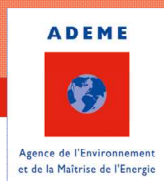




ADEME ROADMAP

Sustainable Bioeconomy

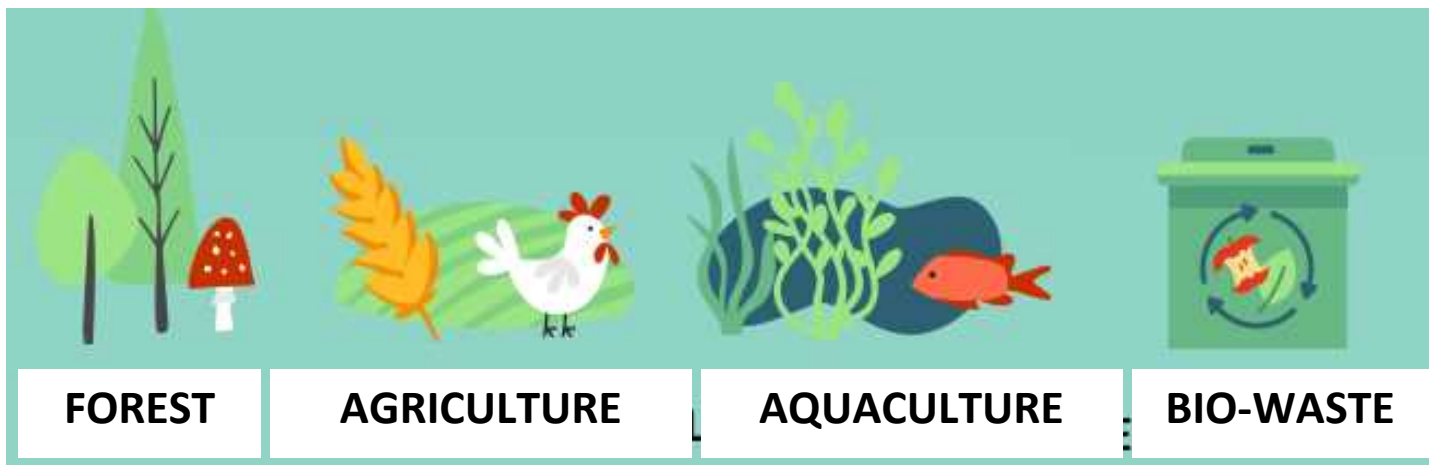
Soil, agriculture, food, forest and biobased products

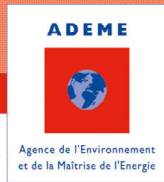


Emilie MACHEFAUX

NEDO-ADEME, March 12th 2019

Bioeconomy refers to all activities related to the production, processing and use of bio-resources, which are derived from the living world :





Sustainable Bioeconomy

ADEME wants to develop a **sustainable_bioeconomy**, serving the ecological and energy transition and taking up the principles of the circular economy.

Biomass is used to produce:



Food & Feed

**12% of jobs in
France
directly
related to
food**

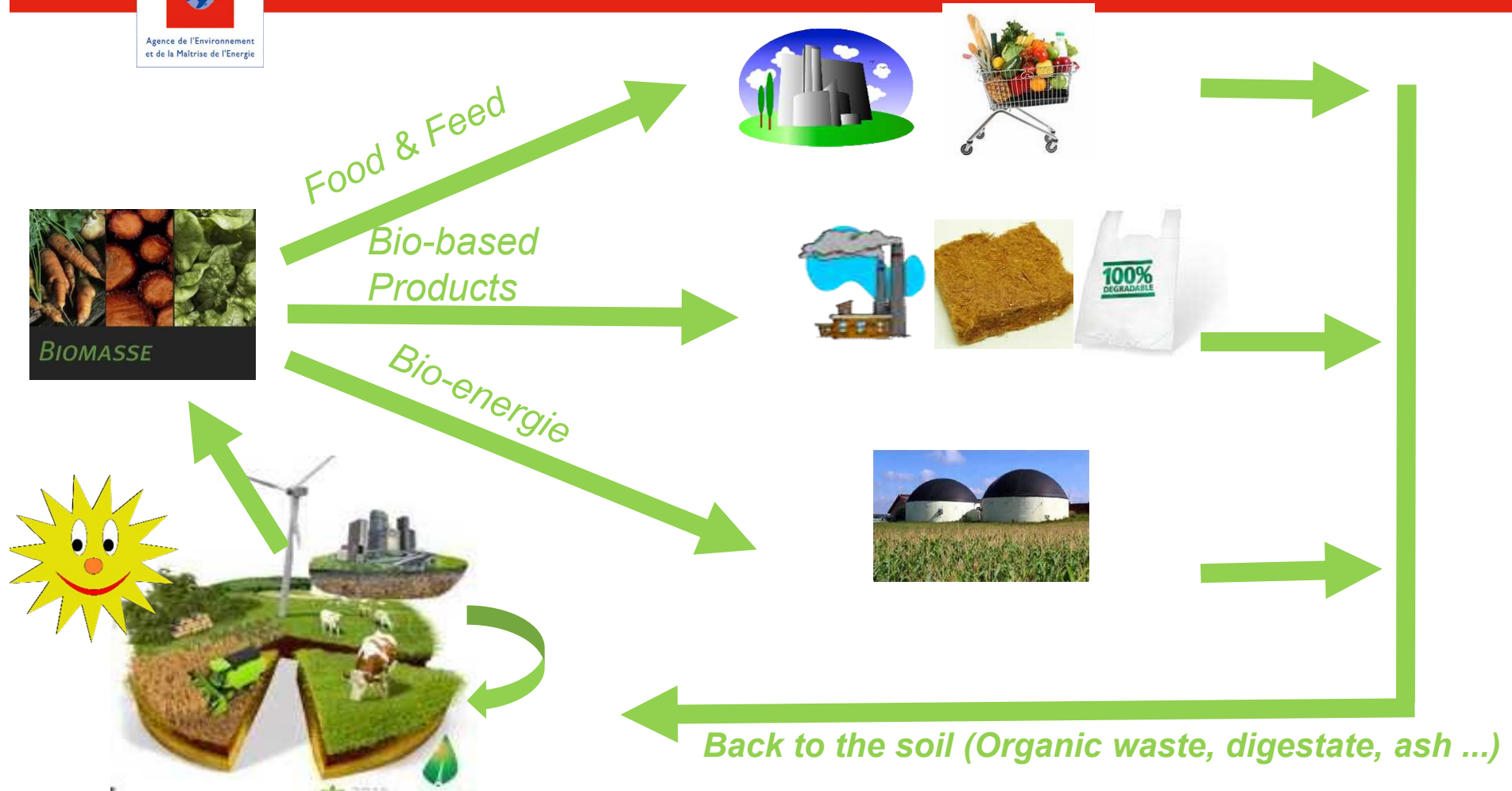
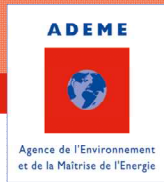
Renewable Energies

**54% of
renewable
energy in France
comes from
biomass**

Bio-based products

**Turnover in 2012
of more than 5
billion euros**

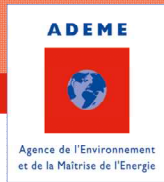
Scope : Living world



450 000 Farms
60 000 agri-food companies
3.3 M of forest owners

2 Million jobs
3.6% of GDP
Trade balance = + 9 billion euros

Multiple major issues!



Impacts



1/4 of GHG emissions



98 % of NH₃, particles, CH₄, pesticides...



83 % of space



70 % of water consumption, nitrogen pollution, pesticides



Energy consumption : between **10 %** and **20 %** of production costs

Services

Biodiversity



Bioenergy
Bio-based product



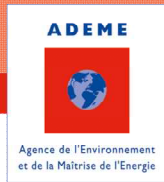
Carbon sink (-54 MteCO₂)
1st terrestrial carbon reservoir



Food security **+70%** of needs by 2050



**A major contribution to
the ecological and energy transition!**



Know how

- Technical expertise on environment
- Ability to analyse, particularly at the level of sectors and territories
- Independence
- Forum for debate and collective expertise
- Link between research and field action

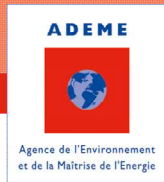
Ability

- National and territorial expertise
- Financial tools and funds
- Skills in communication, training, animation

