

Case study presentation: France - Paul Bonnetblanc, Ministry for an Ecological and Inclusive Transition

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WEBINAR 1: 20 APRIL 2020 - STRATEGIC HEATING AND COOLING PLANNING FOR THE INTEGRATION OF LOW-TEMPERATURE RENEWABLE ENERGY SOURCES IN DISTRICT ENERGY NETWORKS: WHAT KEY SUCCESS FACTORS?



Where do we stand ?
Where do we want to go ?
How are we going to achieve it ?



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Current status and strategic planning

- National strategic roadmaps for:

- Low carbon strategy : **SNBC**

- Rather long term: 2050

- Energy master plan: **PPE**

- Objectives : 2023 and 2028

- Both updated every 5 years both based on the objectives of the Act (2015) on energy transition for green growth (**LTECV**)

- Act (2015) on energy transition for green growth (**LTECV**):

- The objectives set out in the LTECV regarding **heating and cooling** focus in particular on reducing final energy consumption

- by 50 % by 2050 and by 20 % by 2030 (compared to 2012),

- reducing primary consumption of fossil fuels by 30 % by 2030 (compared to 2012),

- achieving a rate of 38 % of final heat consumption from renewable heat by 2030

- increasing five-fold the amount of recovery and renewable heating and cooling supplied by the grid by 2030 (compared to 2012)



Geothermal resources (2017)

As of 2017:

→ 79 sites in mainland France: 49 in Ile de France region around Paris

→ 1970 GWh p.a.

→ 90 % for district heating, 8 % for agriculture, 2 % thermal spas

→ PPE #2 (2023-2028) objectives:

→ 2023: 2.9 TWh p.a.

→ 2028: 4-5.2 TWh p.a.

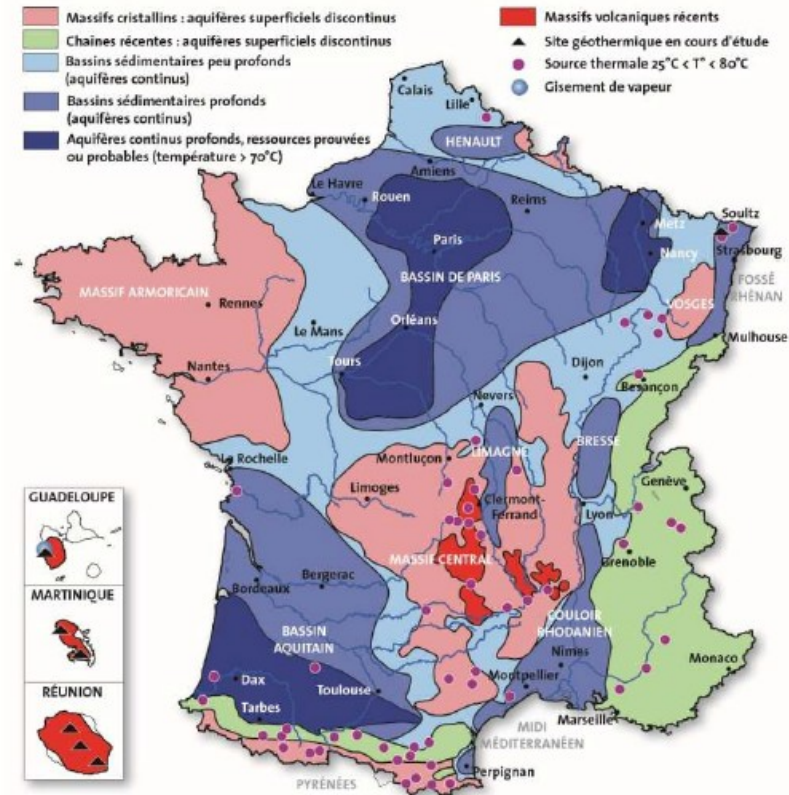


Figure 38 : Carte des aquifères en métropole (Source : ©BRGM IM@Gé)



