 866</b>	<b>+10.7%</b>	<b>+1.7%</b>	<b>-3.1%</b>
<b>GROSS NATIONAL CONSUMPTION</b>					
End customers connected to the RTE network **	7 102	-18	-0.3%	+2.5%	-1.0%
Other customers and losses on all networks ***	27 413	+634	+2.4%	+5.3%	+1.7%
<b>Total gross national consumption</b>	<b>34 515</b>	<b>+616</b>	<b>+1.8%</b>	<b>+4.9%</b>	<b>+1.3%</b>
<b>Energy extracted for pumping</b>	<b>370</b>	<b>-70</b>	<b>-16.0%</b>	<b>-13.7%</b>	<b>-8.0%</b>
<b>Balance of physical exchanges ****</b>	<b>5 251</b>	<b>+3 320</b>	<b>+172.0%</b>	<b>-35.2%</b>	<b>-54.6%</b>

\* mainly : household waste. paper waste. biogas

\*\*\* 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

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

\*\*\*\* negative value means import balance

Monthly nuclear generation rose sharply in June (+9.0%), following more moderate increases in March (+0.1%) and April (+1.4%) and the drop in May 2010 (-1.7%).

### Development in the balance of physical exchanges

The balance of exchanges remained positive (i.e. France remained a net exporter) throughout the month of June 2010, for the first time since March 2009. The monthly balance reached 5 251 GWh, up strongly (+172%) on June 2009, and a similar level to that recorded in mid-2008. However, it is down by 35.2% since the start of 2010, as compared with the same period in 2009, and by 54.6% over the last 12 months, as compared with the previous 12 months.

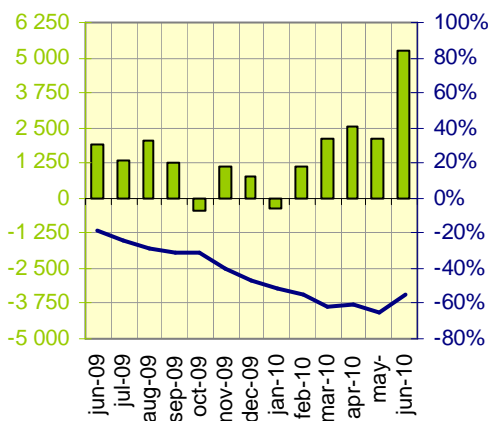
### Development of extractions by heavy industry

In June 2010, monthly extractions by consumers connected directly to the RTE network fell once again (-by 0.3%), for the first time since November 2009 (-1.0%) However, for the first six months of 2010, they are up by 2.5% compared with the first six months of 2009.

Outside the energy sector, the monthly growth rate in June remained high at +5.1%, following rates of +10.8% in March, +8.6% in April and +10.8% in May.

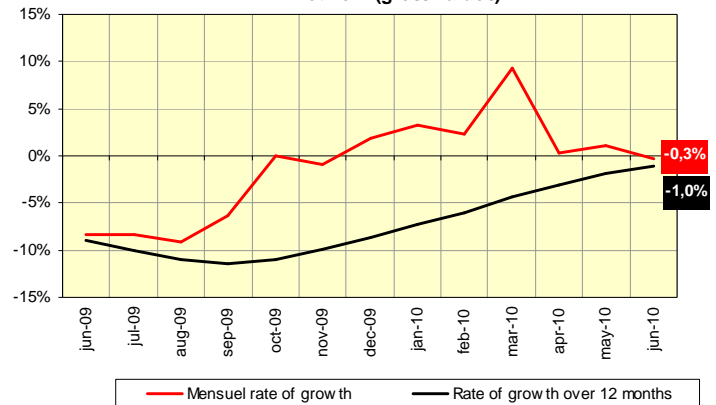
The rate of growth in extractions by consumers connected directly to the RTE network, over a sliding year, continues the improvement which began in October 2009; it rose from -7.3% at the end of January 2010 to -1.0% at the end of June.