Wishes

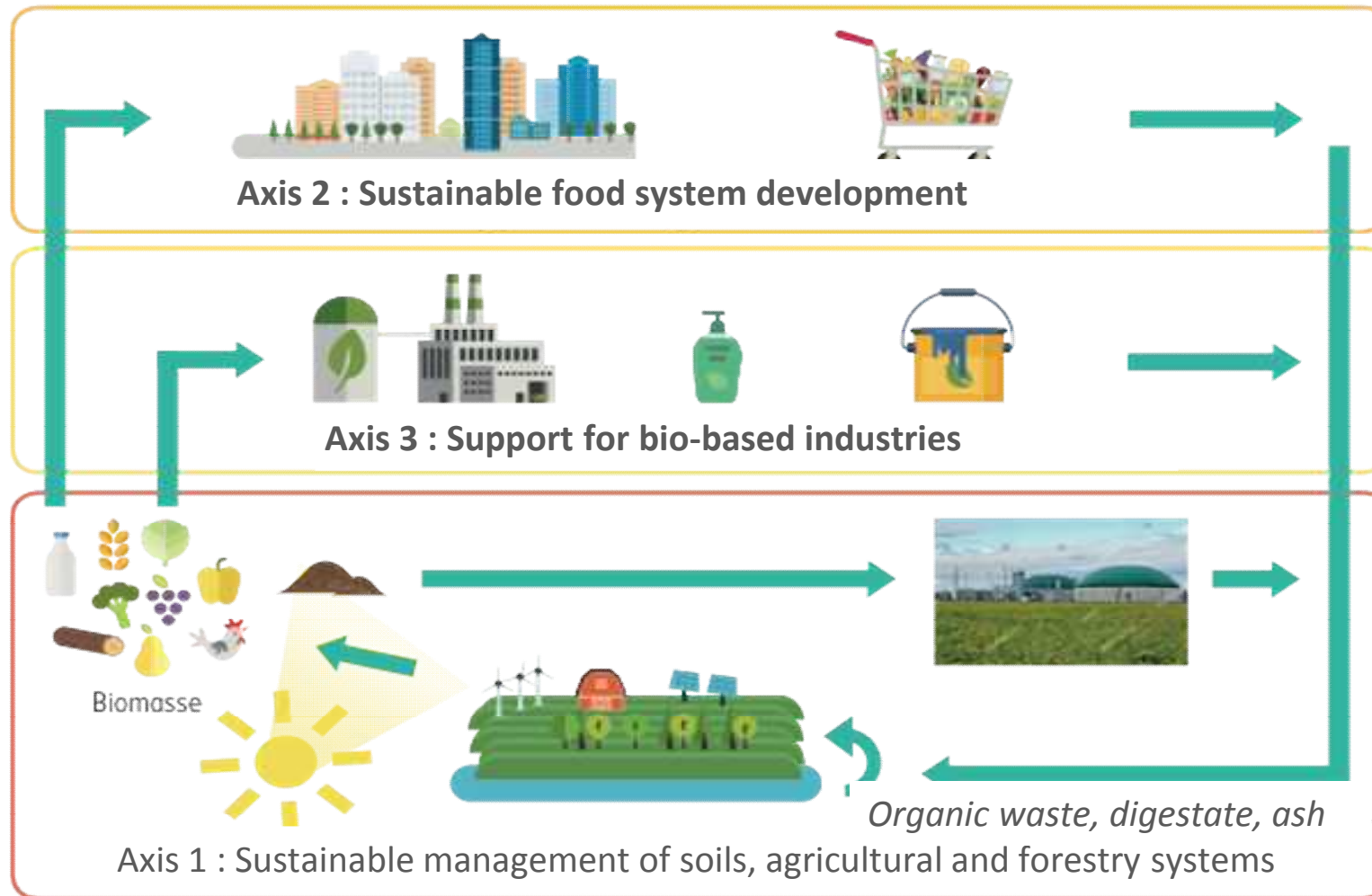
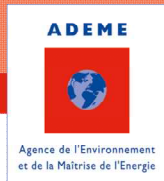
- Apply the principles of the circular economy to the "living world"
- Promote "sustainable food" as a way forward
- Promote the sustainable management of natural resources and adaptation to climate change

General principles to our guide action

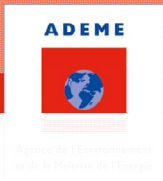


- Give priority to **global** and **multi-criteria** analyzes
- Target **environmental**, **economic** and **social** performance in promoted solutions
- Integrate **social acceptability** issues
- Listening to **emerging models**
- Innovate in **change management**