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PPE(2018) objectives

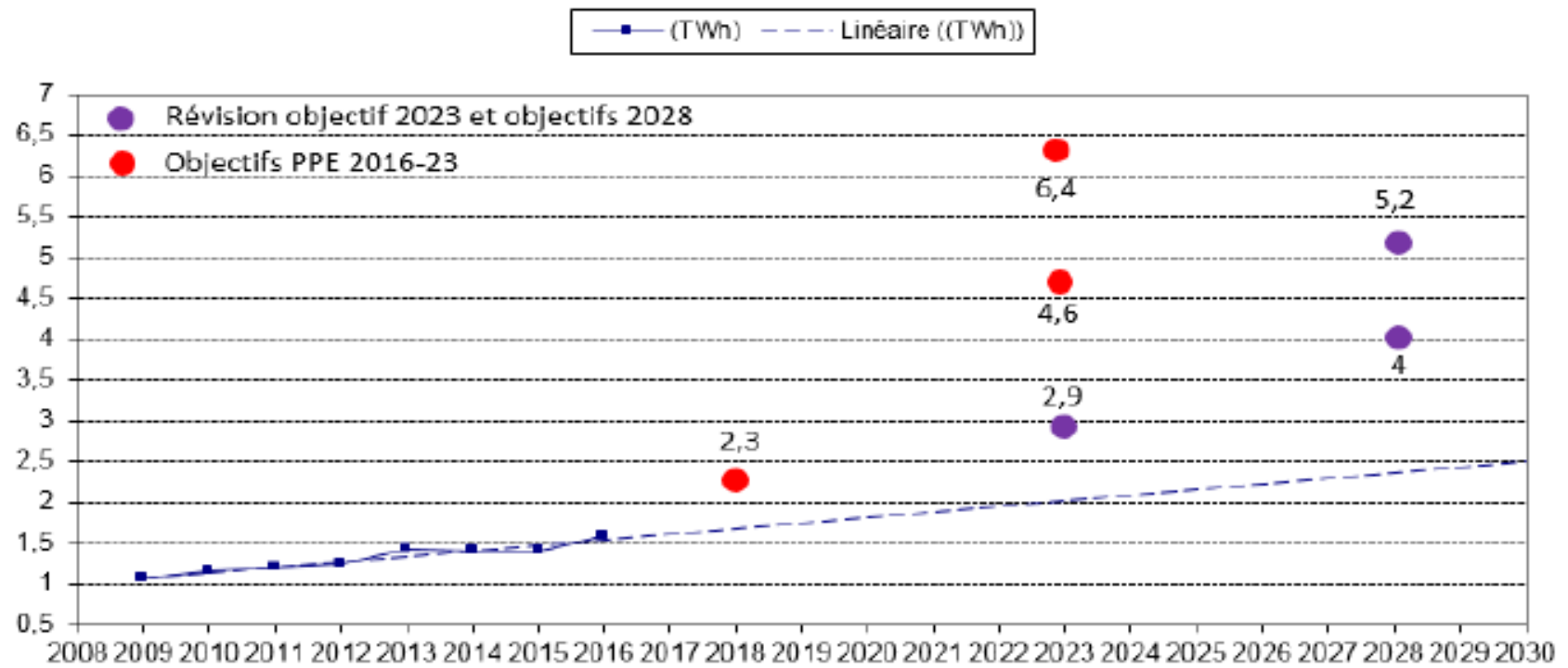


Figure 39 : Consommation finale de chaleur produite à partir de géothermie profonde (TWh)

Economics of deep low temperature geothermal energy for DH in France

- A 2014 study by ADEME found a total of 53 M€ went to deep geothermal facility for DH in investment,
- ADEME reckons that deep geothermal provides a thermal MWh in the range of 74 to 99 € before subsidy scheme
- Main competitor is still gas in Paris area