Balance of physical exchanges



Monthly balance of physical exchanges (GWh)  
Rate of growth over a sliding year

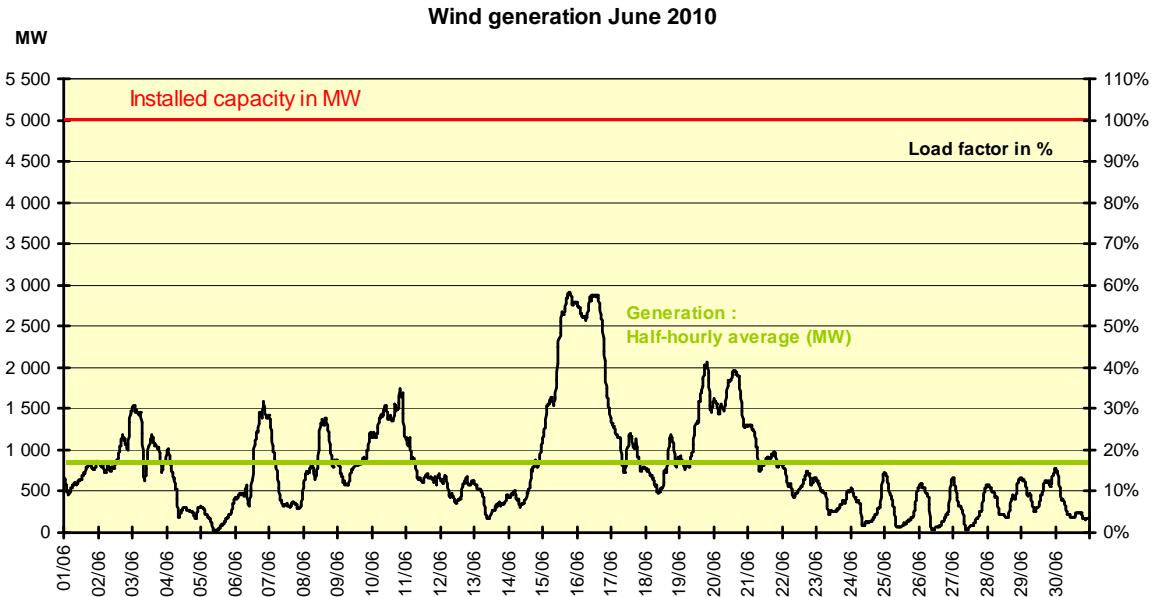
Evolution of extractions by end customers connected to the RTE network (gross values)



Mensuel rate of growth  
Rate of growth over 12 months

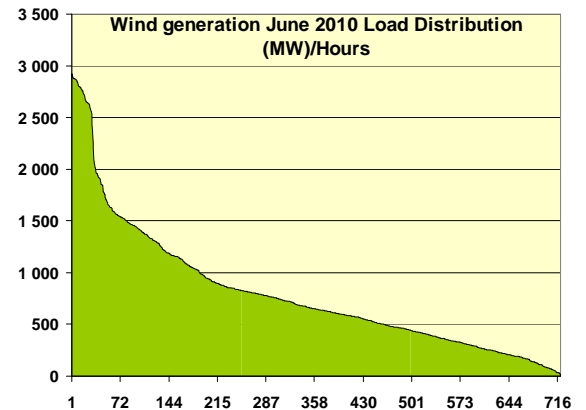
### Wind generation and installed capacity

As of the end of June, installed capacity was 5,000 MW. The month of June saw relatively low levels of wind, compared with previous months: average wind generation totalled approximately 798 MW (load factor: 16%, down on the figures for previous months of around 20% in January, April and May and over 30% in February and March). Monthly generation fluctuated between extremes of 17 MW (load factor: 0.3%) on Saturday 5 June, and 2 923 MW (load factor: 58%) on Tuesday 15 June.

