



How Green innovation is addressed at ANR

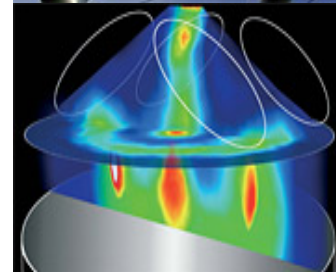
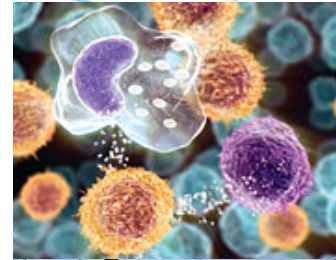
Philippe Freyssinet, PhD

Head of Sustainable Energy & Environment Department

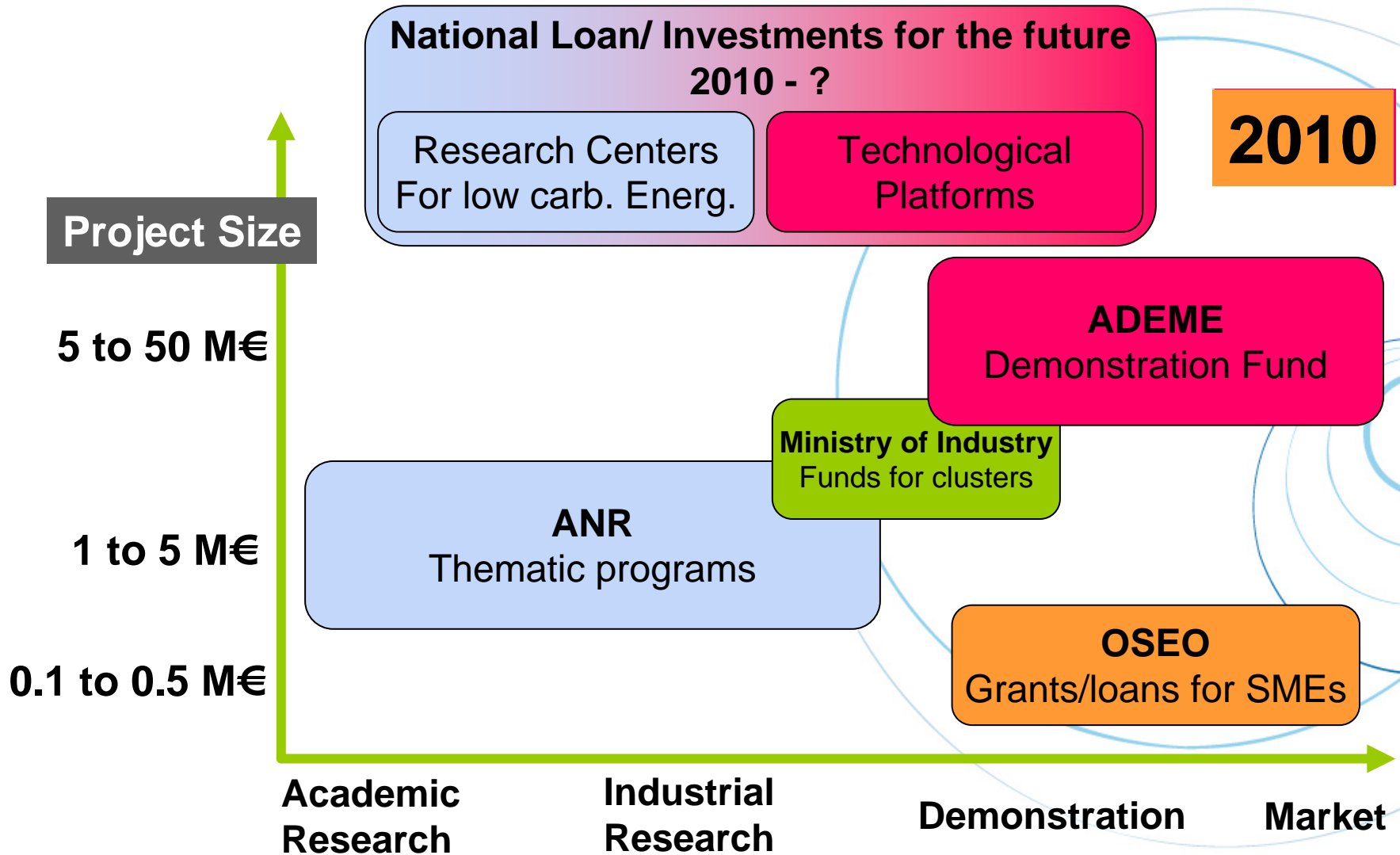
JST Symposium, May 17, 2010, Tokyo

ANR fact sheet

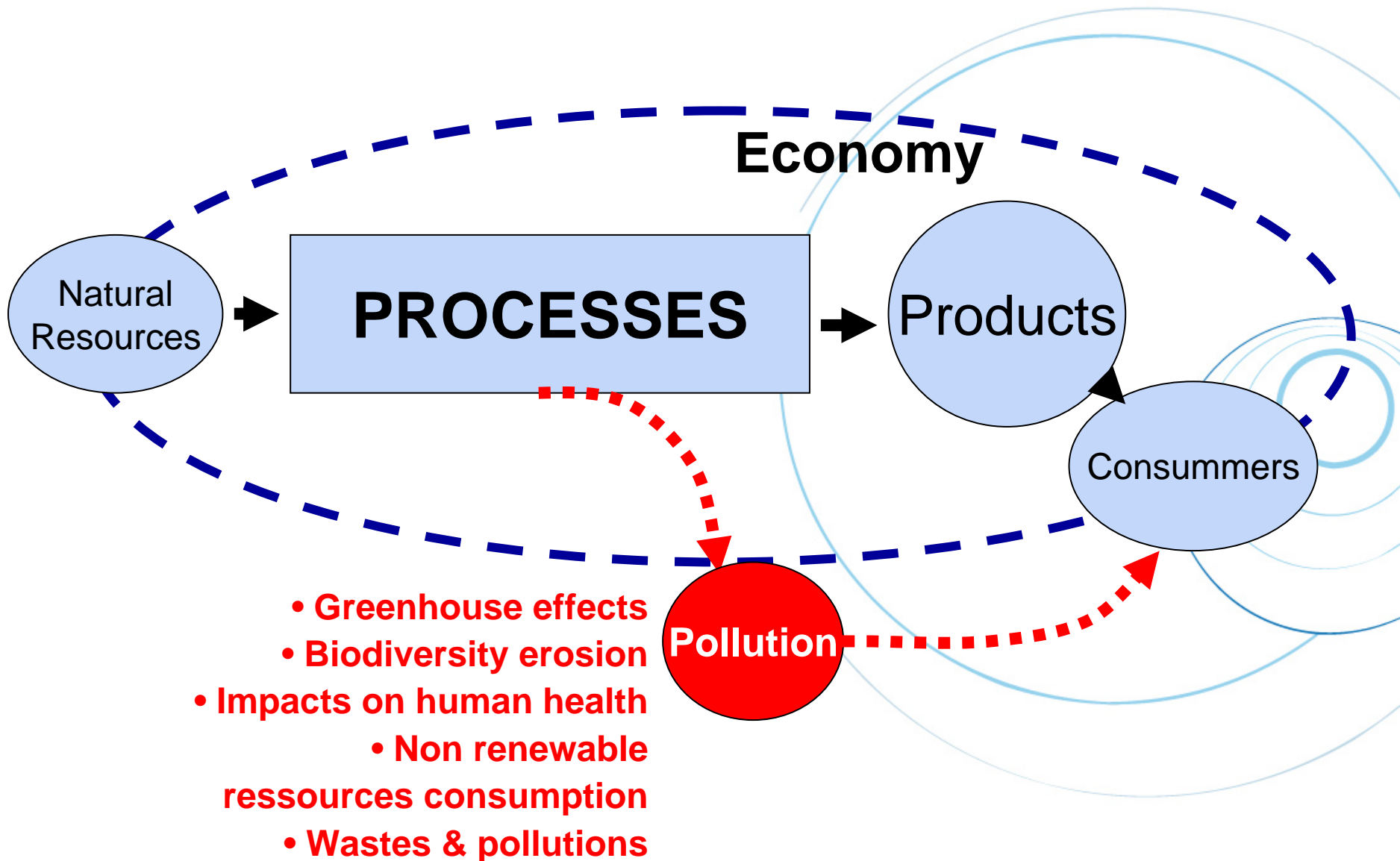
- A public organization created in 2005
 - Devoted to competitive project funding in both academic and industrial research
 - Peer review evaluation of projects
 - Annual budget : 960M€, 700M€
- More than 50 calls issued per year
 - Blue sky research (35% in 09) and thematic programs
 - 2 types of consortia : academics or public-private partnerships
 - About 70% academic research, 30% Industrial research
- 2009 Key figures
 - 6000 proposals / 1250 project selected (23%)
 - 18% grants attributed to industry



