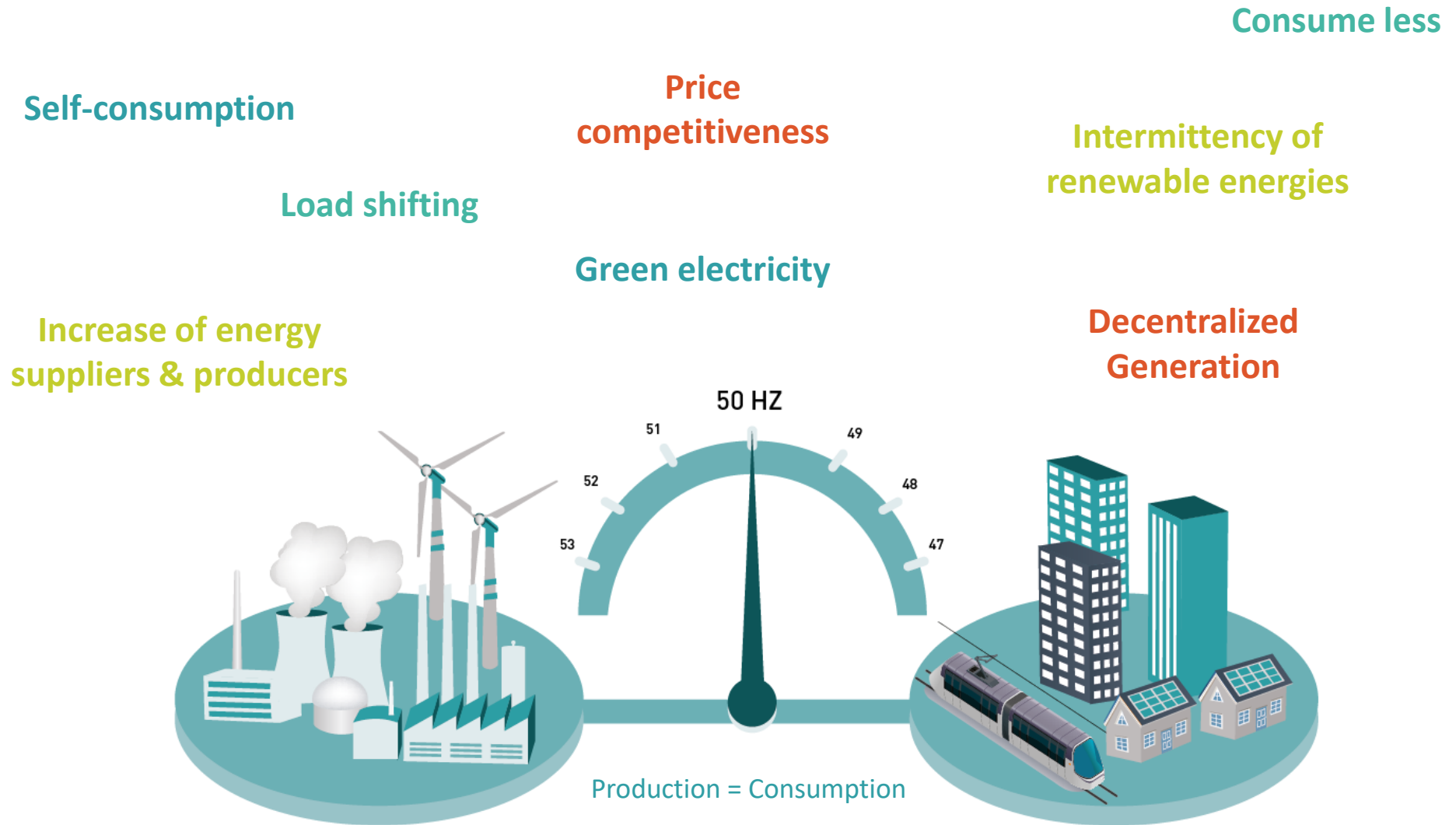


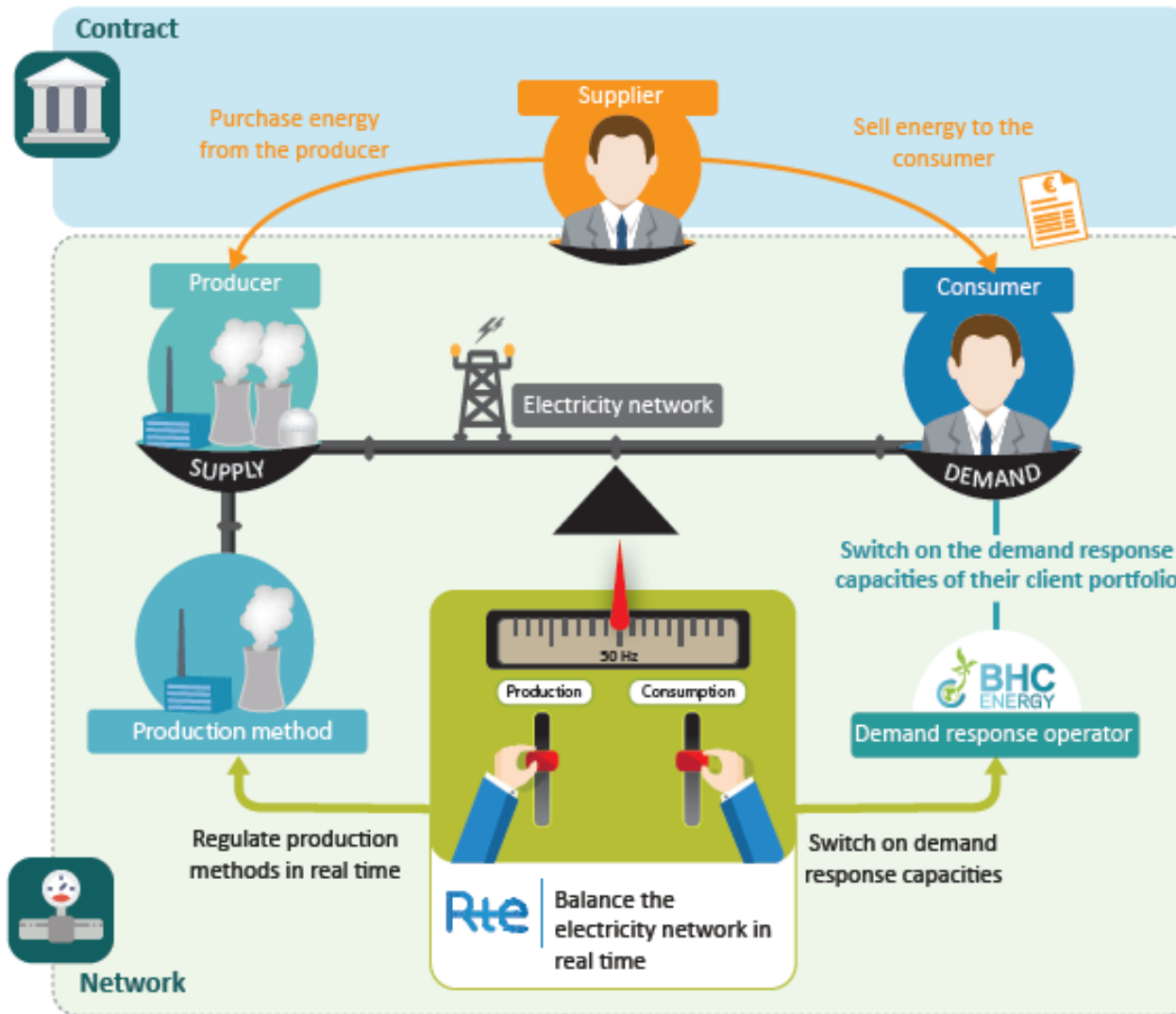


DEMAND-RESPONSE MANAGEMENT IN FRANCE AND ITS INTEGRATION INTO THE CAPACITY MARKET

OFATE
27/09/2018



And always keeping the network balanced
Between production and consumption



An appropriate solution for France's high thermo-sensitivity

A solution for managing peaks in consumption

Additional income for flexible consumers



CAPACITY OWNERS

- **Energy producers**
- **Demand response operators/ Capacity aggregators**

REQUIRED STAKEHOLDERS

- **Energy producers**
- **Network transport and distribution managers**
- **Large consumers**

CONSUMERS

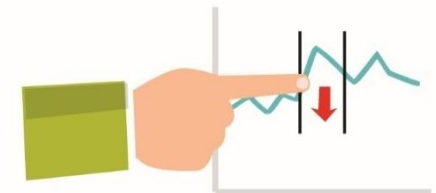
Take on part of the supplier's obligation costs

