

How to combine the evolution of the thermal regulation and the industrial tool of the manufacturers - French residential market

Technology Roadmap

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- **UNICLIMA** : Association of Heating, Ventilation, Air conditioning and Refrigeration Industries
- **Role:**
 - Represents its members in Public Institutions
 - With all the decision makers in order to promote their point of view
 - Defends the interests of the Profession
- **Activities represented:**
 - ***Boilers and Gas – Oil Burners***
 - ***Hot water Radiators***
 - Renewable energies, Solar thermal systems and Biomass boilers
 - Heat pumps
 - Cooling systems, Air conditioning
 - Ventilation and Air handling for Buildings
 - Filtration, de-dusting, Cleaning of working atmosphere.
- **To implement in residential, tertiary and industrial sectors**

Summary

- Description of the work between GDF SUEZ and UNICLIMA
- Context in France
- Towards a redistribution of energy needs
- The main lessons: the conditions for success

- **Why this roadmap?** To forecast a shared vision on energy technologies to sustain gas utilization up to 2020. **Thinking together, we are stronger!**
- **Share actions between UNICLIMA & GDF SUEZ:** regulatory negotiations (Thermal Regulation 2012 and Labels Positive Energy Building and Tax Credit, Energy savings certificates, zero-interest green loan, ..) / communication, actions upstream R & D, etc..
- **Positioning of key technologies** (Oil, Gas, Biomass, Electricity) in 2020, according to their energy performance (compared to a standard boiler)
- **Assessments of energy systems to meet the requirements**, in terms of regulations, politics, industry, etc. ..

Regulatory context in France and Europe

“Regulatory” labels



RT2012 and the HPE and BEPOS labels
(ep coeff. = 2.58)

50 kWh_{ep}/m²/yr
5 consumption items

Still being defined, but
working on -20% and mobilization
of occupants & local elec. prod.

Certifications (voluntary)



Performance results
targets to be achieved in
14 areas



Eco design Directive

2005/32/CE revised by 2009/125/EC:

Establishes a framework for defining concrete requirements for energy related products
EU programs preparatory studies on selected product groups
and prepares a working program which has to be revised regularly

For gas appliances:

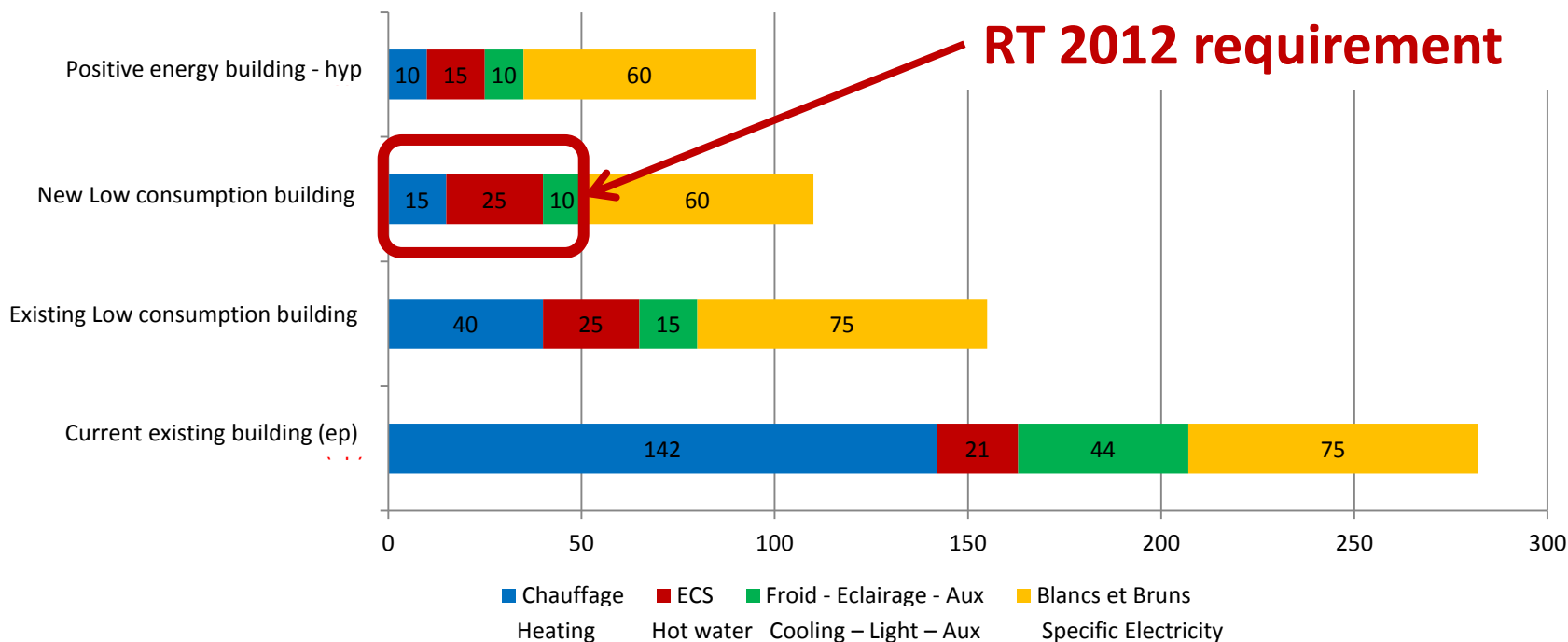
- lot 1 (boilers)
- lot 2 (water heaters)

Draft sent in February 2012

Main requirements: Energy efficiency in heating mode and sanitary hot water mode, Emissions (NO_x), Sound power level (Heat Pump).

Final proposal: en of 2012 ?

Towards a new energy distribution



In all markets, the unitary energy consumption decreased and their distribution among heating, hot water, lighting, ventilation and other electrical usages is deeply changed.

Systems must meet new needs with new repartition (heat and electricity)

Existing technologies need to evolve to reach 2020 performance criteria

Industrial integration of existing or being tested technology for their placing on the market.

- No major technological breakthroughs, but an important conceptual jump.

The emergence of systems that respond to changes in the electricity / heat production ratio

- A continuation of the comfort and lower heating requirements
- A challenges of -dissociation - heat and power production-

Emergence of hybrid technology and dual energy

- Complementarities between fossil energy, electricity and renewable energy in a single energy system to meet the needs of cold, heat and electricity.

The conditions for success

Necessary reduction of costs,

- A major factor for success.
- Need to package the "complexity" of energy systems (in terms of cost and training for installers)

Transition management and life products,

- Combined with other systems, mature technologies have a future.
- Existing products can continue their "life" as energy solution for existing collective buildings mainly with individual systems for heating and hot water production

Rethought the conception

- Integrations "type" call major industrial developments
- The conceptual jump will be on managing and optimizing the heating power and the best way to achieve it (according needs).
- The transition, low consumption to positive building requires a work on definition and scope
- The industrial transition time, must be considered by the Public Authorities

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Thank you for your attention

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