

ANNUAL REPORT 2013



TABLE OF CONTENTS

ABOUT US	4
Enrico Mattei	4
Mission	6
Our history	8
Governance and organization	12
HIGHLIGHTS	16
Trust: a debate on the crisis of this invisible institution at the base of economic and social development	16
Economics of climate change adaptation	18
Methodologies and indicators for sustainability measurement	20
Oil price forecasts and trends	22
New challenges and opportunities for European gas markets	24
Feeding the Planet - Energy for Africa	26
The new model of sharing economy	28
Integrated Reporting and Integrated Thinking	30
FOCUS ON	32
Sustainable Business and Social Change Initiative	32
FEEM Lectures 2013	34
5 th edition of the FEEM Award, a prize for economic ideas	36
REPORT ON ACTIVITIES	38
RESEARCH	38
Overview	38
“Climate Change and Sustainable Development” Programme	40
“Energy: Resources and Markets” Programme	44
“Economy and Society” Programme	50
SPECIAL PROJECTS	52
FEEM in Basilicata	52
Focus on: Sustainable Tourism and Local Development in Basilicata	54
FEEM Activities in Ravenna	56
Local Sustainable Development Area	57
Eni Award scientific secretariat	58
Eniscuola and Schoolnet	59
PUBLICATIONS	60
SOCIAL REPORT	62
FINANCIAL REPORT	76
BYLAWS	80
APPENDICES	82
Publications, 2013	82
Events, 2013	90

ENRICO MATTEI



FEEM is entitled to Enrico Mattei, the founder of Eni and an economic leader in the national industrial system and international relations of the post-war period.

Born in Acqualagna (Pesaro) on April 29, 1906, Enrico Mattei became one of the leaders of the antifascist resistance movement in Northern Italy during World War II. After the peace declaration in 1945, Mattei was appointed by the government bankruptcy trustee of the distressed state-owned oil company Agip.

Instead of liquidating the company, Mattei successfully developed its business, starting an involvement with energy markets lasting 18 years. The unexpected discovery of natural gas in the Po Valley, the development of the business of extracting and marketing it, and his dedication to promoting legislation to regulate domestic energy markets constitute the most salient aspects of Mattei's early activities. In 1953, he was appointed Chairman of Ente Nazionale Idrocarburi (Eni), the state-owned energy company that he forcefully wanted and contributed to establish.

Mattei led the Eni group combining vision with pragmatism: the new terms of association offered to oil producing countries, the measures taken to contain the final energy prices to consumers, the launch of a large and modern domestic petrochemical and nuclear industry, the off-shoring of qualified engineering expertise to operations abroad, the focus on research, innovation and meritocracy witness his managerial skills, combined with a genuine commitment to economic and social progress.

During the expansion phase in Eni's history, Mattei died tragically in an aircraft crash on October 27, 1962 in the skies of Bascapè (Pavia). The key role he had assigned to culture, research, and cooperation represent the most valuable legacy for the Foundation that carries his name.

MISSION



FEEM is a nonprofit, nonpartisan research institution devoted to the study of sustainable development. Founded by the Eni group, officially recognized by the President of the Italian Republic in 1989, and in full operation since 1990, FEEM has grown to become a leading research centre, providing timely and objective analysis on a wide range of environmental, energy and global economic issues.

FEEM's mission is to improve through research the quality of decision-making in public and private spheres. This goal is achieved by creating an international and multidisciplinary network of researchers working on several innovative projects, by providing and promoting training in specialized areas of research, by disseminating research results through a wide range of outreach activities, and by delivering directly to policy makers via participation in various institutional fora.

FEEM's operations are inspired by some guiding principles. FEEM sets a bold research agenda addressing big questions and emerging issues in the economic and social context. While strictly linked with the academic community, it embraces intellectual curiosity and supports risk-taking in pursuing research. Its agenda emphasizes "real world" issues and the policy relevance of the outputs.

FEEM brings together researchers from various fields at different levels of experience, in order to fertilize ideas and foster the accumulation of human capital inside and outside the organization.

FEEM promotes excellence, boldness of ideas and creativeness, but quality, rigor and impact remain the distinctive features of its activity. Research outputs are theoretically sound, fact-based, and generally validated by the scientific community through peer review processes. FEEM aims at translating analyses into practical ideas, and at presenting them in user-friendly formats to inform and shape the public debate.

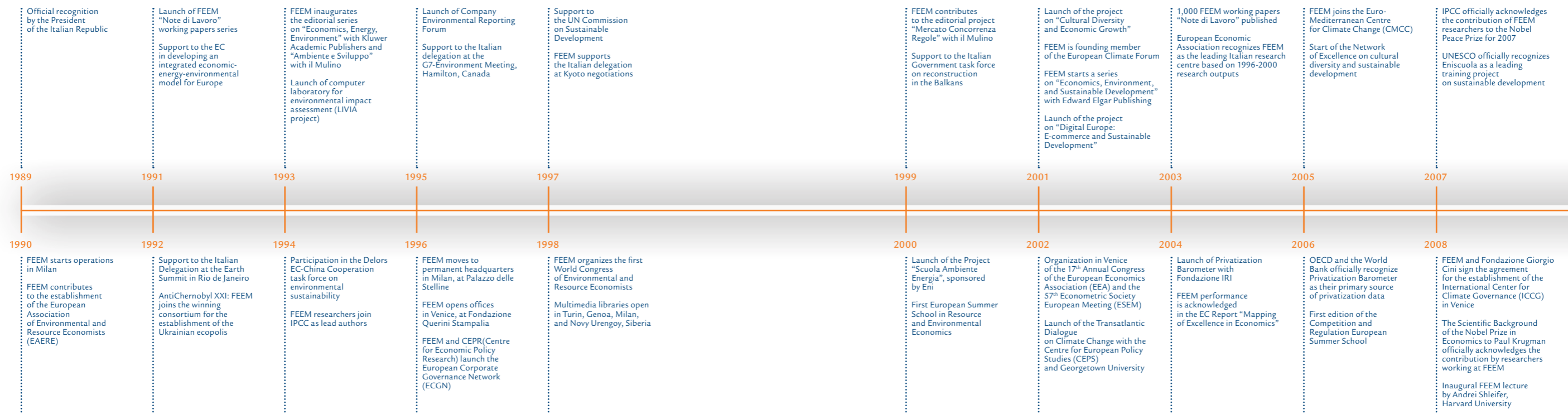
While remaining thoroughly Italian in location and perspective, FEEM promotes the international dimension of its activities by selecting topics of global relevance, by creating networks and partnerships in various countries, and by attracting researchers trained and working abroad.

OUR HISTORY

The formal date of establishment is June 7, 1989, when the President of the Republic officially recognized FEEM's legal status. However, the project of establishing a research foundation entitled to Enrico Mattei was drafted by a commission of Eni executives and external experts in 1982, and finally endorsed in 1986.

The first board meeting took place in 1987, and set down the landmark principles for future activities. FEEM would have an international profile in terms of researchers involved, topics addressed, quality of output and networks. Furthermore, it would not operate as a grant-making institution, but it would conduct independent research with its own human capital and coordinated programmes. In its long-standing activity FEEM has remained faithful to these principles. The relationship between the economy, energy and the environment has always been the main focus of FEEM research activities. Today, FEEM has grown to become a leading international research center in economics, providing timely and objective analysis on a wide range of environmental, energy and global economic issues.

Sustainable economic development is an area where FEEM has gained a strong reputation in the academic community and policy spheres. In the early 90s FEEM researchers started analyzing the interaction between finance and the environment and the innovative (and now widely used) instruments such as emission permits and catastrophe bonds in the context of international and intergenerational risk-sharing. The international and strategic dimension of environmental issues has also been the focus of extensive investigation. As the story of the Kyoto protocol shows, environmental issues are global and must be addressed at a global level. FEEM researchers had foreshadowed the difficulties of inking international climate agreements, suggesting that issue-linkage, i.e. increasing the items in the negotiations agenda, could lead to more efficient solutions.



These initial intuitions prompted new strands of environmental research, ranging from sustainable energy to natural resources management and biodiversity. The expertise gained in this field over the years has led FEEM to contribute to the prestigious and important scientific work carried out by the IPCC (Intergovernmental Panel on Climate Change) and to provide technical support to entities and institutions, such as the Italian national and regional governments, the United Nations, the European Commission and the European Environmental Agency.

FEEM research on economic development has explored other key aspects, such as knowledge and human capital. Over the years research in this area broadened its scope to cover a variety of issues ranging from R&D, education and human capital, knowledge creation and diffusion, to multiculturalism and economic growth, tackling topics such as the emerging global urban system, the new sources of competitiveness in the global economy, and culture and diversity in capitalism.

FEEM has support-to-policy in its DNA. However, useful advice to decision makers is seldom delivered by the research community if incentives and institutional constraints are not taken into account. Embracing a “political economy” approach is essential, and FEEM has promoted studies in this field, addressing issues such as incentives, information and market failures, the role of lobbies and organized interests in collective decision-making, and the mechanics of self-regulation in financial markets, anticipating the critical issues of the financial crisis. Within this strand of research, FEEM has developed a series of cutting-edge projects, which consolidated its scientific reputation in corporate governance, privatization, and regulation. Today, FEEM is considered one of the most authoritative sources on privatization, and sought for advice by international organizations and governments.

Since the early 90s FEEM also started investigating the relationship between the firm and its stakeholders, well before “corporate social responsibility” became one of the

buzzwords in the business sphere. In this early stage, FEEM developed path-breaking methodologies to assess the environmental and social impact of activities in the balance sheets, and assisted several companies in drafting innovative reports, including its founder Eni.

Successful research is primarily a cooperative venture, and FEEM has always strived to create strong links with the international scientific community and partnerships with leading institutions. The reader can find a comprehensive list of our main partners in our chronology. Worthy to mention is the collaboration with the European Economic Association in the organization of landmark events, such as the launch of the FEEM Award, the prize for young economists. More recently FEEM established a partnership with the Fondazione Giorgio Cini for the creation of the International Center for Climate Governance (ICCG) aimed at fostering links between the scientific community and the policy sphere to improve decision making on climate change.

In June 2009 FEEM celebrated its 20th anniversary and established the FEEM 20th Anniversary Prize in Environmental Economics to reward researchers who have most significantly contributed to the development of the field of environmental and resource economics over the last 20 years.

In 2011 and 2012 FEEM consolidated its research activities around three research programmes on: i) “Climate Change and Sustainable Development”; ii) “Energy: Resources and Markets” and iii) “Economy and Society”. The “Report on Activities” section describes them in greater detail.

In 2012 and 2013, according to the Global Go To Think Tank Rankings, FEEM is confirmed among the “Top 150 Think Tanks” worldwide and obtains an outstanding 39th place in the “Top 70 Environment Think Tanks” ranking 2013.