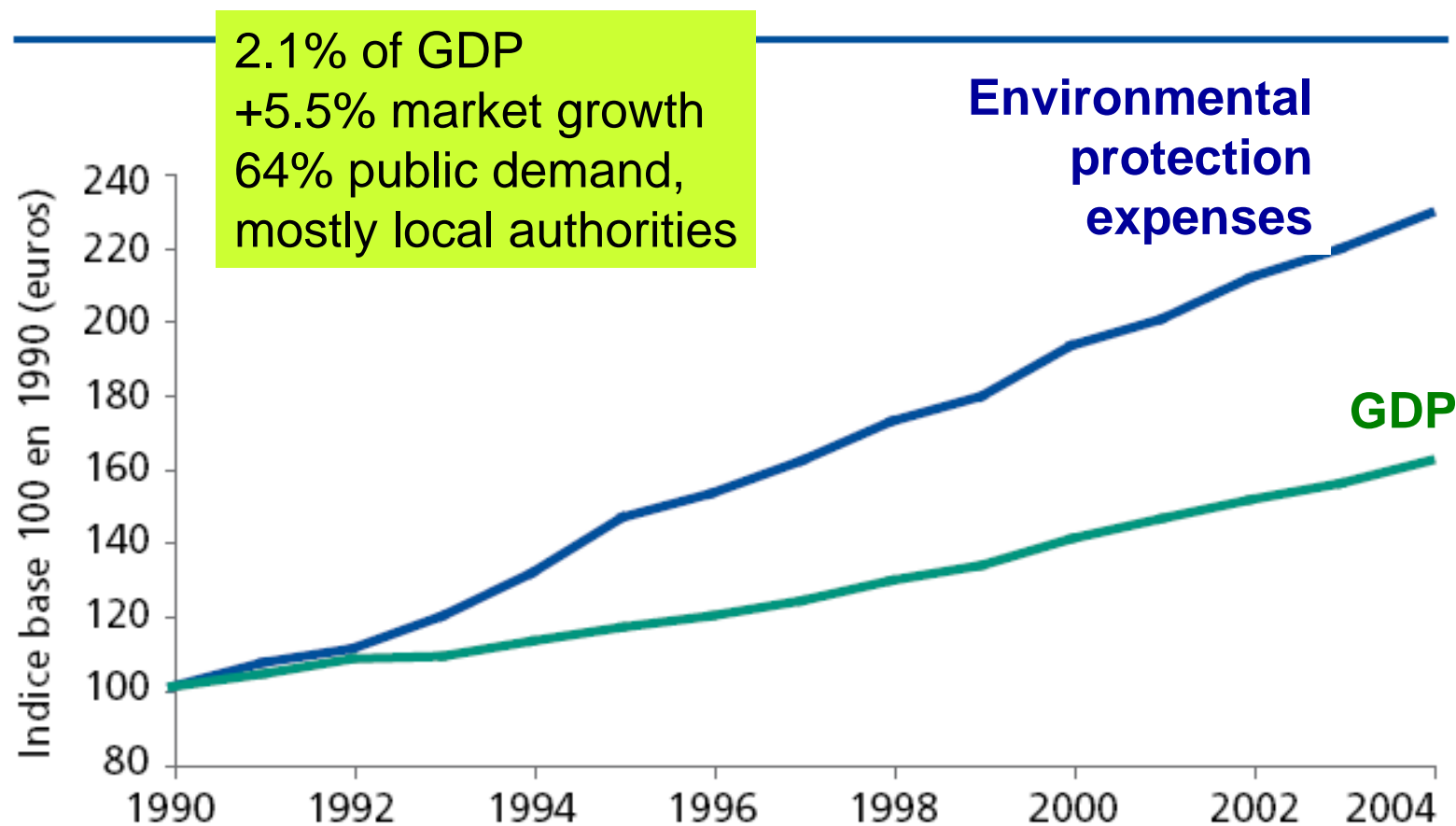
French funding system on Green Innovation



