FEEM NEW VISION

Perugia November 22, 2018
Fondazione Eni Enrico Mattei
FEEM: New Vision, New Approach to Research Activities

FEEM is an international research center that communicates with institutions and public decision makers, universities and research centers, with Eni and the corporate world, to tackle the challenges of global change.

2019 – 2021 Aims
- pursuing new and frontier research topics, assuming the traditional climate change topic as one of the key variables of FEEM activities
- resuming the capacity to communicate with the broader public
- becoming an increasingly corporate research foundation
- having a greater focus on the local dimension
- establishing FEEM as focal point of a broad network of different competences, skills and experiences

A frontier Think Tank
- forecasting and preemption topics and trends to understand contemporary complexity
- advancing knowledge – or producing disruptive knowledge – for the scientific community

Interdisciplinary research and real-world applications
- activities with a broad and interdisciplinary vision and new approaches
- cross-fertilization across different research areas
- general scenarios thematic focuses field applications

A Corporate Foundation that stands by Eni
- synergic strategies
- complementary expertise to the Founder’s activities
- applied research on the territories where Eni operates
A New World, New Frontiers of Research

**Climate Change**
- a universally acknowledged reality
- fine tuning: from the models to the impacts/solutions
- role of technology

**Global Governance**
- changes in the paradigm
- need of new interpretive tools
- policies, systems, people

**FEEM**
**The Future, Explained**

**Decarbonization** of the energy systems
- Universal **access** to energy
- **Geopolitics** of energy
- New regulatory **policies**
- Energy transition in **cities**
- Role of financial markets and **firms**
- New paradigms of **sustainable development**
FRAMEWORK

A number of issues threaten food chain sustainability in the near future:

- The world population will hit **9.6 billions by the mid 2050s**
- The global energy and water demand will rise by 80% and 55%, respectively, by 2050 (OECD)
- Food production will have to increase by 60% by 2050 (FAO)
- The impact of climate change (CO$_2$) on the quality and nutritional properties of crops needs to be investigated
- Trade globalization ensures availability of all types of food regardless of the season with a huge and non diversifiable energy cost for transport

AIMS

- To investigate the two frontier topics connected to Food Value:
  - Carbon footprint
  - The Nutritional Impoverishment/Land Use nexus
 POSSIBLE ACTIVITIES
• analysis and identification of field crops capable of adapting to climate change, in particular to the elevated atmospheric concentrations of CO₂
• identification of guidelines for product tracking and related carbon footprint (food miles), with the Trade Impact Index (TII)
• publication of the TII in a scientific journal, agreement with UN COMTRADE for the access to trade and production chain data
• development of a user-friendly (App, web solution) platform to look up the quantitative forecasting models and sustainability analysis of the agrifood chain
• studies linked to nutrition, kick-off conference to disseminate knowledge on and raise awareness of food sustainability, use of new communication means and innovative technologies (food computer)
• possible installation of a food computer prototype in FEEM
• comparative analyses of food production costs/benefits in food computer versus conventional agrifood chain (carbon impact, agricultural yield)
• socio-economic sustainability and impacts generated by using the food computer in the agrifood chain
• analysis of trade-off between sustainability of low-carbon diets and cultural acceptance
• development of a circular economy model for food focused on energy diversification and overall environmental cost
• development of multidisciplinary analyses to collect the results of field experiments, new technologies and elaboration of guidelines for a circular economy

 NETWORKING
MIT, CNR, ENEA, FAO, Universities (e.g. UniBo, UniBas, Faculty of Agriculture UniMI, UniMib, UniPg), Ministry of Agricultural Policies, Local Authorities (Regions, Municipalities), Council for Agricultural Research (CRA), ALSIA, schools, farmers, Trade Associations (Coldiretti, Confederazione Italiana Agricoltori)

 PARTNERSHIPS
High involvement potential of private food companies (e.g. Barilla, Slow Food, Eataly)
**New Proposal: DigIT**

**AIM**

- to launch a joint FEEM - Politecnico di Milano initiative on **Technology Foresight** to assess and understand the state-of-the-art of **scientific** and **technological** frontiers that can radically change society

**ACTIVITIES**

- **preliminary mapping** of international interdisciplinary research initiatives
- **focus** on the medium-long term **technological development** aimed at achieving economic, environmental and social sustainability with the needs of **People** at its core;
- **development of scouting skills** and forecasting future technological **scenarios**
- engagement of additional **institutional actors**