

The use of energy scenarios in the French debate on the energy transition

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Institute for Sustainable Development and International Relations

- Independent research foundation of public interest
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6 research programs

- Governance, Climate & Energy, Biodiversity, Urban development, Agriculture, New Prosperity

Objectives

- Develop transdisciplinary and international analysis on sustainable development challenges
- Work as an interface between academics, policy makers, civil society and private sector

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The French debate on the energy transition

Context:

- -75% reduction of GHG emissions by 2050 (legally binding)
- EU energy and climate package 2020
- Reducing nuclear power's share in the power mix to 50% by 2025
- COP 2015 in Paris

Objectives:

- Define trajectories to achieve existing objectives in a sustainable, affordable and socially acceptable manner
- Provide specific orientations to policy makers regarding the required measures
- Societal consensus and awareness raising

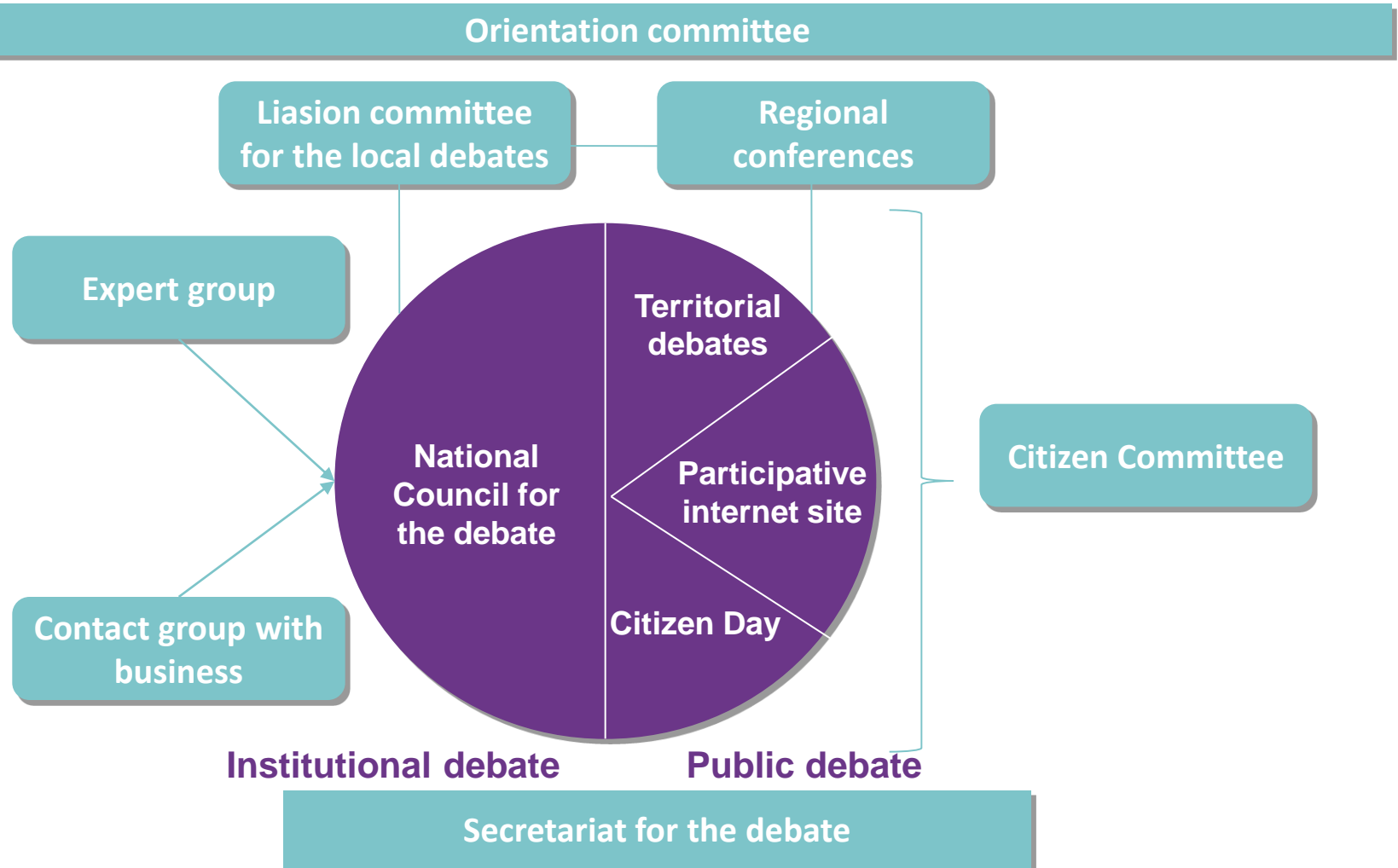
Structure and organization of the debate