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Set of policy tools

- Revised geothermal regulation (as of January 1 st 2020) to allow time to seek for the resource in difficult area, for instance Alsace,
- A dedicated « (renewable) heat » fund: FONDS CHALEUR
 - Risk Mitigation guarantee:
 - Short-term: i.e. drilling
 - Long-term: 10-year production on discharge rate / temp.
 - Subsidy scheme for the investment: both subsurface infra./surface installation including DH networks.
- Lower VAT rate (end user side: customer)
- Information, dissemination: « Journées de sensibilisation à la géothermie » i.e. regional workshops touring France involving french geological survey (BRGM), AFPG (french geothermal association), ADEME
- Other policy/fiscal tools: latest being a nationwide identification of potential matchmaking between existing heat networks and deep geothermal resources



Potential nationwide matchmaking geothermal / DH

- Geological assessment french geological survey (BRGM)
- Need of 3D geophysical mapping
- Opportunities (lowest RE penetration in current DH)
- Organise proper project governance: including data sharing
- Is the current policy and incentive framework appropriate ?

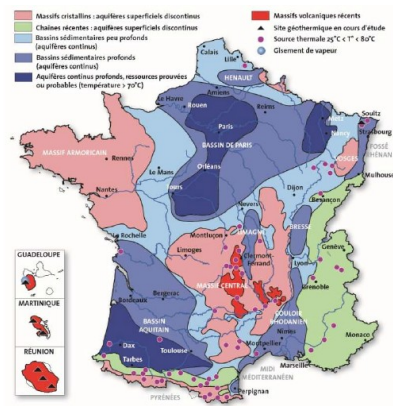
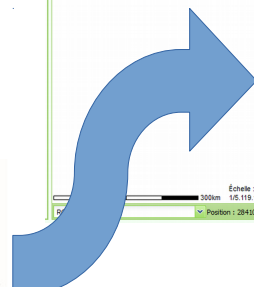
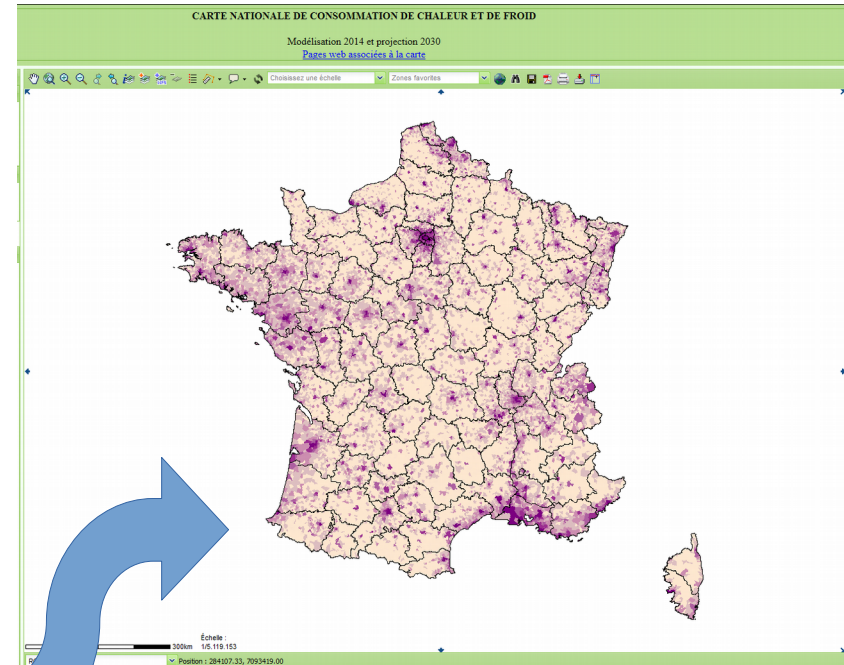


Figure 25 - Carte des aquifères en métropole (Source : ©BRGM IM@G)



France heating and cooling demand



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