Externalities

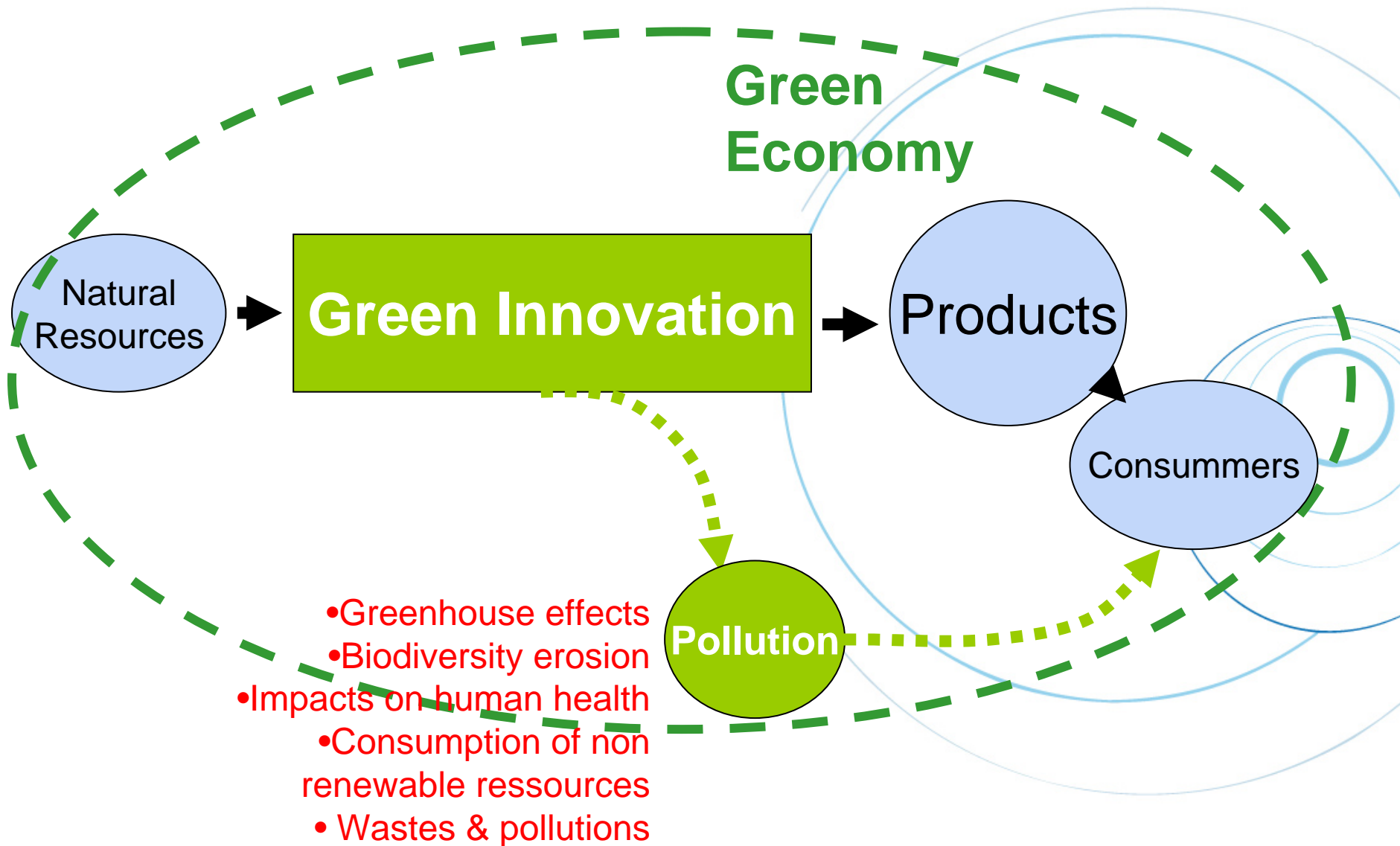


Environmental protection expenses in France vs. GDP



Source : Ifen.

A challenge for R&D : how to internalize « externalities » ?