3 strategic axes



Axis 1 – Sustainable management of soils, agricultural and forestry systems



Innovate and prepare for the future

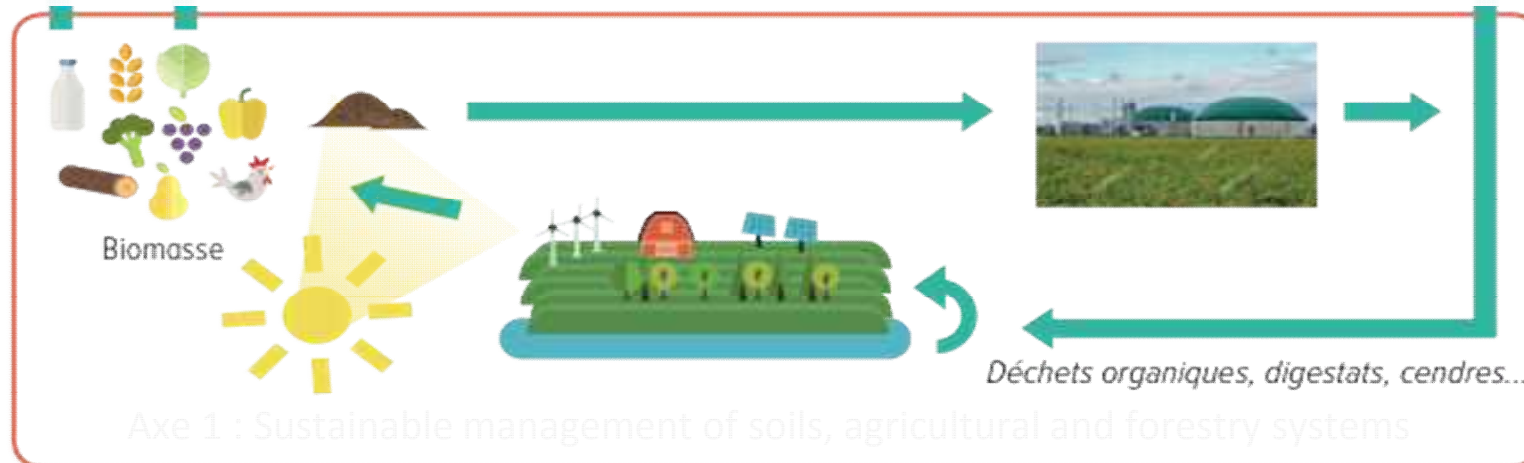
- Innovation and production systems
- Forward-looking scenarios

Deploying the transition

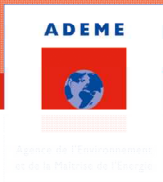
- Renewable energies

Contribute to collective expertise

- Knowledge of biomass, soils and climate impacts at the territorial scale



Axis 2 – Development of sustainable food system



Strategic axes



Innovate and prepare for the future

Analysis of emerging models (short circuits, urban agriculture ...)