GOVERNANCE AND ORGANIZATION

FEEM is an independent foundation officially recognized by the President of the Italian Republic in 1989. FEEM has been founded by Eni and nine of its subsidiaries with an initial endowment of 13 million Euros.

The governance rules, functions and powers of FEEM bodies are set out by the Bylaws. FEEM is guided by a Board of Directors with complete powers for the ordinary and extraordinary administration. The Board is composed of fifteen members – eight of whom are independent – and it is chaired by Paolo Scaroni, CEO of Eni. The Board of Directors is committed to overseeing the main activities of the Foundation, approving the annual budget and related activities.

FEEM bodies also include the Scientific Advisory Board (Comitato Scientifico), made of nine qualified experts from the scientific, academic and cultural communities and appointed by the Board of Directors. The Scientific Advisory Board provides recommendations on research activities and oversees the work in progress.

The Audit Committee (Collegio dei Revisori), in compliance with the Italian legislation, is composed of three qualified and certified accountants and its Chairman is appointed by the Italian Minister for Economic Development.

The Executive Director enacts the decisions of the Board of Directors, managing and coordinating the activities of the Foundation, including its offices and staff.



In 2007 FEEM voluntarily adopted an organizational, management and control Model pursuant to Legislative Decree 231/2001 and established a Surveillance Body (Organismo di Vigilanza) for its implementation and subsequent updates. In 2008 and 2009 FEEM reviewed its organization and implemented a new Model. Within this process, FEEM also defined the key values and principles for its external and internal activities and drafted a Code of Conduct as an integral part of the Model.

Everyday activities are organized and carried out within four main areas operated by permanent staff: (i) Administration, Finance and HR; (ii) Communication and External Relations; (iii) Research, and (iv) Special Projects.

FEEM's headquarters are located in Milan, in an aisle of Palazzo delle Stelline, a former XV Century monastery fully restored in 1998. This is where the head office, the library and the facilities for events and seminars are located, and most of the staff and residential researchers work. Since 1996 FEEM holds offices also on the Island of San Giorgio Maggiore just in front of St. Mark's Square in Venice, where important research projects, congresses and seminars are carried out. In 2008 FEEM also established the local site of Viggiano, in the Basilicata region.

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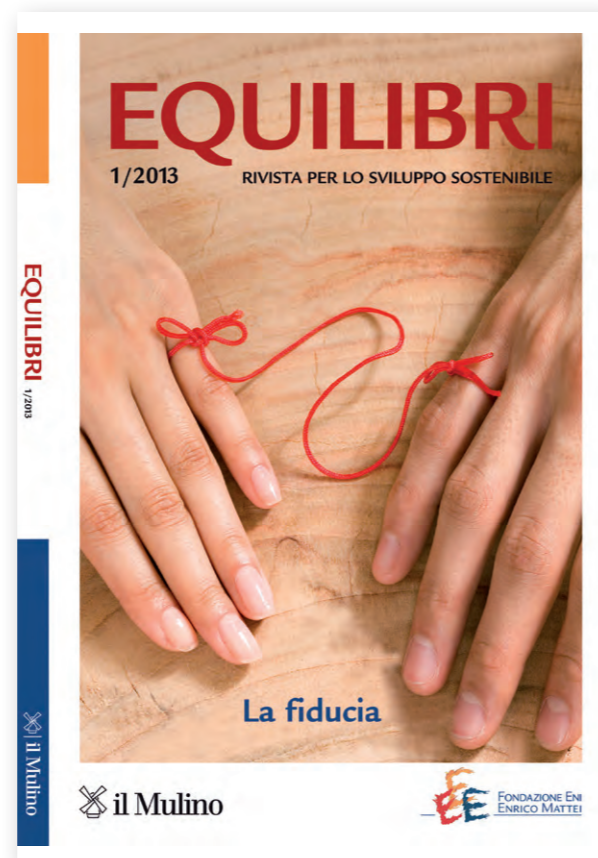
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Special Projects

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TRUST: A DEBATE ON THE CRISIS OF THIS INVISIBLE INSTITUTION AT THE BASE OF ECONOMIC AND SOCIAL DEVELOPMENT



Trust is an essential ingredient for the harmonious development of society. This is especially true in a world gripped by a deep economic crisis that is eroding people's trust in shared goals and objectives, and in the élites and institutions that govern both the public and private sectors.

One of the topics that FEEM's Economy and Society Research Programme is investigating is trust, and FEEM's first reflections on this topic were published in the 1.2013 issue of its four-monthly journal "Equilibri" (*), which collects important contributions from sociologists, economists and philosophers, such as Giulio Sapelli, Gianfranco Dalmaso, Geminello Alvi, Haim Baharier, André Orléan and Dominique Schnapper.

The debate on trust initiated by FEEM was further explored in the event organized by FEEM on November 23, 2013 as part of MILANO BOOKCITY 2013, where Joaquín Navarro-Valls (President of the Advisory Board of the Campus Bio-Medico University in Rome), Corrado Passera (former Italian Minister of Economic Development, Infrastructure and Transport), Giulio Sapelli (Professor of Economic History at the University of Milan and FEEM associate researcher) and Giuseppe Sammarco (FEEM Executive Director) engaged in a passionate round table on the crisis of trust – the invisible institution at the base of economic and social development.

Joaquín Navarro-Valls opened the debate by underlining the fact that trust is an everyday experience, "living without trust would not be possible, starting from the moment we drive our car through city traffic or we move across a crowd. We need trust to hope that others will keep their word. In our lives we cannot avoid the risk of being disappointed. We will never know

for sure whether the people we trust will always deserve our trust. But trust is born of trust, so we must be open to it."

We live in a society where fear prevails and generates distrust. "The greatest fear people have today is that of losing their job", was the opening line of Corrado Passera's speech. "In Italy unemployment currently affects 10 million people, including the unemployed, the non-employed, discouraged people and their families. It is not just a matter of holding society together, this situation produces a greatly underestimated feeling of social unease and widespread distrust, it affects the identity of society and of the individuals belonging to it. We have to kick start our country with a project of balanced growth. Being part of a project carried out with others generates trust. Everyone can play a part in creating trust."

Time of crisis? Maybe it's just time to wait, suggests the third speaker, Giulio Sapelli, wait for trust. Trust exists, but we need to look at society the other way round. We need to ask ourselves "what keeps societies together?"

When we look at society, it is not so much a matter of perceiving the occurrence of conflict, but rather of understanding that social order and trust are essential to keep society together. Trust is a transitive virtue: it reaches out. It implies the collective management of social order despite the boundless individualism that prevents people from sharing the same project.

* 1.2013 *La fiducia* - *Equilibri*, *Rivista per lo sviluppo sostenibile*, *il Mulino*, 2013

ECONOMICS OF CLIMATE CHANGE ADAPTATION

Adaptation has taken center stage in the climate change policy and research agenda in 2013. Indeed, the new report of the Intergovernmental Panel on Climate Change (IPCC), the New York City Adaptation plan just one year after the Hurricane Sandy, the emotional turmoil following the Typhoon Haiyan just prior to the COP19 in Warsaw, are all recent events that placed adaptation at the centre of the 2013 climate policy and research debate.

The IPCC 5th Assessment Report^(*) (AR5) released in 2013-2014 indicates clearly that climate change will continue, so will the impacts, even in the unlikely case that global mitigation action starts immediately: the main novelty of AR5 is that adaptation will be central to climate change policies. The 19th United Nations Framework Convention on Climate Change Conference of Parties in Warsaw in November 2013 unfortunately negotiated a disappointing loss and damage mechanism but held a number of side events with the latest policy and research insights on adaptation.

During COP19, FEEM notably co-organized with Ca' Foscari University of Venice a Side Event focused on the "Costs and Benefits of Adaptation to Climate Change and the Sustainability of Public Finance in the EU". The event was introduced by the former Italian Minister of Environment, Land and Sea who pointed out Italy's impressive effort to cope with extreme events over the past 20 years: about 50 billion euros with scientific evidence suggesting that costs will further increase in the future. The former Minister also stressed the urgency to invest in hazard risk prevention, as indicated by the Italian national adaptation



policy strategy drafted in 2013, with the important contribution of several FEEM experts who estimated the costs and benefits of possible adaptation measures for various sectors for short and medium term horizons.

FEEM research teams within the Euro-Mediterranean Center on Climate Change are also supporting the Italian Ministry of Environment, Land and Sea with regard to Italy's activities in two separate Joint Programming Initiatives (JPI): the European research programming network of national funders and research institutions aiming to align different national research priorities in a common framework to ensure efficiency and synergies in the Union. Within JPI Climate, FEEM notably drafted in 2013 the analysis of research gaps with respect to the economic costs of adaptation.

FEEM's research work on adaptation is also supported by the EU 7th Framework Programme. The project "Capacity Development for hazard risk reduction and adaptation" (CATALYST), running from 2011 to 2013, brought together scientists, stakeholders and networks to identify and share the best of knowledge, know-how and practices related to disaster risk reduction (DRR) and climate change adaptation (CCA). The project set up a Think Tank comprised of 130 experts operating in four among the most hazard-prone regions in the world (Central America/Caribbean, East and West Africa, South and South-East Asia and Europe), in order to share, compile and analyze key practices that could lead to transformations in a region's capacity for DRR and CCA. The knowledge gathered was translated into a series of dissemination products including a "Best Practices Notebook for DRR/CCA", a set of Best Practices Papers for each of the four regions, as well as an open-source training module hosted on the United Nations University Institute for Environment and Human Security (UNU-EHS) learning platform. At the European scale the "Enhancing risk management partnerships for catastrophic natural disasters in Europe" (ENHANCE) consortium will work until 2016 on drafting guidelines to improve Members' state interaction in the successful enhancement of resilience and risk reduction, supported by harmonized dynamic scenarios of vulnerability, exposure, and hazards.

Finally, in 2013 FEEM also supported two Marie Curie International Outgoing Fellowships for Career Development on the economic consequences of climate change impacts, in particular within two research projects, "Climate change impacts - economic modelling and assessment" (CLI-EMA) and "Dynamic feedbacks of climate impacts on current adaptation and mitigation investment choice" (DYNAMIC).