- November 2012 – July 2013
- The National Council: multi-stakeholder configuration, 7 groups, 112 members
- 8 working groups (total of 200 participants)
- Expert committee : 60 members + associated experts

Public participation:

- 1000 « labeled » local debates, 200 000 participants
 - « Energy days »
 - Citizen day (World Wide Views method, Danish Board of Technology)
 - Citizen committee

The DNTE : institutions and actors



Integrating scenario analysis in the debate

Objectives:

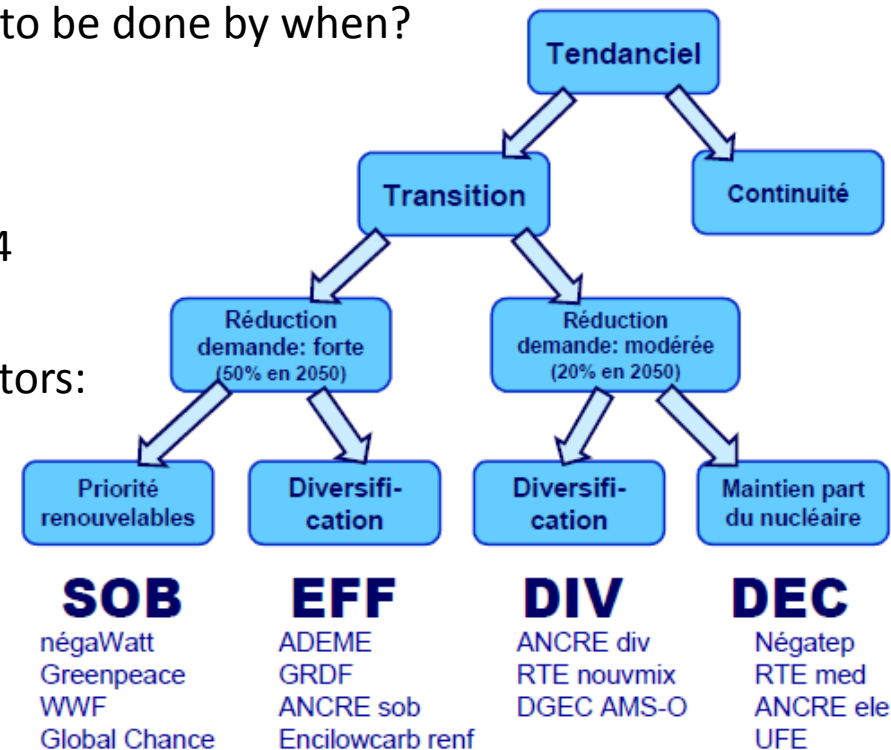
- clarify conditions of feasibility, uncertainties and impacts of different policy options and trajectories
- Dynamic visions and time horizons: what has to be done by when?

Methodology:

Focus on existing energy scenarios distilled into 4 trajectories

Development of a common template with indicators:

- General vision, modeling tools and method
- Energy supply & demand indicators
- Demographic and economic evolution
- **Socio-economic indicators**



Harmonized impact analysis (GHG, economic impacts)

Qualifying different types of uncertainties

- **Structural uncertainties:** energy prices, availability of resources, economic growth
 - **Uncertainties on modeling hypothesis:** cost of measures
 - **Uncertainties within the scenario:** effectiveness of policy measures, economic impacts
- ➔ **Different approaches:**
- Sensitivity tests and « reality-check »
 - Political debate on conditions of feasibility / acceptability
- ➔ **Resilience of different trajectories, policy options**
- ➔ **Objectivizing political controversies**

Main results

Some evolutions within the debate catalyzed by the scenario analysis:

- Factor 4 GHG vs. factor 4 CO₂ energy combustion
- The potential for energy conservation and policy measures needed to trigger change
- Resilience of scenarios: strong effort on efficiency & conservation vs. backstop technologies
- Absolute volume vs. relative share of renewables in the energy mix
- Cost hypothesis on deep thermal retrofits
- Systemic costs and time-scale of investments

Conclusion

- Innovation in the French debate on energy policies
- Scenario analysis helps objectivizing political controversies and informing debate on the nature of risks and uncertainties
- Risk evaluation vs. risk perception : quantified analysis can inform but not « replace » political decision-making
- Limits ?
- Next steps ?



Thank you for your attention

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SciencesPo.

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- Bellevrat et al. 2013 : *Scénarios de transition énergétique pour la France : définir un espace de discussion pour le débat*. Working Paper 09/13
- Rüdinger, A. 2013: *La rénovation thermique des bâtiments en France et en Allemagne : quels enseignements pour le débat sur la transition énergétique ?* Iddri, WP 07/13
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