- Can reduce their obligation cost by :
- **Reducing peak energy consumption**
 - **Disconnecting themselves by choice from the grid**

Re-invoice the costs

SELL their capacity certificates on the market

BUY their capacity certificates on the market



From November to March

From 7am to 3pm and from 6pm to 8pm

PP2	
<p>Measure the availability of production methods or demand-response management</p> <p>10-25 days/year</p> <p>Signal J-1 before 7pm</p>	PP1 Day
	<p>Measure site consumption</p> <p>10-15 days/year</p> <p>Signal J-1 before 9.30am</p>

1st 2017 delivery period:

- 12 PP1 days
- 16 PP2 days

Key

	PP1/PP2
	PP2

01 | JANUARY 2017

Mon	Tue	Wed	Thur	Fri	Sat	Sun
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

03 | MARCH 2017

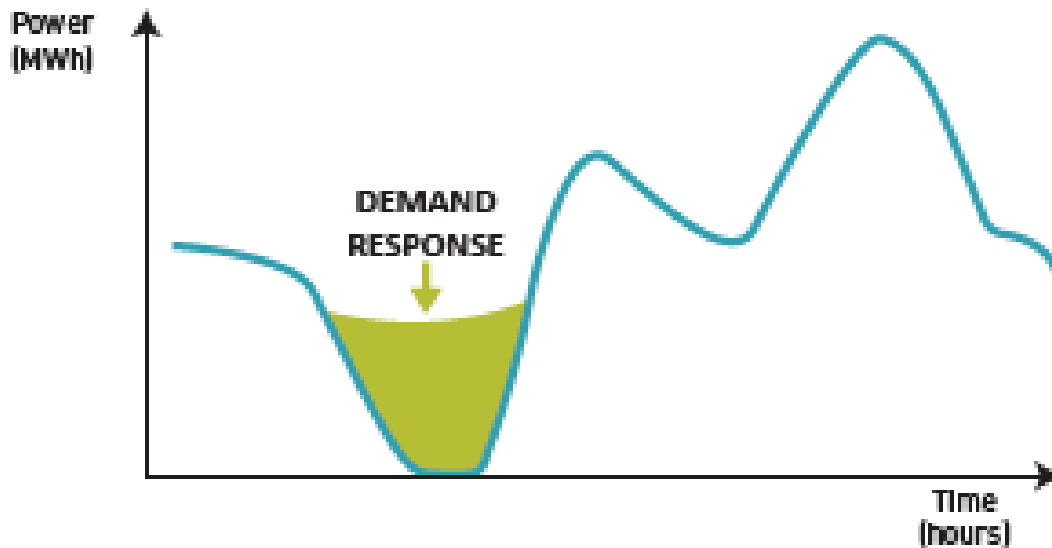
Mon	Tue	Wed	Thur	Fri	Sat	Sun
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		



