Renewable heat in France

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Ren. heat : french targets

• Energy Transition Law (2015)
  – 32% RE in 2030 french global mix (23% in 2020 ; today 15%)
  – 38% RE in heat, 2030 (today around 18%)
  – X 5 renewable heat / cold in district heating / cooling in 2030
  – CEC : 56 €/T CO2 in 2020, 100 €/T 2030 (other taxes decrease)
  – Regional Plans for Biomass mobilization

• PPE (2016)
  Programmation Pluriannuelle de L’Energie
Incentives for ren. heat in France

• **Heat Fund** (implemented by ADEME)
  – 1.6 b€ subsidies 2009-2016, for RE-based heating projects (in industry, public and tertiary buildings, collective housings…)
  – biomass, geothermal energy and heat pumps, solar thermal, waste heat from industry and waste treatment, biogas
  – district heating with at least 50% RE (+ lowered VAT : 5.5%)
  – 3 900 projects funded so far, 2 Mtoe each year (70% from solid biomass, waste heat, geothermal energy heat pumps, biogas)
  – average “public cost” of 40€/Toe ; “payback time” vs avoided fossil fuel importations 3-4 years
  – “custom-made” subsidies : economic analysis for every project, subsidy designed to allow competitiveness of the REN solution

• **Tax credit (30%)** for private housing
  – particularly effective in domestic wood heating

• **R&D funding**, “Investigation for the Future” Program
Heat Fund: user guide

- **Initiatives eligible for subsidies:**
  - **Subsidies for project support:** (up to 40 - 80 %)
    - field work structure, scoping study
    - Feasibility study, blueprint for a heating network
    - Management assistance
  - **Subsidies for project execution:** (up to 25 - 80 %)
    - *Renewable energy installations* (wood heating, geothermal system with or without heat pump, solar thermal collectors, biogas plants, …)
    - *Heat recovery systems* (waste incineration plants, industrial process, …)
    - *Renewable heat recovery systems*: creation, extension, densification (heating network’s energy mix to contain at least 50% heat from *Renewable heat recovery installations*)
Financing aid calculation method

For small and middle-sized installations, a flatrate subsidy (80% of the projects examined within the heat fund scheme):

- For renewable heat recovery installations (ENR&R): subsidy level is calculated in relation to the forecasted renewable energy production (toe/year) and multiplied by a technology specific rate (biomass, solar, geothermy)
- For district heating networks under 500 toe/year, the subsidy’s level is calculated in relation to the length and diameter of some network sections. In case of specific requirements (passing a highway, railway or waterway) an additional subsidy can be granted.

For large installations, the level of the subsidy is set by the ADEME following an installation-specific economic analysis (not flatrate-scheme).

- The aid is adjusted according to a “reference case” using fossil energy in order to enable competitive heat costs

N.B: the total amount of support has to remain within the framework set at European level
Heat Fund: user guide

Application process for financing aid

- **Within the scope of regional calls for projects** (general case): Aim of the call for projects: mobilize project developers and provide visibility to funding partners (ADEME, regions, FEDER…). Generally, two application deadlines per year.

- « **Upon receipt** »: for specific cases such as highly complex applications or large application files.

- **Within the scope of national calls for projects**: for large size company biomass facilities, large size solar thermal power plants, certain emerging technologies.
– 120 large biomass heaters in industry (call for tenders) : “first client” agri-food industry : rural areas, constant energy needs
– 740 district heating projects, (synergy w. VAT) : biomass, waste heat, geothermal energy (Paris) ; + 1900 km ; global Ren share 30 (2008) => 50% (2015)
– Domestic wood : 6 (2000) to 7,5 (2012) millions households, 30 to 50% using wood as main heating source, same energy consumption, due to development / renewal with high efficiency equipment, through tax credit policy

• But…
– Solar thermal doesn’t reach targets : cost, reliability, ...?
– Biomass supply, in the next years : the 4th forest in Europe... but only 50% of annual biological growth harvested ; a rather weak wood industry, specifically « first transformation » (sawmill) ; necessity to develop all wood uses (building, furniture, paper... and energy), and support efficient forestry
• But…

– The growth isn’t (still) strong enough: + 250 Ktoe / year, 600 needed

– Strong decrease of fossil fuels price: affects REN competitiveness (especially biomass): less projects / needing more subsidies

– … the exact opposite of what was expected when building this incentives program (and happened during the first few years)

– carbon price / carbon tax…