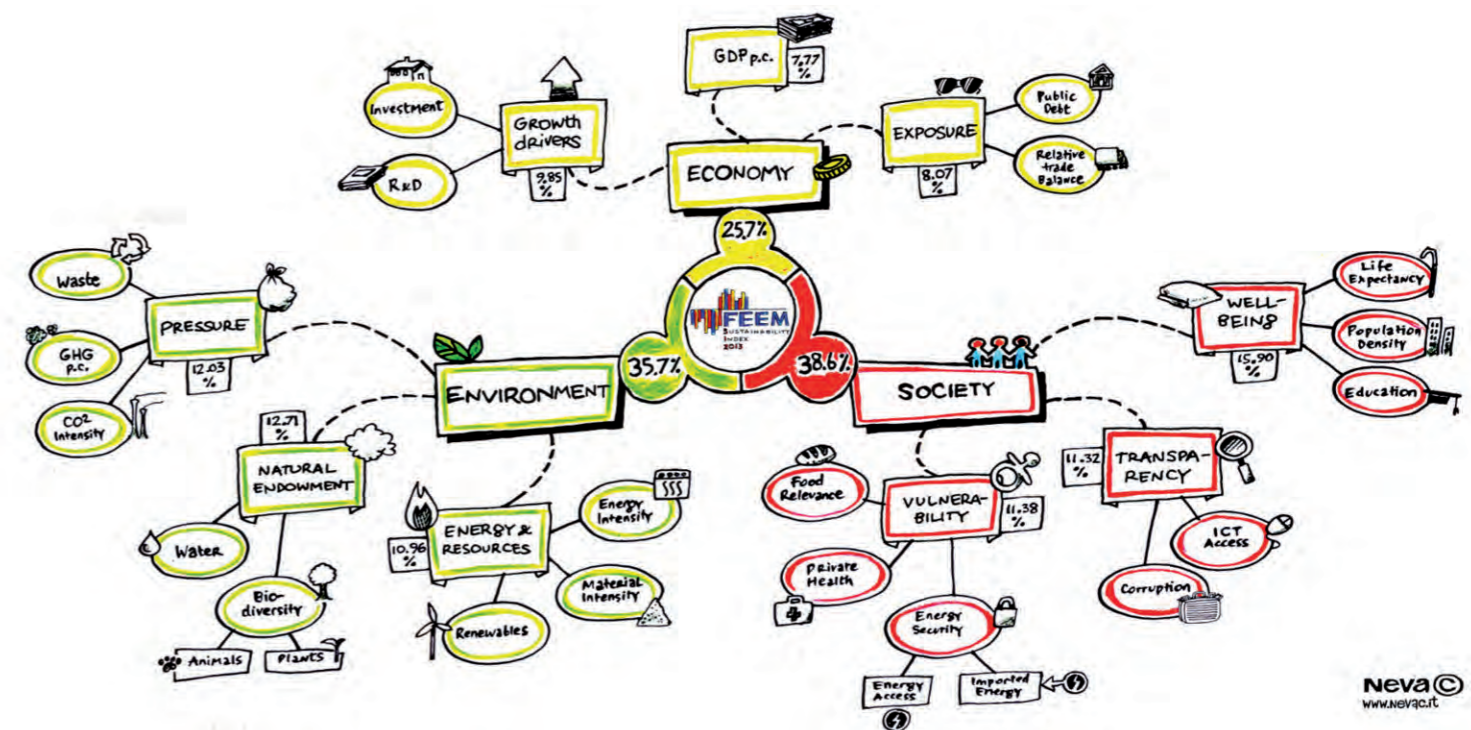
* FEEM participated in the drafting of the IPCC 5th Assessment Report with 4 Lead authors: Valentina Bosetti, Carlo Carraro, Emanuele Massetti and Massimo Tavoni

METHODOLOGIES AND INDICATORS FOR SUSTAINABILITY MEASUREMENT

Triggered by Rio+20 in 2012, the policy debate on sustainable development has since focused on the improvement and diffusion of sustainability measurements. In Rio, the UN member States launched a long and iterative process to develop a set of *Sustainable Development Goals* built upon the *Millennium Development Goals* which will converge towards a new post 2015 development agenda.

In the meanwhile, several institutions are supporting parallel and converging efforts for more inclusive measurements of wellbeing at the policy level. In 2013, FEEM decided to gather the main actors in the field at the international level to discuss the state of the art in quantitative measurement of sustainability, connecting theoretical background, practical assessment and policy perspectives. The conference “Methodologies and Indicators for Green Growth Measurement” was held at FEEM’s headquarters in Milan on November 12, 2013 with distinguished speakers from FEEM, OECD, World Bank and the Joint Research Center.

Marianne Fay, chief economist at the World Bank stressed that *Green Growth*, actually “just means a growth which is environmentally sustainable”. As happened 40 years ago with the acknowledgment that social welfare was essential for the growth of society, natural capital should simply be considered as an input into the production function of a healthy economy. As also emphasized by Paul Schreyer from OECD Statistics Directorate, *Green Growth* means focusing on these activities where societies can progress both on environment and on the economy.



OECD also greatly contributes to the advancement of the awareness on these important issues thanks to its “How is life” web index, which includes not only indicators about jobs or household income, but also captures a set of parameters related to the quality of life such as health, education, or security, thus providing multiple dimensions for the measurement of wellbeing.

FEEM *Sustainability Index* (FEEM SI) goes beyond the debate on measurements, weighting and aggregation across the different dimensions of sustainability, as it allows for the projection in the next decades of the sustainability performances of individual countries and macro-regions, also depending on the implementation of specific policies. The main results of FEEM SI 2013, presented at the conference together with a more intuitive website for the exploration of the multiple dimensions involved^(*), highlight that till 2030 environmental deterioration connected to economic growth will have a worldwide reverse effect on sustainability, offsetting potential improvement driven by economic and social development. Looking at possible measures which might improve sustainability, both social and environmental policies show possible trade-offs because they increase their own dimensions and negatively affect, with their own cost, the economic pillar and GDP. Nevertheless, overall impact on sustainability is positive: greater in case of environmental policy that implies larger economic costs. Comprehensive policy covering all sustainable development dimensions implies a further increase in sustainability, showing a higher potential.

* FEEM Sustainability Index website: <http://www.feemsi.org/>

OIL PRICE FORECASTS AND TRENDS

The project “Oil Price Forecasts and Trends”, launched at FEEM in February 2012 within the Research Programme “Energy: Resources and Markets”, gathers together FEEM researchers and internationally distinguished scholars to investigate a number of relevant issues related with, but not limited to, the crude oil market, such as: alternative approaches to predict oil and energy commodities prices; oil price volatility models; interconnections between the oil market and the commodity derivatives markets; links between the price of oil and the global economy.

The project is articulated in four complementary lines of research:

- » *The structure of the oil market and the determinants of the oil price.* The subject of the analysis is the North American oil market. The WTI-Brent price spread is interpreted as a manifestation of structural change of the market, and its implications for price discovery and hedging strategies are discussed. Production trends, infrastructure adjustments and regulation are identified as key drivers for the recent evolution of the price of oil. Volatility is a crucial feature of the price of oil, thus accurate volatility models are extremely important. Besides the traditional econometric approach, the methodology of artificial neural networks is explored to describe oil price volatility.
- » *The role of financial speculation in explaining oil price changes.* Is speculation a stabilizing activity? If this is the case, speculators fill hedgers’ demand-supply imbalances and provide liquidity to the market. The time period associated with speculation activity is relevant. Short-term speculation has a positive and significant effect on energy and non-energy price returns, suggesting a destabilizing impact on prices. Long-term speculation has a negative influence on returns, implying a reduction in volatility.
- » *The effects of macroeconomic shocks on the dynamics of the price of oil, and the impacts of oil price shocks on the global economy.* Since the oil markets are characterized by highly inelastic demand and supply curves, macroeconomic shocks lead to large and persistent changes in the oil spot prices, leading to outliers and jumps. Oil price shocks are crucial in assessing the behavior of the global economy. This analysis is carried out with large-scale macroeconomic models offering a detailed description of the oil market-macro-finance interactions.



- » *The specification of alternative econometric models to predict oil returns and fuel price changes.* The predictability of WTI futures is evaluated by using the variance risk premium, and additional variables capturing macroeconomic, financial and oil-specific influences. Fuel price changes are predicted using oil price changes. The forecast accuracy gains of using asymmetric models to predict fuel price changes is investigated with respect to different forecast targets. A forecasting framework is also considered to evaluate the causal relationship between fuel price changes and food price variations.

The results obtained so far have been disseminated through working papers, articles in journals, academic seminars, an international conference (organized at FEEM-Milan on 23-24 May 2013), and a special issue in Energy Economics (to be published by July 2014).

NEW CHALLENGES AND OPPORTUNITIES FOR EUROPEAN GAS MARKETS



Over the last decade the global gas industry has experienced an extraordinary evolution. The shale gas revolution in the United States has reshaped the world gas outlook and the rapid expansion of liquefied natural gas (LNG) trade has redesigned the global natural gas dynamics.

These two pressures are rapidly converging, possibly paving the way for a progressive globalization of the world's natural gas markets and creating new dynamics also in the European gas industry, as far as the EU security of gas supply architecture and the EU gas pricing mechanism are concerned. In this context, the European gas industry is presently facing a number of new challenges, but also some opportunities, related to both its demand and supply sides.

For this reason, and in order to discuss mid- to long-term challenges and opportunities for European gas markets, on November 5 and 6, 2013, FEEM organized in Milan the second edition of its annual "Gas Talks", a closed-door brainstorming workshop on "New Challenges and Opportunities for European Gas Markets", gathering high-level worldwide experts from the academia, international organizations and the industry.

The workshop was structured around five main sessions: i) European gas demand outlook; ii) Future governance of European gas; iii) Evolution of global LNG markets and impact on European gas markets; iv) Future of gas pricing; v) Future supply potential for Europe.

i. There is a great uncertainty as to the role of gas in the future mid- to long term European energy mix. However, while gas was the fuel of choice over the last two decades, and although some gas demand - in particular in the power

generation sector - is currently being permanently destroyed as it is squeezed between subsidized renewables and cheap imported coal, it could still become the fuel of consequence over the next two decades. In fact, with other alternatives all facing problems of their own (public acceptability for nuclear, budget constraints for the strong promotion of renewables, political will to reduce coal consumption due to climate policy constraints), it could well be that gas turns out to be the winner for some time to come, particularly because it can play an important and cost-effective role in the transition towards a low carbon economy. Also, the gas penetration potential in new and non-traditional sectors (e.g. transport) should be explored.