Deploying the transition

- Pilot projects on sustainable food
- Reduction of waste and food losses

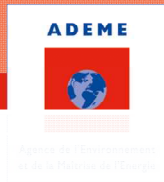
Contribute to collective expertise

Eco-design of food chains sectors

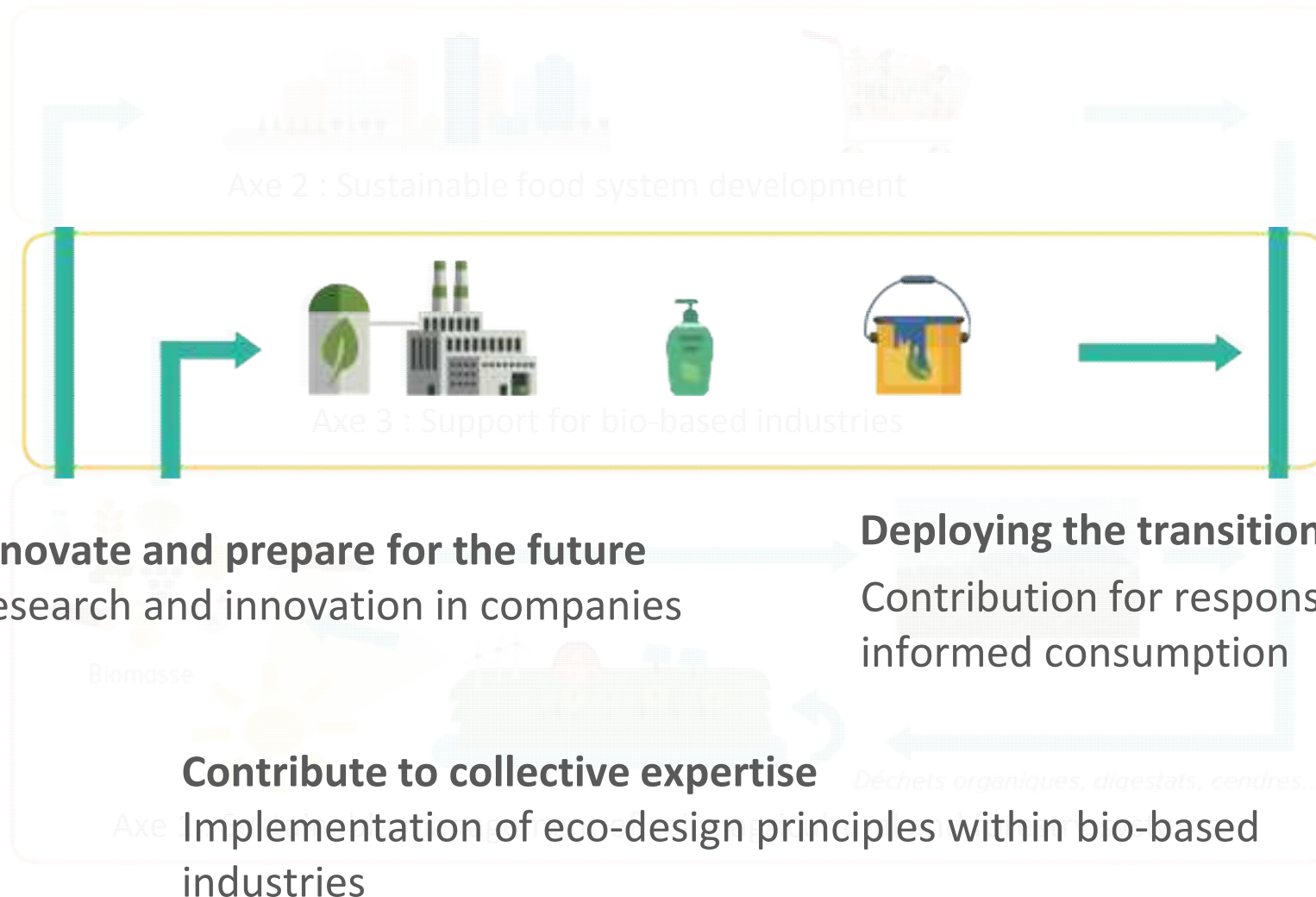
(ex: Agribalyse® ...)

Axe 1 : Sustainable management of soils, agricultural and forestry systems

Axis 3 – Support for bio-based industries



Strategic axes



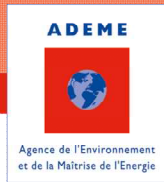
Innovate and prepare for the future



Programs	Grants for Doctoral fellowships	Calls for research proposals	Wide scale innovation demonstrators and territories	Innovation contest
Funding	Grants	Public subsidies	Repayable advances and subsidies	Subsidies and repayable advances
Beneficiaries	PhD student	Research organisations, firms, associations, communities	Firms and partners (e.g. universities)	Small or medium-sized company
Project type	Concept – feasibility	Development, experimentation, action-research	Demonstration project, First application	Demonstration project, First application
TRL	TRL 3 to 4	TRL 4 to 7	TRL 6 to 9+	TRL 6 to 9+
Indicative amount of fundings	Half a grant	50 to 400 k€	>2 M€	600 k€ to 5 M€

TRL : Technology Readiness Level

Our main call for research projects



Objective : Support a sustainable development of a **bio-based economy**, with low environmental impacts and a high level of ecosystem services.

Main focus on the **climate change mitigation** and the development of a **circular economy**.

Collaborative research projects, including stakeholders.