AN EXAMPLE OF VALUE

An industrial site in the paper manufacturing sector





Potential theoretical
demand response without
constraints

26 MW



Site technical constraints



**Demand
response duration**
min 2hrs/day
max 8hrs/day



Activation timeframe
between 60 and 90 min

1
/ day

1
demand response
max
per day

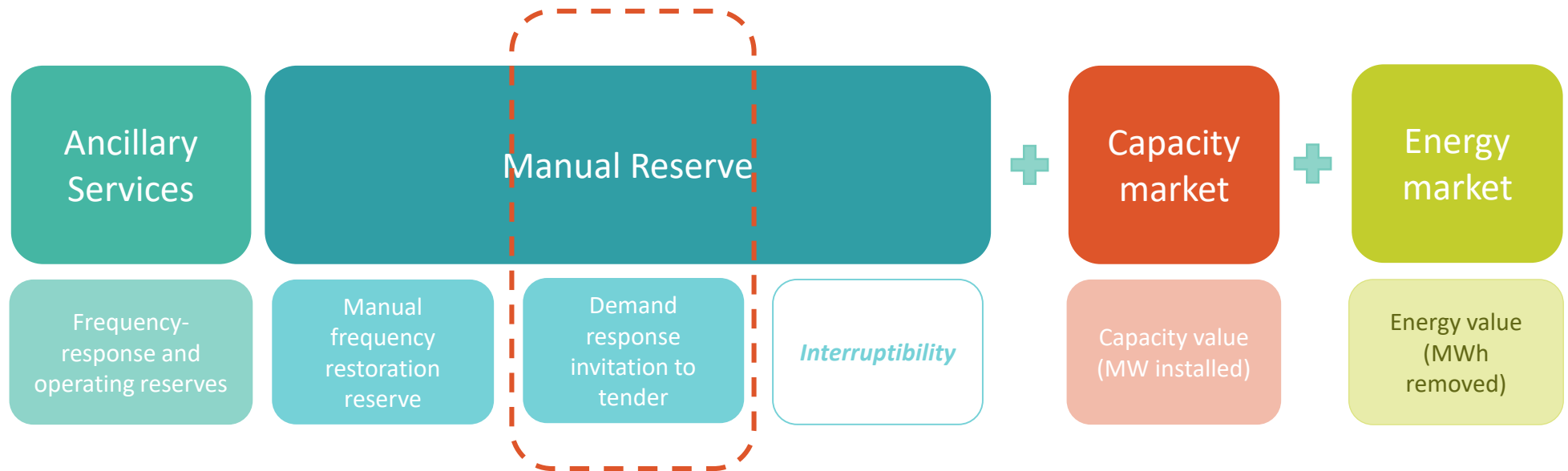
2
/ weeks

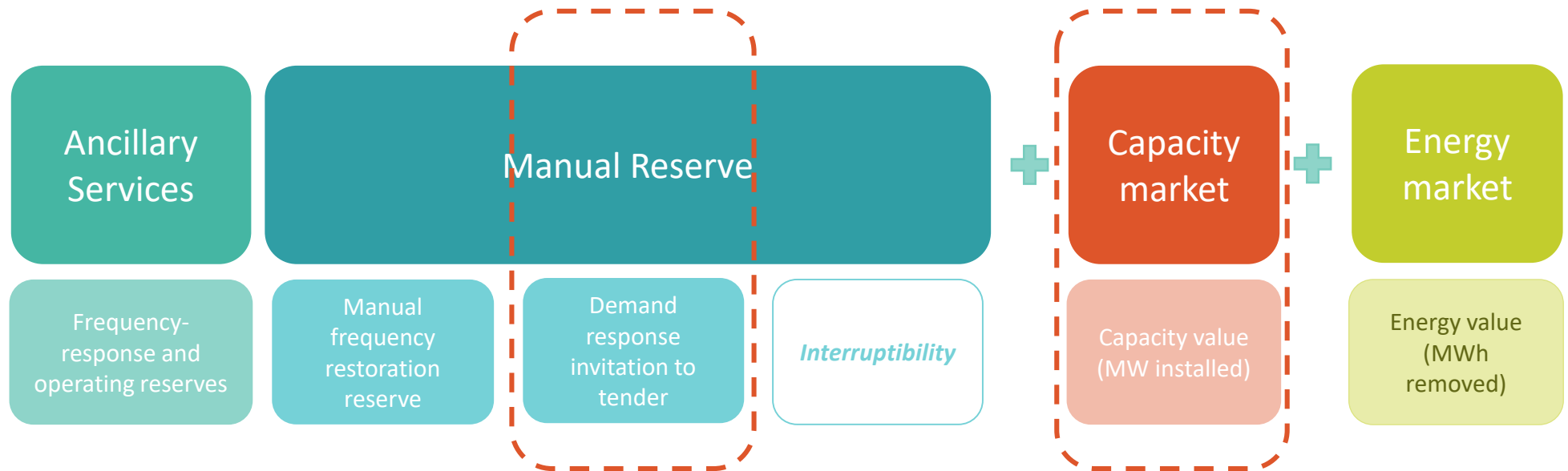
2
demand responses
per week

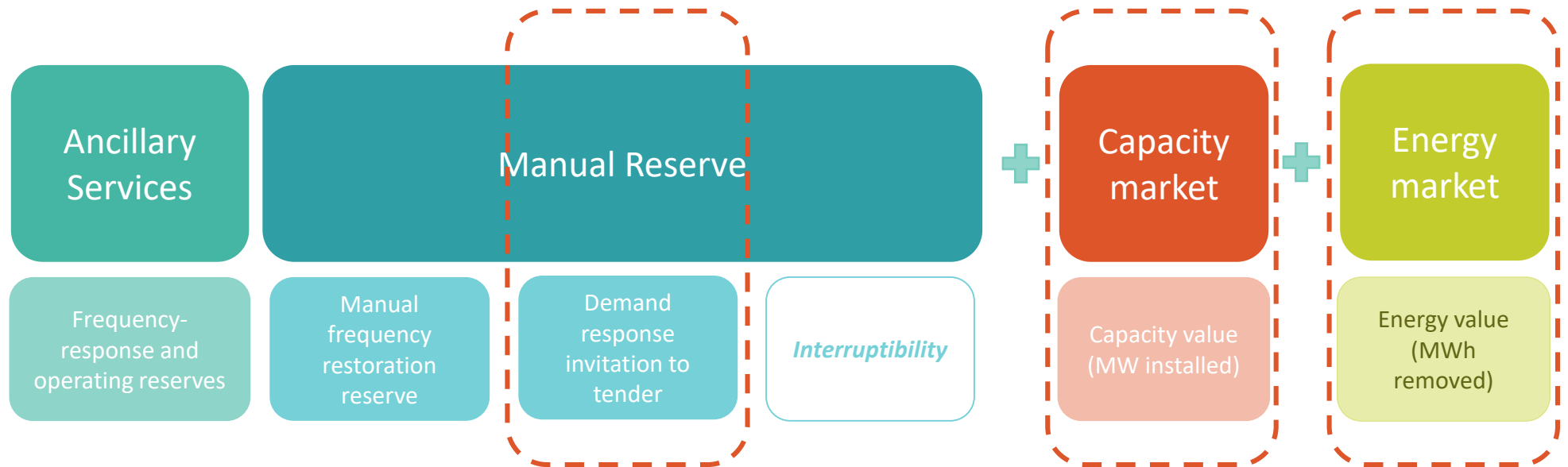


August

**The site does not use
energy in August**







AN EXAMPLE OF VALUE OF A SITE IN THE PAPER MANUFACTURING SECTOR

Capacity obligation

28 MW



Calculated in accordance with
consumption on PP1 days



Capacity obligation cost:

€518,000*

Potential demand response capacity

26 MW



Calculated in accordance with demand response
capacity available on PP2 days

18 MW

Certified capacity remuneration:

€333,000*



Value after certification: **€333,000**

*Capacity price €18,500/MW

A close-up photograph of a woman's face, focusing on her eye and ear. A magnifying glass is held over her eye, making it appear significantly larger. She has reddish-brown hair and is smiling slightly, showing her teeth. The background is a soft, out-of-focus yellow.

OUTLOOK :



La Programmation Pluriannuelle de l'Énergie (PPE) ([decree no. 2016-1442 du 27 October 2016](#)) is an essential tool in terms of energy transition and sets ambitious objectives for the flexibility in the electricity sector.

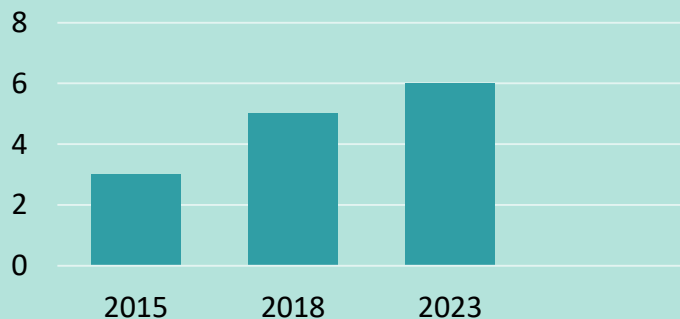


An objective of
5 GW
for 2018

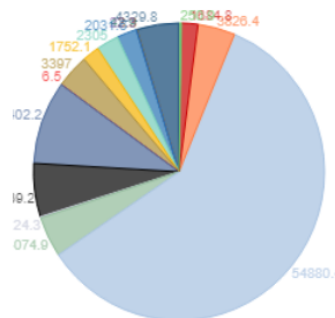
2 GW certified in 2018

Breakdown and total certified capacity level
The NCC developed 92503.6 MW for delivery year 2018

Electricity demand response capacity goals (GW)