- ii. In the late 1990s a wide process of liberalization started in the European gas market, driven mainly by the EU through a number of Directives aimed at liberalizing the European gas markets, with the final aim to create a unique Internal EU Gas Market in the framework of the European Single Market integration process. The EU is actively pursuing this target, which is expected to be reached in the very near future.
- iii. The regional character of the global gas industry has become less pronounced in recent years with the emergence of a sizeable inter-regional LNG business, driven by the growing import needs registered over the last years in North America, Europe and Asia. This trade, which is projected to continue to grow strongly over the next decades, is increasing the price links between the main regional markets through the potential for arbitrage. Beyond 2015, new sources of LNG supply from North America, Australia and East Africa will accelerate such arbitrage activity, although the scale and timing of these new waves of LNG are subject to considerable uncertainty.
- iv. European gas pricing is evolving rapidly towards hub-based pricing for commercial and regulatory reasons. However, there is still no contractual revolution going on in the EU, as long term contracts have not been terminated

yet, though additional flexibility components have been introduced. Towards the end of this decade considerable LNG volumes originally targeting Asian markets will spill over to Europe. In that case, we might witness a new competition between new LNG and Russian pipeline gas, whereby Russia might this time fight not to lose market share. This could put a certain downward pressure on European gas prices and - together with a higher carbon price (which the EU is keen to implement) - thus stimulate gas demand in particular in the power sector. Although LNG will be instrumental in somehow converging the price levels of the three major regional gas markets, a certain price differential will remain due to the high costs of the LNG chains. European gas prices will thus remain at a considerable premium compared to Henry Hub.

- v. Notwithstanding the stagnant level of the EU gas demand, the gas import requirements of the continent will continue to grow in the future as its domestic gas production will progressively decline. With a number of barriers limiting the potential of domestic shale gas developments, the EU will thus continue to rely on its key traditional suppliers, and most notably on the Russian Federation, to meet its gas needs. New gas supplies - notably from the Caspian region and the Eastern Mediterranean - could well reach the EU, but with small volumes compared to the ones of the traditional suppliers and, in addition, not before 2020-2025.

The participants acknowledged in particular the importance of these informal and closed door brain-storming workshops which allow the in-depth discussion of issues of mutual importance. Properly understanding the positions and constraints of the other party is the first step to constructively elaborate new and compromise approaches.

FEEDING THE PLANET ENERGY FOR AFRICA



The world's population has recently reached 7.2 billion people, roughly ten times the population at the time of the Industrial Revolution. It will continue to rise rapidly, by around 75-80 million people per year, which means that we will be 8 billion by the 2020s, and perhaps 9 billion by the early 2040s.

In this crowded and complicated world, divided between great wealth and still crippling poverty, how will the economic, the social, the environmental, the political, the cultural factors fit together? How is it possible to make this world both prosperous, fair and also environmentally sustainable so that our numbers and our economy don't overrun the physical planet itself? "Sustainable development" tries to make sense of the interactions of three complex systems: the world economy, the global society, and the Earth's physical environment.

On the matter of sustainable development and with a special focus on the Milano Expo2015 themes, FEEM co-organized with eni and in collaboration with Expo 2015 the lecture "Feeding the Planet – Energy for Africa". The lecture was held at FEEM's headquarters in Milan on December, 6, 2013 by Prof. Jeffrey D. Sachs, Director of The Earth Institute, Quetelet Professor of Sustainable Development, and Professor of Health Policy and Management at Columbia University, with contributions by Emanuela Colombo, UNESCO Chair in Energy for Sustainable Development, Politecnico of Milan, Eliana La Ferrara, Full Professor Department of Economics, Bocconi University, and Member of FEEM's Scientific Advisory Board, and Alice Perlini, Member of the Expo 2015 Scientific Committee and responsible for the Feeding Knowledge Project.

Prof. Jeffrey D. Sachs is one of the world's leading experts on economic development and the fight against poverty, creator of the Sustainable Development Solutions Network and Advisor to the Secretary General of the United Nations for the definition and implementation of the Millennium Development Goals and of the new Sustainable Development Goals (SDGs).

Prof. Sachs illustrated how access to sustainable energy for all is an essential prerequisite to reach those goals of development on which the future, not only of the poor of the world, but of the global economic system, is based.

Energy is the driver for the opening of markets and the exchange of knowledge, the private initiative combined with a strong and far-sighted public intervention, and the creation of opportunities and technological innovation for the efficient management of environmental resources. Effective and concrete efforts in this direction by all social actors will not only help feed the Planet, but will ensure the well-being and growth for all.

The development of the African continent is no exception. In a context of new balances between the North and South of the globe, energy for Africa will mean both satisfying the basic needs of its population – first of all access to food – and enhancing an enormous human, social and environmental potential for the whole world.

According to Prof. Sachs, a cultural approach to these themes is necessary. Indeed, the Sustainable Development Goals are a great opportunity to engage the general public on these issues and the Milano Expo 2015 event could be one of the best occasions to raise people's awareness, since it will be held at the same time as the SDGs adoption.

Last but not least, building appropriate curricula in primary and secondary schools, and of course at the university level, is the essential step to educate the young generations that in the very next future will strive to make this world a sustainable one.

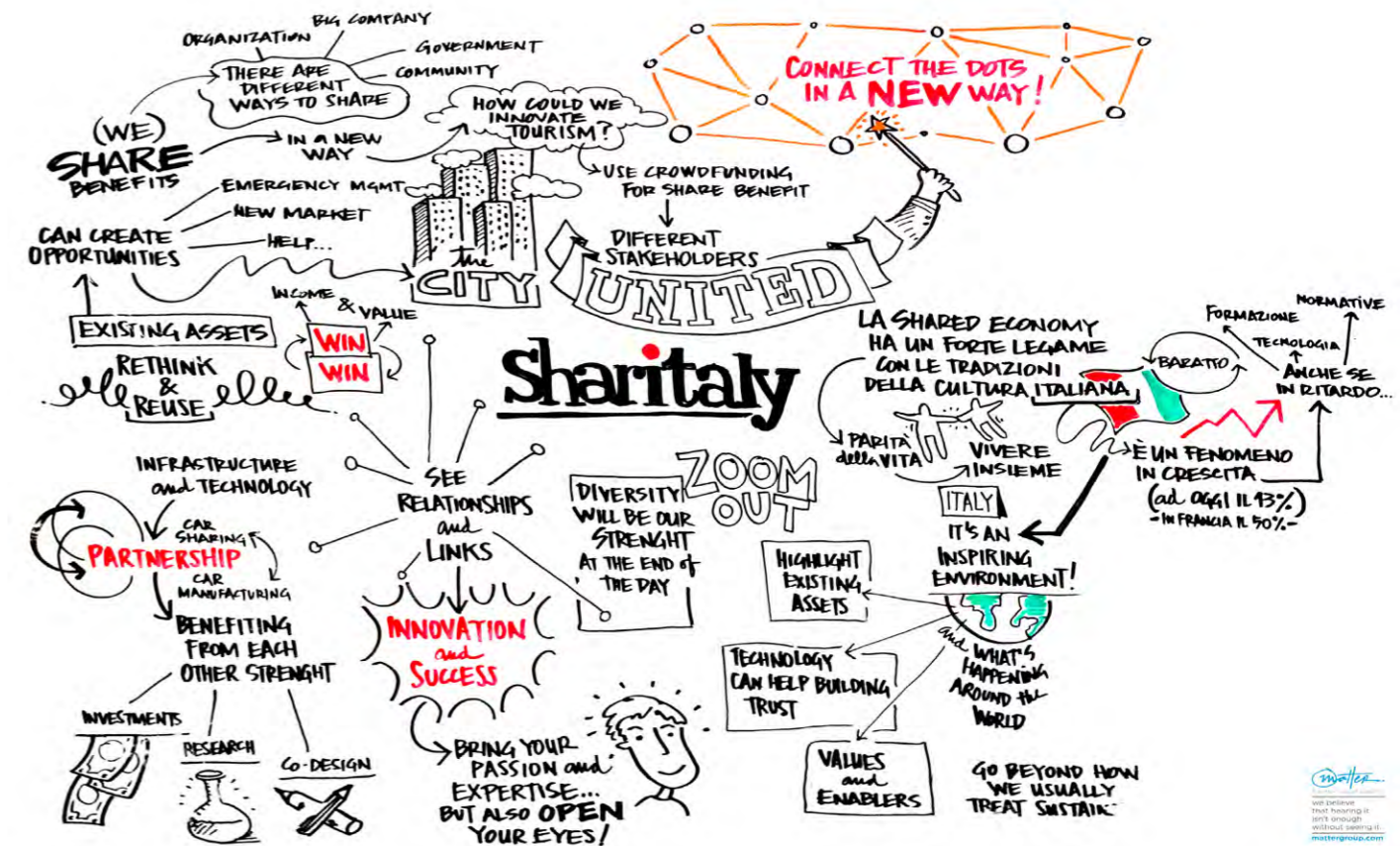
THE NEW MODEL OF SHARING ECONOMY

What is a sharing economy? Which opportunities does it offer to Italian society? How could a sharing economy bridge the gap between enterprises, start-ups and the public administration? These are the core questions that have led to Sharitaly, the first Italian event dedicated to the sharing economy model, organized by FEEM with the collaboration of the Catholic University of Milan and the Collaboriamo! initiative.

Sharitaly was held in Milan on November 29, 2013 with the aim to stimulate a debate and critical thinking on the issue of sharing economy and on the role of “collaboration” in the socio-economic context. International experts and start-ups, enterprises, non-profit organizations and public administration representatives gathered together in order to understand and discuss the benefits and the underlying problems related to this new model.

The event was structured in two different sessions: in the morning, researchers and academics discussed and presented the results of their recent research at the Catholic University of Milan; in the afternoon session at FEEM’s headquarters, all the participants were actively involved in working groups focused on different themes and sectors related to the sharing economy model, such as: i) finance and crowdfunding; ii) labor and coworking; iii) new consumption and lifestyles; iv) tourism, territory and mobility; v) non-profit activities.

“Collaborative consumption and the sharing economy are changing the way we live, work and consume in order to create a more sustainable future. These new models are transforming industries - such as transport, tourism and education - and are promising for



innovative businesses, entrepreneurs and Governments” said April Rinne, Chief Officer at Collaborative Lab and international expert on sharing economy, during the opening assembly at the Catholic University of Milan.

In the last ten years, the sharing economy model has spread across different countries - from the United States to Asia, from South America to the whole of Europe. The research conducted by Catholic University of Milan and presented during the Sharitaly event has shown interesting figures also in Italy: collaborative services have more than tripled since 2011 - particularly in the tourism, transport, energy, food and design sectors - and the online collaborative platforms are now more than 250, 160 of which are focused on sharing and exchange activities.

Italians are willing to share efforts, to find new solutions to their needs and to play a more and more active role in society. These are the main

results that emerge from the working groups and that represent the essential conditions for a sharing economy, which is an opportunity for everyone: on the one hand, it is one of the most pragmatic answers to the current economic crisis, on the other, it is a path that can lead to a paradigmatic social change.