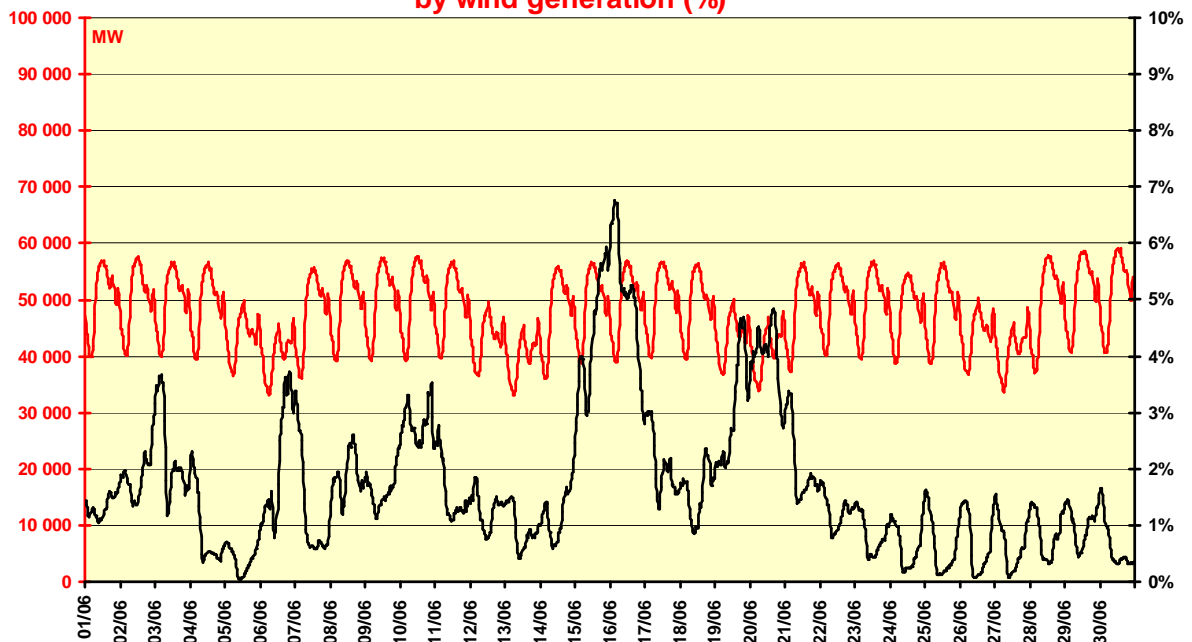


### Hourly coverage rate

The rate of coverage of demand by wind generation was 1.7% on average, with a peak of 6.8% reached on Wednesday 16 June at 4.00am, when wind output was 2 647 MW and consumption 39 070 MW.



### Consumption June 2010 (MW) and rate of coverage by wind generation (%)



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

		June		Last 12 months		Absolute **	
<b>Gross national consumption</b>	Maximum	1 242 GWh	Wednesday 30	2 032 GWh	08/01/2010	2 037 GWh	07/01/2009
		59 155 MW	Wednesday 30	93 080 MW	11/02/2010	93 080 MW	11/02/2010
	Minimum	963 GWh	Sunday 13	903 GWh	09/08/2009	856 GWh	06/08/2006
		32 971 MW	Sunday 6	31 545 MW	09/08/2009	29 816 MW	06/08/2006
<b>Balance of physical exchanges ***</b>	Maximum	260 GWh	Sunday 20	260 GWh	20/06/2010	298 GWh	08/05/2008
		12 165 MW	Sunday 20	12 165 MW	20/06/2010	13 746 MW	11/11/2008
	Minimum	101 GWh	Tuesday 1	-140 GWh	16/12/2009	-140 GWh	16/12/2009
		845 MW	Tuesday 1	-7 794 MW	06/01/2010	-7 794 MW	06/01/2010