Budget ~ 3,3 Million €

Funding by project ~150 à 350 k€



TRL 6 to 9+

Firms and research partners
Repayable advances and subsidies

4 calls for projects :

- Eco-efficient **Agriculture and agrifood industries**
- Mobilisation of biomass and production of new **biomass resources**
- **Bio-based Materials and Chemistry**, advanced **biofuels**
- **Renewable energy**

Example IPME – Mini DENOX Project



Company : Compte R (Main french boilermaker)

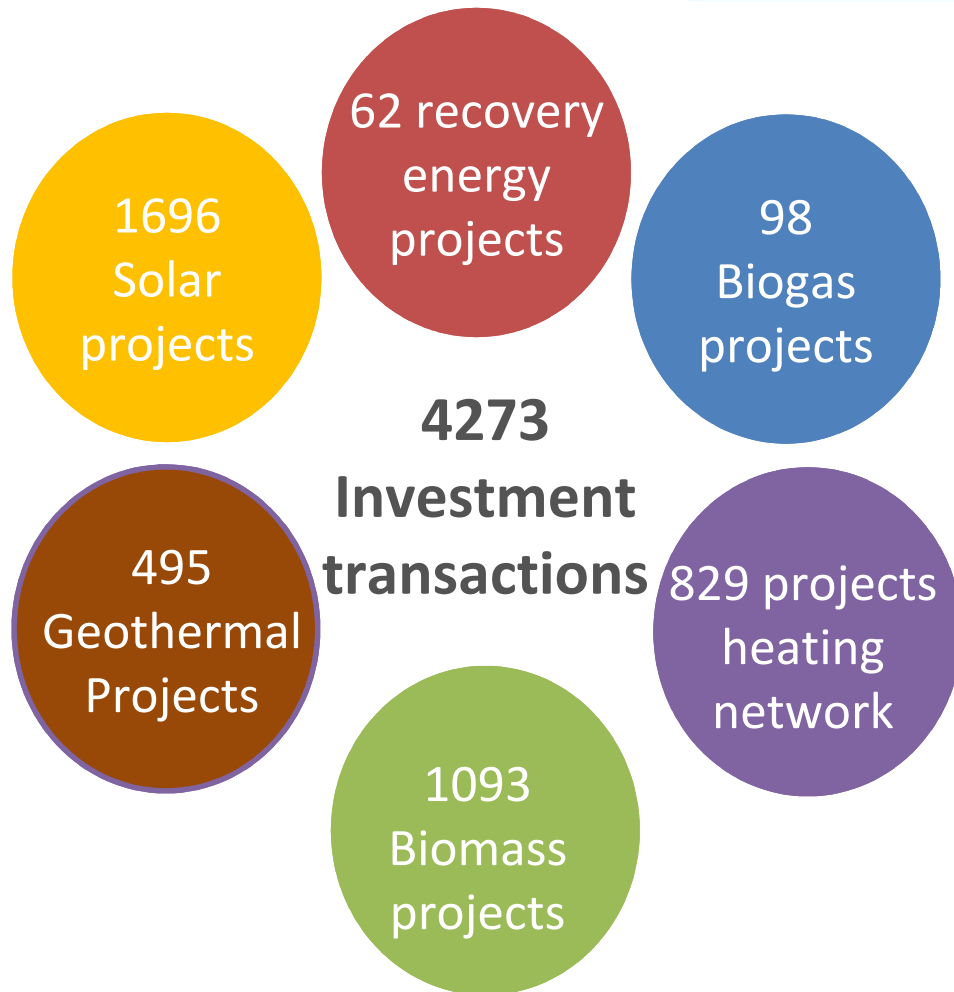
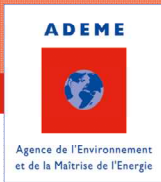
Objectives :

Design a NO_x treatment system, suitable for small and medium biomass boilers

An Effective, Punctual & Economic treatment system



Total Investment: 424k€
ADEME Funding : 200k€



1.75 billion committed by ADEME for a total investment of 5.78 billion euros

2009 – 2017
Annual forecast production 25,1 TWh (2,16Mtep)

Bel cheese dairy



- Investments: 5.2 million €
- Funding : 48% of eligible investments

Performance

- Annual biomass production 55 346 MWh
- 78% of steam production is provided by biomass.
- 19,656 tonnes provided for biomass supply : 80% of forest chips

Environment

- 12,661 tons of CO2 avoided per year

Biomass heating plant – Heating network Etouvie district - Amiens



Investments: 9 million€

Funding : ADEME: 0.9 M€ + European Union: 0.9M€

Performance

- 70% = Renewable rate injected into the network:
- Annual biomass production 2,417tp / year
- Job created : 1

Environment

- 11 071 tons of CO2 avoided per year





ご清聴ありがとうございました

Merci de votre attention !