The City of Milan, in view of Expo 2015, has to take into account all these considerations. The Universal Exposition could be an example of an event built up on participation and collaboration among the various social actors. For this reason, the promoters of Sharitaly are launching Sharexpo, which is intended to be a process that identifies proposals and initiatives to experiment a sharing economy during Expo 2015 and to demonstrate its real potential.

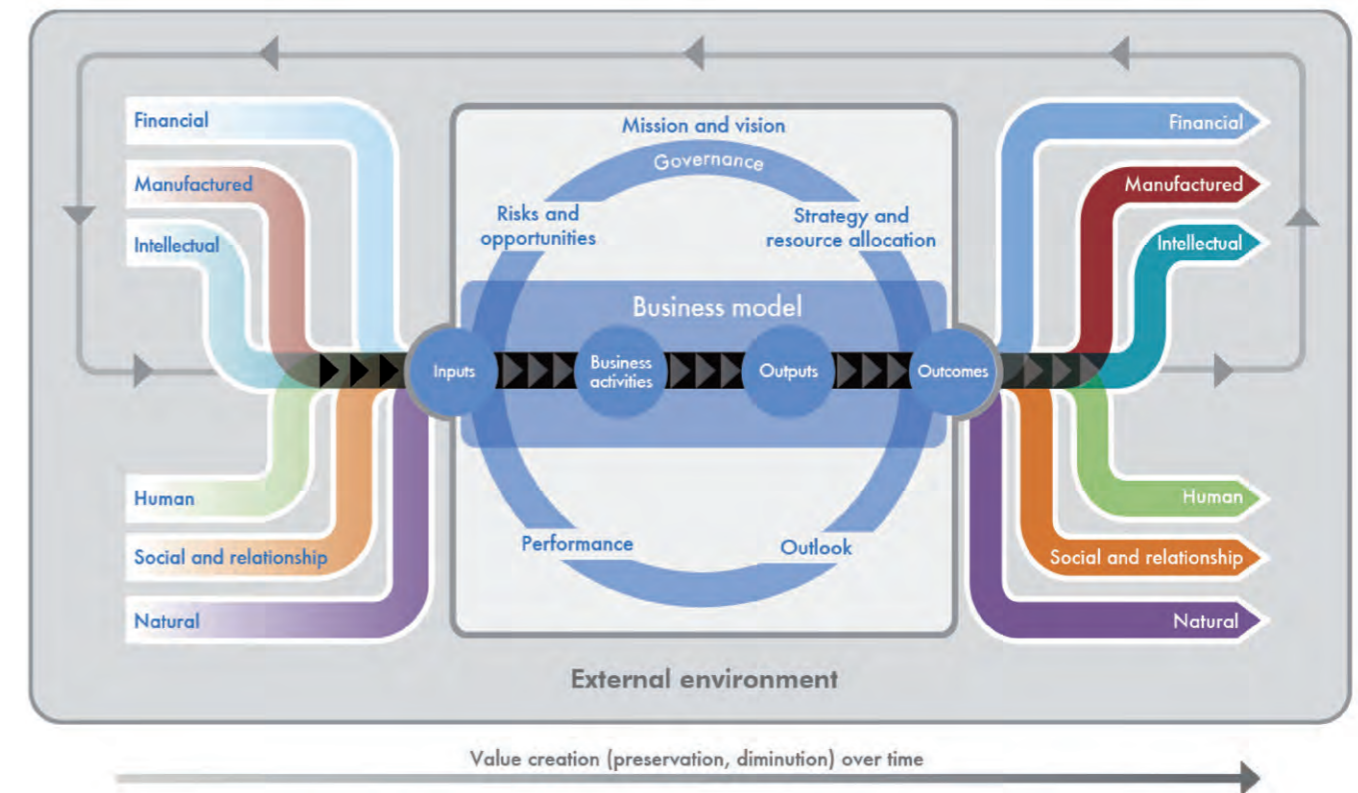


INTEGRATED REPORTING AND INTEGRATED THINKING

“Integrated Reporting <IR> is a process founded on integrated thinking that results in a periodic integrated report by an organization about value creation over time and related communications regarding aspects of value creation. An integrated report is a concise communication about how an organization’s strategy, governance, performance and prospects, in the context of its external environment, lead to the creation of value in the short, medium and long term.” (*)

The IR framework is based on six capitals; financial, manufactured, intellectual, social and relationship, human and natural. In short, IR is an evolution of company reporting, attempting to overcome the main limitations of annual reports (AR) by disclosing non-financial information in an innovative way. Indeed, ARs, with their traditional accounting approach, are unable to show a company’s ability to create value over time. IRs are intended to do that, showing the role played by the capitals in a company’s business model.

In June 2013, the International Integrated Reporting Council (IIRC), the Italian Network for Business Reporting (NIBR/WICI Italy) and the IIRC Italian Pilot Programme Businesses, in collaboration with FEEM, organized the “Integrated Reporting: Italian Experiences and Prospects” workshop.



Source: “International Integrated Reporting <IR> Framework”, 2013.

The meeting, held at FEEM’s headquarters on June 11, 2013, was a great opportunity for Italian pilot companies, academics and FEEM researchers to discuss the draft of the International <IR> Framework with Mr. Druckman, CEO of the IIRC, highlighting the Italian companies’ views on the Framework’s features and principles and on the social value of such business reports, which is the main line of FEEM’s research on Integrated Reporting.

In fact, even though the intended target of IR are mainly investors, value is created for a larger group of stakeholders, and IR is useful for a broader set of socio-economic actors. The integration of financial information with non-financial information or sustainability information enables the internalization of key business processes, by taking into account social and environmental aspects which had not been considered before.

This is the real scope of IR: leading to social innovation through the creation of sustainable value over the short, medium and long term achieved by organizing a company’s relationships between its various operating and functional units and the capitals that the company uses or affects, namely integrated thinking. And integrated thinking is, according to FEEM’s research perspective, the most interesting aspect related to IR, and has been further investigated in FEEM’s journal “Equilibri 1.2014” (**), published in April 2014 and dedicated to the analysis of the Framework’s content and principles, the Italian business point of view on IR and, in particular, the role of integrated thinking in shaping the future of business and business reporting.

* Source: International Integrated Reporting Council (IIRC) - <http://www.theiirc.org/>

** Equilibri 1.2014: “L’impresa crea valore. Nuovi strumenti di rendicontazione”

SUSTAINABLE BUSINESS AND SOCIAL CHANGE INITIATIVE



Coordinator
Giuseppe Sammarco

Deputy Coordinator
Ilaria Lenzi

Researchers
Viridiana Ammendola
Fabrizio Indelicato
Alessandra Nigro
Ilaria Pais
Stefano Russo

As of March 2014

Sustainable business and social change are two key aspects that need to be taken into account when designing the path to sustainable development. This is an area where FEEM has gained a strong reputation over the years through its research activities and by improving the quality of decision making in public and private spheres, which is the core of FEEM's mission. With this objective in mind, in late 2013 FEEM launched the Sustainable Business and Social Change Initiative (SBSC-I), a new cross-cutting research working group focused on social innovation and sustainable business themes.

FEEM SBSC-I is both a collector of experiences and an incubator for new projects and research topics on corporate social responsibility, corporate sustainability and sustainable development, historically at the core of FEEM's research activity.

The goal of the Initiative is to identify and understand social change - becoming an observatory on the most relevant issues linked to sustainability, able to track and map the international and national best practices - and to support companies by offering them innovative insights, effective and differentiated solutions.

With junior and senior researchers, coming from different professional fields, education backgrounds, and active involvement in national and international networks, the team is able to offer a variegated view on sustainability topics. This multidisciplinary approach, linked to a deep understanding of complexity, is the driver that allows the FEEM SBSC Initiative to transform an innovative intuition into real action.

SBSC-I activities include research, applied research and networking.

Research activity is conducted on sustainable business, with a focus on policy and management system development; materiality analysis, sustainability strategic planning and reporting processes; research, communication and disclosure about social implications of access to energy; "shared value" as a key factor for innovative relationships between companies, organizations and citizens and as a driver of socio-economic innovation; integrated thinking and reporting.

Support to private and public organizations is given by the study and planning of internal and external sustainability communication strategies, with a focus on digital media, stakeholder mapping and engagement; corporate cause identification. Workshops and seminars are regularly organized on emerging sustainability topics.

The FEEM SBSC Initiative promotes local and international partnerships within organizations, associations and NGOs and participates in institutional initiatives and networks on sustainable development themes. It supports the strategic planning and activities of the Global Compact Italian Network, of which FEEM is one of the Headquarters. It is part of the WAME2015 project on Access to Energy (www.wame2015.org) and it works within the Valore D network on women's empowerment and leadership. It cooperates with Ca' Foscari University of Venice and the University of Siena on integrated thinking and reporting, and with Sodalitas on CSR and social innovation.

FEEM LECTURES 2013



The world is changing fast and open-minded inquiry is needed to face the challenges ahead. The FEEM Lectures are catalysts for discovery in areas engaging the biggest questions in the social, economic, and political sphere. Some of the greatest thinkers and scholars of our time guide the audience in uncharted territories, providing new ideas, and challenging conventional wisdom.

Among the events organized by FEEM in 2013, Lectures deserve special emphasis, in particular those organized within the context of the “Economy and Society” Research Programme, the International Center for Climate Governance (ICCG) and in collaboration with eni and Expo2015.

The lectures organized during 2013 were:

- » “*Constitutional Transitions in Egypt, Libya and Tunisia: Between Continuity and Innovation*”, FEEM Lecture (Economy and Society Programme) by Zaid Al-Ali, International IDEA - Milan, 3 July 2013 (*)
- » “*Inclusive Green Growth: The Pathway for Sustainable Development*”, ICCG - Ca’ Foscari International Lecture by Marianne Fay - Venice, 13 November 2013
- » “*The Rise of Tight Oil: a Global Energy Revolution*”, FEEM Lecture (Economy and Society Programme) by Bahattin Buyuksahin and Bassam Fattouh - Milan, 3 December 2013 (*)
- » “*Adaptation Capability in Least Developed Countries (LDCs)*”, ICCG International Lecture by Saleemul Huq - Venice, 3 December 2013
- » “*Feeding the Planet - Energy for Africa*”, FEEM Lecture by Prof. Jeffrey D. Sachs (in collaboration with eni and Expo2015 - Milan, 6 December 2013 (*)

For 2014 there is an ambitious new program of lectures.

* Streaming, interviews and extracts of the lectures are available on YouTube FEEM Channel at: <https://www.youtube.com/user/FEEMchannel>

5TH EDITION OF THE FEEM AWARD A PRIZE FOR ECONOMIC IDEAS

Fostering the investment in human capital in order to advance the frontiers of knowledge is our ultimate objective. The FEEM Award, a prize for the most innovative ideas by young economists, yields a double dividend: rewarding scientific discovery and promising young scholars.