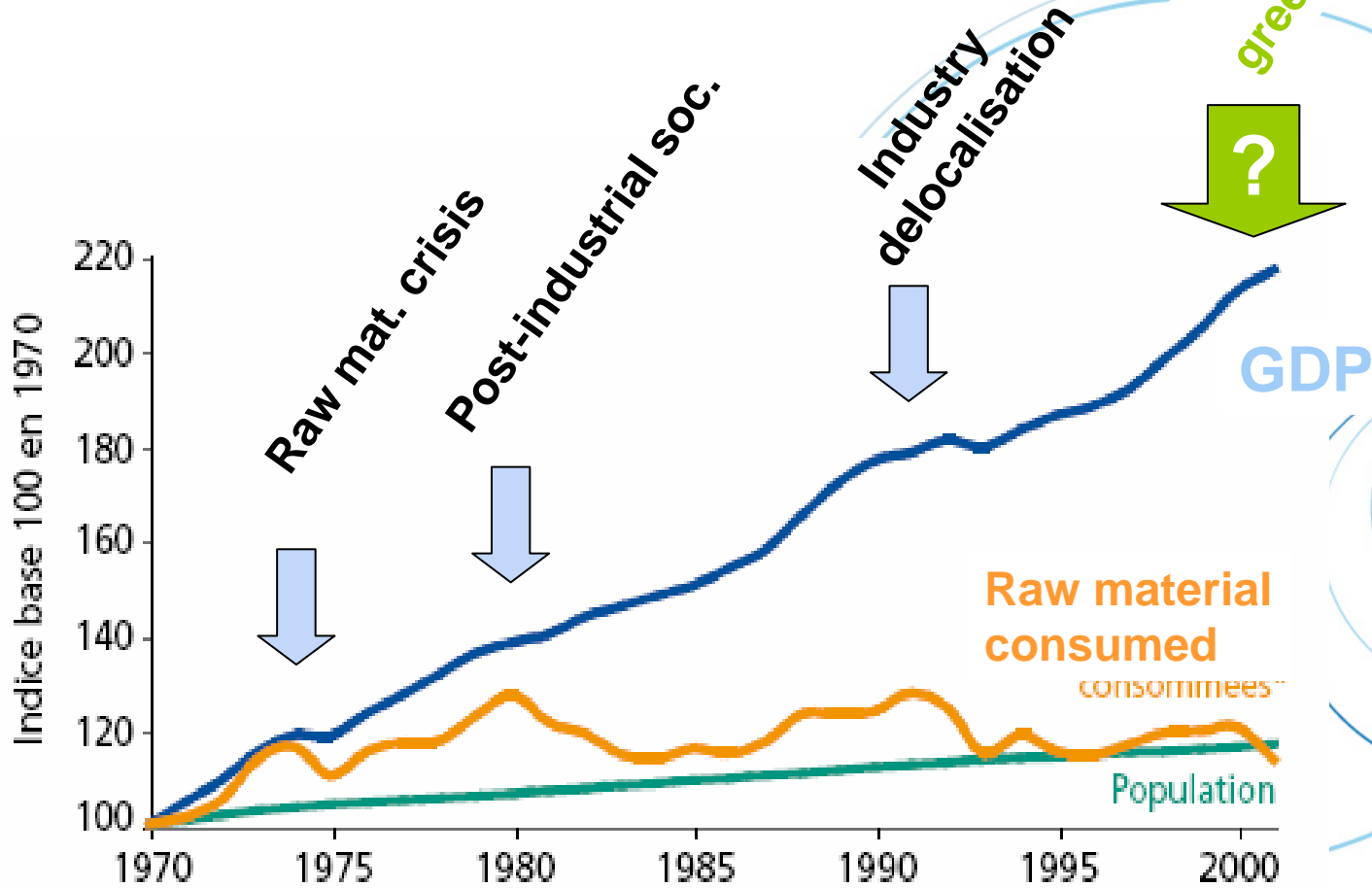


GDP in France and Raw material consumption for 30 years

AGENCE NATIONALE D'



Emerging green growth ?