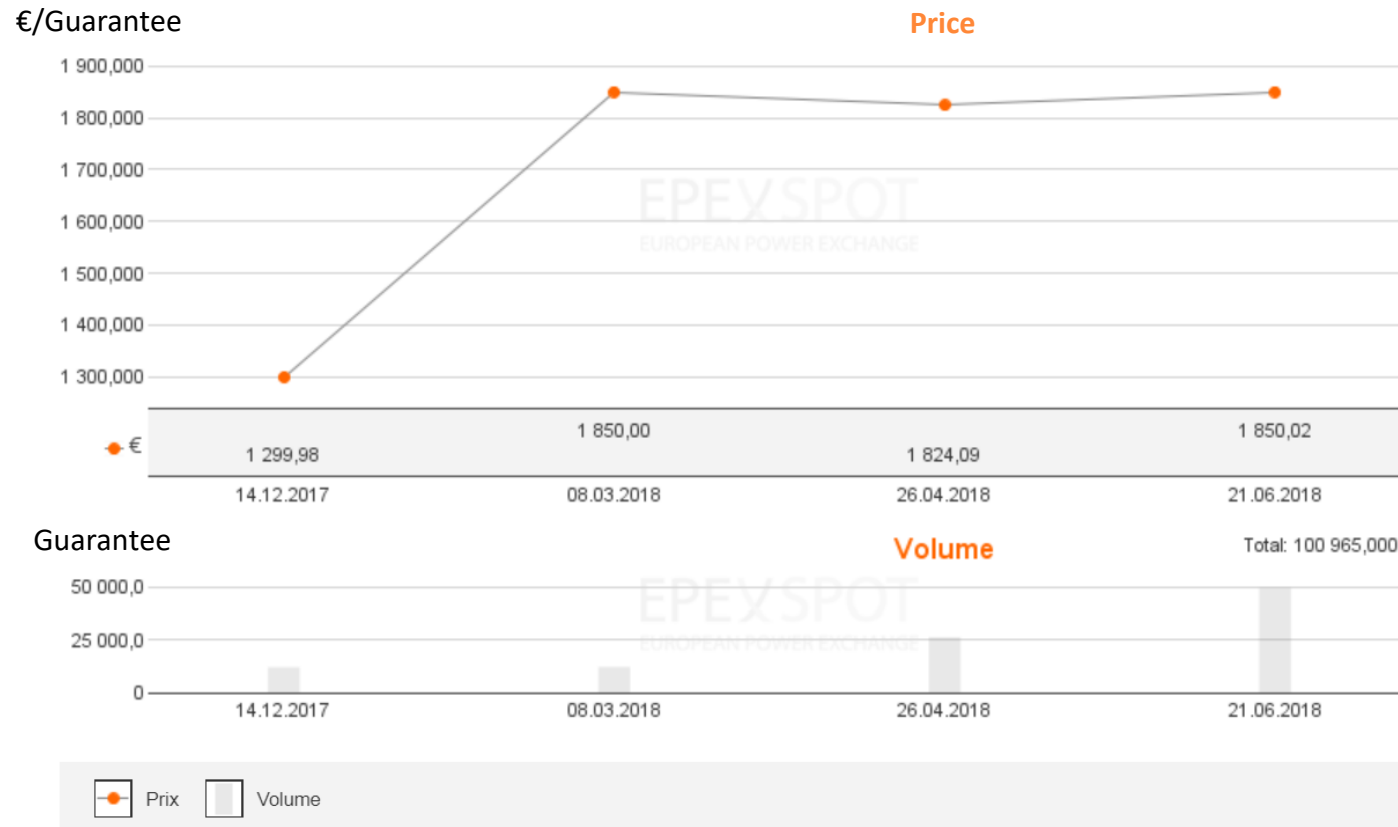


Source: PPE 2016



Filière	NCC évolué
AUTRE	4329.8 MW
AUTRE RENOUVELABLE	3.3 MW
BIOMASSE	42.9 MW
DÉCHET INDUSTRIEL	22.3 MW
EFFACEMENT	2031.6 MW
EOLIEN ONSHORE	2305 MW
FIL DE L'EAU ET DE L'ÉCLUSE	1752.1 MW
FIL DE L'EAU ET DE L'ÉCLUSE	3397 MW
GAZ ISSU DU CHARBON	6.5 MW
GAZ/ HOUILLE/CHARBON	8402.2 MW
LAC	5369.2 MW
MULTI FILIÈRE	124.3 MW
MULTI-FILIÈRE	4074.9 MW
NUCLÉAIRE	54880.4 MW
POMPAGE HYDRAULIQUE	3826.4 MW
PÉTROLE/FIOUL	1684.8 MW
SOLAIRE	250.9 MW

Capacity bid prices for delivery year 2019



To achieve 5 GW of available demand response the remuneration level must include between €30 and 60K/MW

Source: "Demand response of electricity consumption in France", ADEME, September 2017



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