The FEEM Award is organized jointly with the European Economic Association (EEA) and aims to reward new ideas addressing key economic issues at the European and global scale. Both theoretical and empirical papers are considered without any restriction of topics.

The award is given to the authors of the three best papers presented by young economists at the Annual Congress of the EEA. Eligible candidates should be less than 30 years of age and no more than 3 years past a PhD defense. The selection committee consists of the Program Chairman of the Annual Congress of the EEA, one member nominated by the Executive Committee of the EEA, and one by FEEM.



The 2013 FEEM Award was conferred for the fifth year during the European Economic Association (EEA) Annual Congress at the University of Gothenburg in Sweden.

The prize was presented on August 29, 2013 by FEEM Head of Communication Valentina Milella and Maristella Botticini, Scientific Chair of the Congress and member of the 2013 FEEM Award Commission.

The FEEM committee consisting of Maristella Botticini (Università Bocconi), Jan Eeckhout (Universitat Pompeu Fabra and University College London), and Matteo Manera (FEEM and University of Milano) has awarded the 2013 FEEM awards to:

- Jonathan Colmer (London School of Economics), with a paper entitled “Climate Variability, Child Labor, and Schooling: The Intensive and Extensive Margin of Time Allocation in Rural Ethiopia”
- Michele Piffer (London School of Economics), with a paper entitled “Monetary Policy, Leverage Premium, and Loan Default Probability”
- Rosen Valchev (Duke University), with a paper entitled “Endogenous Information Asymmetry and Portfolio Bias”

Interviews with the 2013 FEEM Award winners are available on FEEM channel on You Tube (<http://www.youtube.com/user/FEEMchannel>) and iTunes U (<https://itunes.apple.com/it/itunes-u/feem-award-2013/id699673394?mt=10>).

RESEARCH

Overview

FEEM conducts research on a wide range of climate change and sustainability, energy and economic issues. The starting point of FEEM research is the realization of the high level of complexity of the problems emerging in the global economy, and more particularly the need to foster awareness on the interaction between the firm and the environment, the economy and energy scenarios, corporate and cultural responsibility.

In particular, FEEM aims at promoting innovative research across the various dimensions of the global environmental and energy challenges in order to improve the analysis of the economics and policies of mitigation and adaptation to climate change and build up a strategic socio-economic analysis of the energy policies needed to support the transition to a low-carbon and more sustainable world. This objective is pursued through a multidisciplinary approach to scientific research on sustainability and to the study of the human and social dimension of economic progress and civilization.

Along these lines, FEEM research activities are organized around three research programmes on:

- i) “Climate Change and Sustainable Development”
- ii) “Energy: Resources and Markets”
- iii) “Economy and Society”.



Research programmes and related activities follow the strategic guidelines stated in FEEM’s mission. Ongoing research is thus rigorous, fact-based, interdisciplinary, and international in terms of the composition of research teams and topics addressed.

FEEM’s research staff includes experienced international research leaders with key responsibility in the design and implementation of projects, senior and junior residential researchers working in the offices of Milan, Venice, and Viggiano, and research associates, typically affiliated to a university or to other research institutions and involved in specific projects.

In 2013, FEEM carried out 38 research projects, 32 of which financed by the European Commission or third parties. Related activities included the organization of 43 scientific conferences, workshops and lectures, 56

scientific seminars and 2 summer schools. Overall, these events attracted over 7,300 attendees. In 2013, FEEM published 110 working papers in the “Note di Lavoro” series, three thematic issues of the journal on sustainable development “Equilibri”, and 47 articles on the e-journal covering the areas of environmental and energy economics and policy, the “Review of Environment, Energy and Economics”, Re3. Finally, in 2013 FEEM has continued to foster its presence on the web through its channel on iTunes U, a dedicated Area of Apple iTunes Store devoted to the world of research and offering free of charge content from leading educational institutions around the world. Traditionally at the forefront in the field of new technologies, FEEM has been the first non academic research Foundation in Italy to join iTunes U in 2012.

“CLIMATE CHANGE AND SUSTAINABLE DEVELOPMENT” RESEARCH PROGRAMME

The Research Programme on “Climate Change and Sustainable Development” addresses the two inter-related issues of climate change and sustainable development and a corollary of key topics in the field of environmental economics.

The programme builds upon twenty years of successful FEEM research in the field. In the specific area of climate change, FEEM has achieved a leading position in the international research community, as a result of the in-house development and application of several methodologies for the economic analysis of climate and energy policies.

FEEM models address world-wide vulnerability to changes in climatic conditions, and investigate the economics of mitigation and adaptation to these changes. In the specific area of sustainable development, FEEM research covers a variety of issues: sustainable management of natural resources, the economics of natural hazards and extreme events, and the use of indicators to measure sustainability and growth beyond GDP. FEEM can also rely on a strong research team of applied economists who investigate the economic performance of various environmental and climate policy instruments. The twofold goal of this research programme is to contribute to science while guiding policies and informing the public debate.

Programme Coordinator

Carlo Carraro

Programme Deputy Coordinator

Massimo Tavoni

People

Anna Alberini
Lara Aleluia Da Silva Reis
Isabella Alloisio
Mattia Amadio
Valeria Barbi
Irene Bellin
Loic Berger
Silvia Bertolin
Andrea Bigano
Laura Bonzanigo
Francesco Bosello
Valentina Bosetti
Margaretha Breil
Elisa Calliari
Lorenza Campagnolo
Samuel Carrara
Lorenzo Carrera
Mariaester Cassinelli
Cristina Cattaneo

Jacopo Crimi
Sergio Currarini
Aurora D’Aprile
Shouro Dasgupta
Marinella Davide
Enrica De Cian
Sabrina Dekker
Elisa Delpiazzi
Maria De Salvo
Roberta Distante
Laurent Drouet
Fabio Eboli
Johannes Emmerling
Fabio Farinosi
Luca Farnia
Alice Favero
Maddalena Ferranna
Martina Gambaro
Valentina Giannini
Silvio Giove
Carlo Giupponi
Melanie Heugues
Marina Khoroshilteva
Elisa Lanzi
James Lennox
Fanny Liotto

Thomas Longden
Giacomo Marangoni
Carmen Marchiori
Martina Marian
Paola Marson
Emanuele Massetti
Alessandra Mazzai
Malcolm Mistry
Jaroslav Mysiak
Carlo Orecchia
Sonia Oreffice
Vladimir Otrachshenko
Ramiro Parrado
Carlos Dionisio Perez Blanco
Silvia Santato
Muhamma Ayaz Siddiqui
Gabriele Standardi
Alessandro Tavoni
Elena Verdolini
Jan Witajewski
Paolo Zeppini

Programme Officer

Monica Eberle

As of March 2014

Areas

Climate change integrated assessment modelling

Research on the economics of climate change at FEEM addresses both mitigation and adaptation issues, building upon consolidated modeling tools for climate policy analysis developed over more than twenty years of work. On the mitigation and adaptation side, FEEM is positioned at the forefront of international research through the use of the energy-economy-climate WITCH model, specifically designed to assist in the study of the socio-economic dimensions of climate change. This innovative hybrid top-down bottom-up model helps policy makers understand the economic consequences of interaction across mitigation and adaptation policies. On the impact side, FEEM investigates climate change consequences on the world economy through the use of ICES, a recursive-dynamic computable general equilibrium enriched with realistic representation of land, forestry and water uses dynamics. The model is designed to assess the final welfare implication of climate change impacts, capturing the production and consumption substitution processes at play in the social-economic system as a response to climate shocks. Through modeling and policy analysis, this research area investigates the economic dimension of existing and new mitigation instruments and technologies for climate stabilization. It assesses the full costs of climate change impacts and adaptation and provides a comprehensive and integrated

background to support Climate change policy and governance analyses. Currently, specific attention is being paid to the role of uncertainty in the mutual responses of climate and socio-economic systems.

Climate change policy and governance

The climate change policy research area investigates alternative options for future international climate agreements, with the goal of advancing knowledge in the area of coalition and network formation and of applying it to the analysis of the process of international climate negotiations. In order to better understand the mechanisms at work when social dilemmas, as the provision of global climate quality, are present, FEEM is also working with laboratory experiments on individual interactions. In particular this research area intends to improve the economic analysis of climate policy and governance, assessing the effectiveness of current governments' pledges in reaching the accepted stabilization targets and providing an overall economic valuation of possible international climate strategies. FEEM also performs economic assessment of compliance with domestic or international mitigation targets through alternative policy schemes, including international emissions trading and REDD+. Also, this area of research focuses on climate finance, investigating the nature and amount of financial efforts needed to support the technological transformation

towards a low-carbon economy and to adapt to the impacts of climate change, already tangible in many of the most vulnerable regions of the world.

Climate-related innovation and technological change

Research on new energy technologies, innovation, and the drivers of technological change is one of FEEM's leading research areas. Although crucial in the design of future scenarios, the dynamics of innovation, adoption and diffusion of energy technologies are yet to be fully understood. In particular, the lessons learned from the rich innovation literature, ranging from economics to engineering and history, need to be extended and confirmed with respect to technologies that can help ease the energy security issue, climate change and other environmental challenges. FEEM research in this field aims to improve the dynamics of technological change embedded in FEEM Integrated Assessment Models, through the estimation of parameters that are crucial to the diffusion of different technologies, together with a better understanding of the role of institutional factors, such as IPR protection, in hindering or promoting different technologies. Modeling improvements in this field are supported by empirical work on patents and diffusion models, aiming to provide the data needed to address novel research questions on the peculiarities of innovation and diffusion dynamics in

climate-related technologies. In addition, to elicit the future probabilistic cost of future technologies and their potentials for penetration, we employ expert elicitation techniques. Through the latter, judgments and information obtained from the experts allow the assessment of subjective probabilities of specific outcomes, such as the potential breakthrough on innovative technologies as a response to R&D programs.

Disaster risk reduction, natural hazards and extreme events

FEEM conducts research on economic and social impacts of natural hazards, disaster risk analysis and governance, economic and financial policies for risk mitigation and sharing, and adaptation to climate change-amplified extreme events. Working closely with and on behalf of a wide range of authorities, international and civil society organizations, FEEM has contributed to advancing the evidence-based disaster risk reduction culture in Europe and elsewhere. FEEM's research outputs are informing the implementation of disaster risk reduction policies, and the development of comprehensive disaster risk and climate adaptation strategies in low income and small island developing states. Next to the initial emphasis on improving the assessment of welfare losses and vulnerability to single and multiple (concomitant and consecutive) hazard events, FEEM's research has increasingly focused on

financing disaster risk reduction and climate adaptation. Our expertise and long-term experience in both fields have made it possible to help bridge the risk and climate change communities, advancing therefore the science-policy debates.