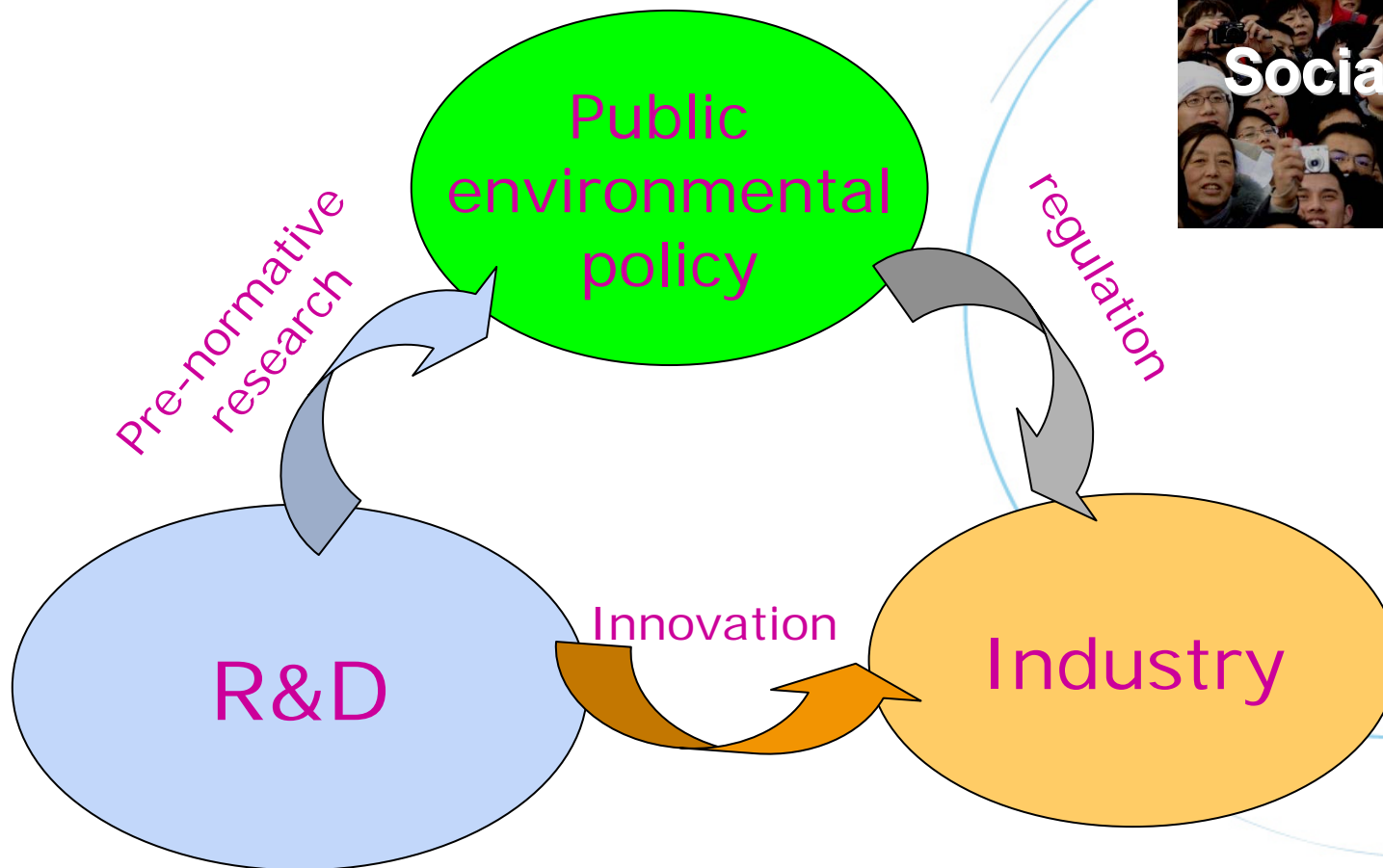


Source : Ifen - Eurostat.