\* 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 *		
	June 2010 (GWh)	Trend / June 2009	Cumulative trend since 1st Jan	June 2010 (GWh)	Trend / June 2009	Cumulative trend since 1st Jan	June 2010 (GWh)	Trend / June 2009	Cumulative trend since 1st Jan	June 2010 (GWh)	Trend / June 2009	Cumulative trend since 1st Jan
Belgium	700	98%	-29%	133	-67%	2%	833	10%	-12%	567	n.s**	n.s***
Germany	1 483	n.s**	18%	896	-45%	4%	2 379	14%	8%	587	-149%	-8%
Switzerland	1 986	1%	-4%	408	-71%	-37%	2 394	-29%	-12%	1 578	179%	11%
Italy	1 486	-6%	-11%	21	-67%	5%	1 507	-8%	-10%	1 465	-3%	-11%
Spain	274	-46%	-81%	263	8%	22%	537	-29%	-43%	11	-96%	n.s***
Great Britain	1 040	28%	-31%	62	0%	177%	1 102	26%	11%	978	31%	-99%
<b>TOTAL</b>	<b>6 969</b>	<b>23%</b>	<b>-15%</b>	<b>1 783</b>	<b>-53%</b>	<b>+8%</b>	<b>8 752</b>	<b>-8%</b>	<b>-7%</b>	<b>5 186</b>	<b>181%</b>	<b>-36%</b>

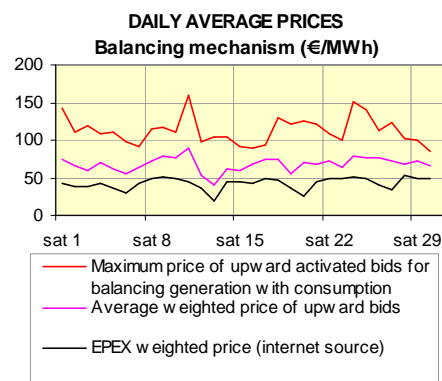
\* A negative value indicates a net import balance

\*\* In June 2009, the volume of exports to Germany was 446 GWh, and the export balance to Belgium (import) was 55 GWh, \*\*\* In cumulative figures since 1st January 2010, the export balance for Belgium (import) was 1 029 GWh (compared with the export balance (import) 279 GWh for the same period in 2009), for Spain the export balance (import) was 1 525 GWh (compared with the export balance 1 245 GWh for the same period in 2009).

### BALANCING MECHANISM - BALANCE RESPONSIBLE ENTITIES

	June 2010	Deviation compared with June 2009	Trend compared with June 2009	Cumulative trend since 1st Jan
<b>Balancing Mechanism</b>				
Total energy activated upward	248 GWh	+34 GWh	16%	+1%
Total energy activated downward	275 GWh	-122 GWh	-31%	+8%
Number of actors	38	-2		
<b>Exchanges between Balance Responsible entities* (BR) via block exchange notifications (NEB)</b>				
Energy exchanged between BR via NEB	21 997 GWh	+ 811 GWh	+4%	+12%
Number of BR	153	+4		

*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.*



## NEW INSTALLATIONS

In June, the following RTE installations were electrified for the first time: the 400 kV Avelin-Mastaing n°2 overhead line, following connection to the Avelin-Lonny n°1 line at the Mastaing substation near Valenciennes, as part of work to strengthen the network in northern France; the 400 kV Biançon-Trans n°1 overhead line, close to Draguignan in the Var department, in order to increase transmission capacities to the Alpes-Maritimes and eastern Var areas; a reactance (64 MVAR) on a 400 /225 kV autotransformer at the Chesnoy substation, near Provins in the Seine et Marne department; the 225 kV Rabatau substation in Marseilles, with a connection to the 225 kV Enco de Botte-Rabatau-Caillois n°4 line, following work to house the substation in a metallic structure; the 225/63 kV (70 MVA) transformer n°2 at the Sisteron substation in the Alpes de Haute-Provence department, to eliminate load constraints on transformer n°1; the 63 kV Mexy-Moulaine n°2 overhead line and the Longuyon-Moulaine n°2 overhead-underground line in Meurthe-et-Moselle, as part of the 225 kV project to strengthen the France-Belgium interconnector.

CENTRE D'INFORMATION DU RÉSEAU ÉLECTRIQUE FRANÇAIS

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