Management of natural resources

Within the field of natural resource management, FEEM conducts research related to water, food, and energy security; regulatory policy analysis and governance; and adaptation to human induced climate change. FEEM has long-standing experience in analysing performance and advising implementation of economic or market-based policy instruments (such as incentive pricing, taxes, payments for ecosystem services, risk transfer schemes, and public private partnerships). As a result of a long-standing commitment to policy-relevant research, FEEM has developed several decision support systems, freely available and used by academics and experts. The policy analysis and a modular framework for decision support built on participatory processes found application in a wide range of policy domains including integrated water resources management, climate change adaptation in specific contexts of coastal, mountain and rural areas.

Sustainability and growth beyond GDP

This research area aims to analyze the main challenges and risks posed by pursuing unconditional

economic growth at global level, thus contributing to increase the knowledge for detecting and possibly reducing the trade-offs between economic growth and environmental preservation. The focus is primarily on the decoupling between materials required to produce commodities for final consumption (or polluting emissions from energy production) and economic growth. Part of our analyses also relies upon an increased knowledge of technological aspects via extended accountability incorporating by-products and energy/material flows into production processes. Besides and more broadly, FEEM pursues an integrated approach for the analysis of sustainable development and green economy issues exploiting the multidisciplinary research skills and analytical instruments developed over more than twenty years of work.

With the development of the FEEM Sustainability Index, those issues are analyzed not only from the socio-economic and environmental perspectives, but also from a cultural and sociological perspective. In fact, FEEM SI is a composite index which, through a complex procedure of computation and aggregation of a number of indicators for a range of scenarios, gives a comprehensive measure of current and projected sustainability for the world's countries, thus suggesting effective measures to improve future sustainability through policy making.

“ENERGY: RESOURCES AND MARKETS” RESEARCH PROGRAMME

The Research Programme on “Energy: Resources and Markets” carries out socio-economic analysis in a vital area which will become even more strategic in the coming decades.

Energy supply is adjusting to the globally rising population and standards of living. It must ensure development where it is most needed, while pursuing the transition to a low-carbon inclusive growth. Current resources suffice to meet demand but research must look ahead. Where and how will the transition to a low-carbon economy occur? How can it be made safe, affordable, and sustainable? The deployment of efficient and clean technologies to produce sustainable energy for all must be supported by adequate institutional and market structures. Key issues to be considered for balanced energy policies are access to sustainable energy, energy security and the implementation of a global green growth policy.

FEEM aims at generating high-quality research on the economics of energy, taking the long-term perspective which characterizes public policy making and environmental management. It must also provide insight into the short-term perspective typical of markets and investors. The core activities of the “Energy: Resources and Markets” research programme focus on issues that are peculiar to the energy sector alone. Specific topics include the drivers of changes in demand and supply, the role of globally integrated markets in ensuring efficiency and stability, the interrelationship between energy and economic development, the energy poverty problem, and the role of governance and institutions of energy policy. At the same time, there is strong interaction between the research activities in this programme and in the “Climate Change and Sustainable Development” field.

Research in this programme has been organized into three areas that investigate energy resources, demand and supply from an economic, environmental, and policy and governance perspective.

Programme Coordinator
Giuseppe Sammarco

People
Anna Alberini
Niaz Bashiri Behmiri
Andrea Bastianin
Daniele Benintendi
Andrea Bigano
Maria Bonolis
Mariaester Cassinelli
Nicola Castelli
Andrea De Capitani
Manfred Hafner
Matteo Manera
Marcella Nicolini
Simone Tagliapietra
Massimo Tavoni

Programme Officer
Laura Pellizzola

As of March 2014

Areas

Energy and the economy

Energy is crucial to feed the rapid economic growth of emerging and developing economies and to maintain the high consumption standards in the developed world, while undergoing the technological 'revolution' needed to meet the climate challenge. In particular, reducing energy poverty and promoting energy access in the developing world is a necessary condition to promote its economic and social development.

Moreover, since different patterns of consumption and growth in emerging economies are likely to have important repercussions on the international energy markets and technology development, a better understanding of the drivers of energy demand at the global and regional levels is needed, and is one key focus of FEEM research in this area.

Through policy analysis and quantitative instruments, FEEM research analyses the most important socio-economic determinants of energy consumption, such as demographic and urbanization dynamics, patterns of income growth and distribution, as well

as changes in lifestyles and market prices. On the supply side, FEEM research investigates the main effects of the increasing integration of global energy markets, in terms of market efficiency, security of supply, decision-making processes and so forth, accounting for the supply of both conventional and unconventional fossil resources, as well as for uncertainty in technological innovation in the energy sector. In this regard, FEEM research also aims at developing an economic assessment of technological change and of the portfolio of investments in energy technologies needed under a set of plausible future scenarios.

Another key issue of this area is energy price, in particular the oil price. Whatever the future energy scenario, the oil price will play a central role, because it heavily affects environmental and energy policies and consumption patterns. This is why FEEM addresses the issue of financial speculation in the oil market and the determinants of the oil price, defining the concept of financial speculation, describing its role in the oil derivatives market (volatility and price) and elaborating statistical models to

explain what determines the price of oil. Additional information on this project ("Financial speculation in the oil market and the determinants of the oil price") is available on FEEM's website and in the Highlights session of this report where the most important issues arisen during the workshop "Oil Price Forecast and Trends" held in Milan in May 2013 have been identified. Sixteen months after the first workshop "Financial Speculation in the Oil Market and the Determinants of the Oil Price" (January 2012), FEEM has in fact organized the second international conference on "Oil Price Forecasts and Trends", aimed at gathering together both scholars in the field of energy economics and professionals from international financial and energy institutions to discuss the different approaches to predict oil and energy commodity prices and volatility, the characteristics and recent trends in the oil market and its link with the global economy.

In the light of FEEM's growing interest in energy markets, at the end of 2013 FEEM started working on the new research project "eni trading" in partnership with eni. This

collaborative work aims at defining the best arbitrage strategies to predict the profits that originate from the statistic discrepancy between couple (or linear combinations) of two (or more) asset prices. The field of analysis focuses primarily on energy commodities (futures and derivatives on crude oil, natural gas, electricity and ETS certificates).

In 2013 research activities have continued in another project in cooperation with eni "EU Energy Model" - started in 2011. The initial aim of this research was to update and review eni's model for forecasting the final energy consumption of European countries. The activities within this strand of research then continued within a new area of investigation aimed at designing a new European model for electricity generation. The research was later extended to all countries and areas in the world both in the energy consumption and electricity generation analysis. The project should be completed in the first half of 2014 with a seminar about these important instruments of analysis. Related to the electricity market, FEEM has also continued its research

activities in the European research project ADVANCED (Active Demand Value AND Consumers Experiences Discovery), exploring how smart customers can participate in active demand and energy system efficiency. Active demand management can contribute to improving the reliability and stability of the networks by increasing overall system flexibility and efficiency with a positive effect on the economic market.

In 2013 FEEM has also started to plan the second edition of an international conference on energy poverty and the related access to energy topics. Energy poverty involves a large proportion of the global population, mainly concentrated in developing countries and in Sub-Saharan Africa in particular. The International Energy Agency estimates that currently 1.3 billion people (20% of worldwide population) lack access to electricity and 2.6 billion (40% of global population) rely on traditional cooking methods with severe consequences on health due to indoor air pollution (IEA 2010). Energy access is considered a fundamental driver

of economic and social development. It is considered a key condition to guarantee access to clean water, sanitation, schooling and business in developing countries. Despite the praise for action, it is still unclear which initiatives and policy design can be used to best attain the goals of energy poverty eradication. The planned workshop aims at collecting and generating new insights in this research and policy area. These include understanding the impact assessments of access to modern energy services on household welfare, labour market outcomes and female role in society and the best ways to implement effective policies and interventions. The workshop will be held in Milan on 10-11 July 2014. Still regarding energy access, FEEM provides scientific support to the project WAME - World Access to Modern Energy, promoted by A2A - whose objectives are the construction of a website and a comprehensive database about access to energy. WAME & EXPO 2015 is an association which was set up in July 2013 by eight leading European energy companies - A2A, Edison, Enel, Eni, E.ON Italia, GDF SUEZ, Energia Italia,

Gas Natural Italia and Tenaris - and the organizers of Expo 2015 (<http://wame2015.org/>).

Involvement of the energy sector in Expo 2015 could prove to be a powerful driver. Increased access to modern energy would greatly contribute to facilitating access to water and food resources, and to the general goal of reducing extreme poverty and enhancing opportunities for human development.

Energy policy and governance

The globalization of energy markets, the urgency of global environmental problems such as climate and land use change, and the need to ensure the affordability and security of energy supply require an increased level of cooperation between strategic players on the global scene. A successful and effective governance of energy policies is crucial to address these global challenges.

FEEM research in this field is developed both at the international and at the European and country level. At the international level, research focuses on the scope for building institutions to manage more effectively the global energy challenges, helping to make progress also in international

climate policy. The design of institutions for energy governance at the international level is obviously influenced by geopolitics - strongly driven by world countries' endowments in energy sources, that may vary with the development of more widely distributed sources such as non-conventional fossil fuels - and by the country level of economic development and associated democratization. With regard to energy policy and the cultural, economic and geostrategic challenges in today's globalised market, the Research Programme on "Energy: Resources and Markets" is supporting the other FEEM research areas, contributing to develop the topic of non-conventional fossil fuels through the organization of a series of lectures. The first FEEM lecture on "The Rise of Tight Oil: a Global Energy Revolution" took place in Milan in December 2013 while the second one was delivered by John M. Deutch, MIT on "The Global Revolution of Unconventional Oil: New Markets, New Governances, New Policies" in March 2014.

Also the inclusion of the issue of security of energy supply is central to research in this field given the high interdependence

between energy policies and energy markets. With regard to energy policies, the second edition of the FEEM Gas Talks was held in Milan on 5-6 November 2013. The FEEM "Gas Talks" are annual closed-door brainstorming workshops gathering high level international experts (from the academia, international organizations, industry) to discuss mid-to long-term challenges and opportunities for European gas markets. An in-depth analysis of the main ideas on the European gas market that emerged during the event can be found in the Highlights session of this report. In 2013 FEEM has concluded its research in the MEDPRO project whose objectives were exploring the key challenges that countries in the Southern Mediterranean region (from Morocco to Turkey) will have to cope with in the next decades, and aiming at delivering the best scientific underpinning for future policy decisions to be taken at both domestic and EU level within the European Neighbourhood Policy (ENP) and the Union for the Mediterranean (UfM) frameworks. In this project FEEM led the activities related to: the elaboration of oil and gas market scenarios; the analysis of

renewables and energy efficiency potential in the Southern Mediterranean; the sustainable development and management of resources. This project has been concluded in February 2013 with a final conference in Brussels which aimed at disseminating the final MEDPRO scenarios for 2030, policy implications and recommendations to the EU policy makers and public as a whole. The final conference completed the series of High-Level Stakeholders Meetings organised in November 2012 in Tunis and in January 2013 in Cairo.