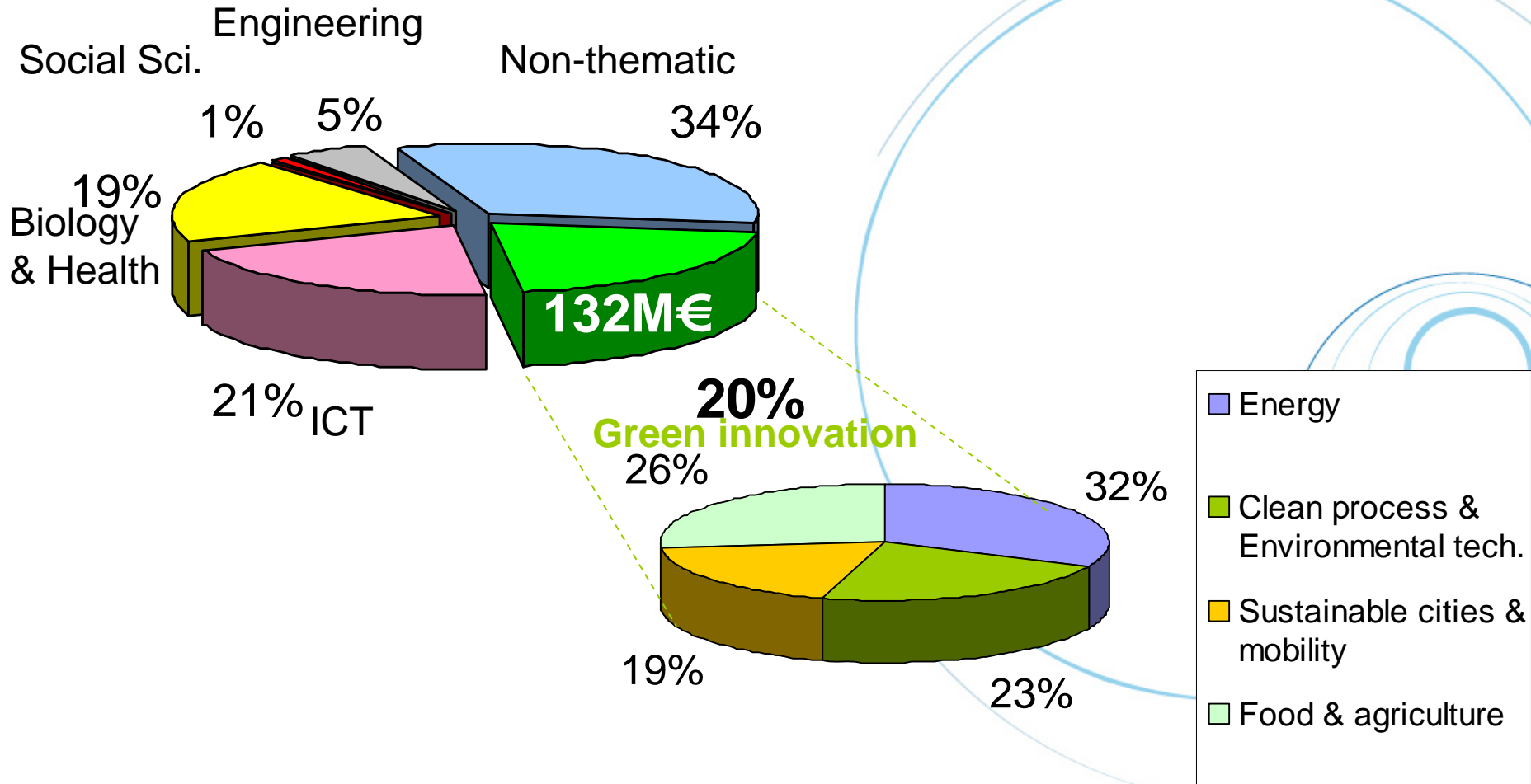
Green Growth and Research Strategy ?

- Identify the **main externalities**
 - Identify the **potential technologies** to reduce externalities
 - Identify the **new economical models** creating added value
 - Identify the **right policy incentives** to favor investments
 - Identify **social behavior changes**
- 

Green-innovation : a complex system at 3 components OR 4 ?



ANR 2009 budget : 20% on Green Innovation



R&D priorities on **Green Innovation**

Food & Agriculture

Sustainable practices
Ecological engineering
Land management & governance
Sustainable food systems

ENERGY

Solar PV,
Energy storage & smart grids
Energy efficiency in industry
Bioenergies 2G &3G, CCS

R&D PRIORITIES ON GREEN INNOVATION

Sustainable Cities & Mobility

Energy efficiency in buildings
and city scale
Urban design & policy
Clean & safe transportation

Clean Processes & Environmental Technologies

Green chemistry
Substitution technologies
Recycling technologies
Sustainable production
Processes
Environmental monitoring

Emerging R&D topics for **Green Innovation**

- There is a need to promote a scientific community at the interface of industry, technological research, and social sciences
- 2 main drivers for the green transition
 - The **change of Lifestyles** (study of social and individual behavior and values, social acceptance of new tech., cultural influences...)
 - The **relevance of economical models** (circular economies, functional economies, ...) and Institutional frameworks (legal barriers...)

Conclusions

- Program design for green innovation cannot only be « techno push »
- Research programs have to be more systemic
 - Clearly identify the externalities
 - Pluridisciplinarity, technological and social
- Strengthen R&D on **institutionnal innovations** (i.e. economical models, analysis of social evolutions, ...)
- Needs at international level
 - **Pre-normative research** to implement futur standards and allow new technologies implementation
 - **International R&D indicators** on green innovation