Energy and the environment

Climate change is certainly one of the most studied environmental impacts of energy production and consumption, due to the fundamental role played by energy in generating greenhouse gas emissions. However, besides contributing to global warming, energy production and consumption impact on many other environmental factors such as local air pollution, land use and water utilization, enhancing environmental and socio-economic vulnerability particularly in the developing

and fast-growing world. FEEM research in this area thus aims at providing an integrated assessment of the interaction between the energy system, the environment and the economy. It focuses on the environmental impacts of energy consumption on CO2 emissions, soot, food and water quality, and the opportunities for effective mitigation strategies.

Overall, this research stream at FEEM helps to inform decision makers on the full costs and potential trade-offs of different technology options and aims at improving the energy-environment-economy modelling by better representing the full costs of energy sources.

The research activities within the European project THINK were concluded in 2013 with the drafting of reports elaborated by the other partners of the interdisciplinary think tank that act as consultants to the European Commission. FEEM's main contribution to this research was the publication in 2011 of the report "Transition Towards a Low Carbon Energy System by 2050: What Role for the EU" (European Commission, Roadmap 2050). Research on renewable energy and

environmental sustainability was also continued in the joint FEEM-eni project called RESA (Renewables and Energy State Aid) that analyses how State aids have affected and will affect new energy policies. This topic has been deeply analyzed in the working paper "Are Renewable Energy Subsidies Effective? Evidence from Europe".

“ECONOMY AND SOCIETY” RESEARCH PROGRAMME

The Research Programme on “Economy and Society” promotes a multidisciplinary approach to scientific research on sustainability and on the human and social dimension of economic progress and civilization. It addresses a wide range of topics and promotes studies and activities with a broad external impact.

In 2013 the Programme “Economy and Society” launched a series of new activities on the on-going geopolitical and economic shifts, in line with the redefinition of its contents and as indicated by FEEM’s Board of Directors during 2012.

The first activity implemented by the Programme concerns the development of a **network on geostrategic topics**. The preparatory analysis and the networking activity covered over 800 experts from institutions, research centres and think tanks in Italy (University of Bologna, Milan Chamber of Commerce, Collegio Carlo Alberto, IAI, Istituto Bruno Leoni, ISPI, Politecnico di Milano, Politecnico di Torino, Scuola Superiore Sant’Anna, University Piemonte Orientale, University Ca’ Foscari, University Carlo Cattaneo, Milan Catholic University, University of Insubria, University of Bergamo, University of Brescia, University of Florence, University of Genoa, University of Padua, University of Trieste, Milano-Bicocca University). The Programme intends to extend the network further both at national and international levels.

The second activity is the organisation of the first **Lecture for Researchers on Geostrategic Challenges**, held by internationally renowned experts and scholars. On 3rd July 2013 FEEM hosted the Lecture **“Constitutional transitions in Egypt, Libya and Tunisia: between continuity and innovation”**.

Zaid Al-Ali, senior adviser on constitutional building for International IDEA, offered a unique and analytical vision of the constitutional processes in the Southern bank of the Mediterranean Sea, focusing on their legal, political and social consequences.

On 3rd December 2013 FEEM held the first of the cycle of events on the **“Unconventional Oil Revolution”**. On that occasion, Prof. Bahattin Buyuksahin, Bank of Canada, and Prof. Bassam Fattouh, Oxford Institute for Energy Studies, jointly held a Lecture on **“The rise of tight oil: a global energy revolution”** to discuss the topic from the strict point of view of “energy”. Prof. Bahattin Buyuksahin addressed North America’s oil boom and its implications for oil price and production forecast. Prof. Fattouh focused on its context, the implications in terms of pricing, crude oil and petroleum products trade flows and the impact on key producers.

In the course of 2013 the Programme has also contributed to three Conferences.

On 5-6th November 2013 it co-organised the Conference on **“The terawatt Challenge: what research for our future energy?”**. The event was held on 5-6th November 2013 at the Accademia Nazionale dei Lincei in Rome and addressed energy topics from a scientific, technical and geostrategic point of view.

On 23rd November 2013 FEEM organized the event on **“Trust: a debate on the crisis of this invisible institution at the base of economic and social development”** within BOOKCITY MILANO 2013 - an event promoted by the Culture Councillorship of the Municipality of Milan and by the Bookcity organizing committee. The starting point of the discussion held by Joaquín Navarro-Valls, Corrado Passera and Giulio Sapelli was the issue of FEEM’s journal EQUILIBRI devoted to the topic.

Last but not least, on 3-6th November 2013 FEEM participated as an observer in the Conference **“Segundo Encontro de Antropólogos Mexicanos y Brasileiros”**. The Conference was held at the University of Brasilia and aimed at identifying joint research activities for the years 2014-2015.

Along with the work done to support the redefinition of the programme’s activities, in 2013 research was successfully carried out on the following topics: new sources of competitiveness in the global economy; privatization and institutions, and Euro-Med cultural and political issues.

On the topic **new sources of competitiveness in the global economy**, FEEM is involved in a project funded by the Volkswagen Foundation (GLOBAL LINKAGES project) that focuses on Europe’s global linkages and the impact of the financial crisis: policies for sustainable trade, capital flows, and migration. Since 2007 the financial crisis has damaged Europe’s global linkages in international trade, direct investments, capital flows, and labour migration. Working closely with the other partners in the project, FEEM uses newly available global data on bilateral migrant stocks and other international transactions to draw a comprehensive picture of the interaction between international migration, trade, and foreign direct investments at the global level.

On the **privatization and institutions topic**, FEEM has also contributed to the leading European observatory on privatizations, the Privatization Barometer (PB). Since 2004 the PB has become the official provider of privatization data to OECD and the World Bank. As of 2010, KPMG Advisory S.p.A. becomes unique partner of PB, providing data, research skills and financial resources. This strategic partnership between FEEM and KPMG Advisory S.p.A has been renewed at the beginning of 2014 and it will last till 2016. The new annual report on the development of privatizations in 2013 is under construction.

In 2013 FEEM has continued exploring **Euro-Med cultural and political issues**. The project addresses the growing strategic relevance of Turkey for the overall Euro-Mediterranean region, with a particular focus on EU-Turkey energy relations and on the crucial role of natural gas in enhancing energy cooperation between these two major players.

Programme Coordinator
Giulio Sapelli

Programme Deputy Coordinator
Filippo Tessari

People
Carlo Altomonte
Daniele Atzori
Luca Farinola
William L. Megginson
Gianmarco I.P. Ottaviano
Laura Pellizzola
Veronica Ronchi
Armando Rungi
Simone Tagliapietra

Programme Officer
Valeria Papponetti

SPECIAL PROJECTS

Special Projects Coordinator, Cristiano Re

FEEM in Basilicata

FEEM's office in the Basilicata region opened in early 2008 in Viggiano, a town located in the heart of Val d'Agri, as part of an agreement signed by eni for the exploitation of the oil and gas fields in the area. FEEM's mission is to contribute to the economic and social development of the region, and to support eni in its plan to develop the local resources and skills through networking, research activities and advanced training. Human capital and innovation are key drivers of economic growth, and leveraging on the existing networks and skills is central to the process of local endogenous growth.

Activities in the Basilicata region are carried out by a staff of more than 30 residential researchers and collaborators in coordination with FEEM headquarters and in close cooperation with private and public local institutions. Activities are focused on three main areas: (i) applied research, (ii) advanced training and education and (iii) support to business and decision-making.

FEEM's research efforts in the region are directed to the study of energy-related issues and to the analysis of sustainable tourism as an opportunity for local development.

FEEM in Basilicata supports local institutions in the dissemination of accurate information on issues related to energy and local development.

Finally, FEEM regularly organizes summer schools focusing on energy and sustainability issues, and training activities on energy and environment through seminars, labs, scientific theatre shows and e-learning activities.



People

Orazio Azzato
 Mariarosaria Bellizia
 Angelo Bencivenga
 Matteo Bernecoli
 Susanna Boietti
 Luisa Buccino
 Francesco Calabrese
 Livio Chiarullo
 Delio Colangelo
 Dario Colucci

Paloma D'Alterio Vollaro
 Marcella De Filippo
 Elisabetta Fortunato
 Annamaria Giampietro
 Alice Giorgio
 Carmen Ielpo
 Mariantonietta Leone
 Vincenzo Lettieri
 Rossana Martoccia
 Angela Pepe

Annalisa Percoco
 Tiziana Perri
 Maria Francesca Scannone
 Enzo Scasciamacchia
 Alessia Setaro
 Lucia Sinagra
 Caterina Verrone
 Angela Voce

As of March 2014



FEEM in Basilicata - Focus on: Sustainable Tourism and Local Development in Basilicata

FEEM's Viggiano office has, in recent years, started a series of studies on sustainable tourism. This research work produced important results in 2013.

Sustainable tourism is an economic activity that produces wellbeing, environmental protection and local development, all at the same time. Enhancing the value of the various resources available is fundamental to promote local development and increase the appeal of the area to tourists. The best way for this process to take place is by analysing the territorial context in all its aspects (environmental, economic, social) so as to achieve a complete vision of what exists already and to implement the development initiatives that are best suited to the specific features of the territory.

The eight research projects undertaken by FEEM in this region are part of this approach, starting with the opportunities to enhance the value of the natural and cultural heritage of modern Basilicata, and considering tourism as one of the engines to promote employment that could generate economic and social progress. The projects examine interconnected topics and they can be considered pieces of a jigsaw. All together they form a complex picture of interdependent parts which illustrates both the broad synergies existing among the various proposed activities and the single guiding principle that inspires them.

In 2013 the Sustainable Tourism and Local Development research area in Basilicata included the following eight projects: i) Assessment of potential tourism in the Parco Nazionale dell'Appennino Lucano Val d'Agri Lagonegrese, The European Charter for Sustainable Tourism in Protected Areas and the strategic paths of development; ii) Green Road Basilicata; iii) enerAGRIa Energy Park and Learning Week; iv) The potential of archaeological tourism in Grumentum; v) The "Diffused Hotel": a strategic tool for sustainable development in protected areas; vi) The effect of the movie "Basilicata Coast to Coast" on tourism in Basilicata - second survey ("Film-Induced Tourism"); vii) The "online destination image" of Basilicata; viii) The tourism business in Val d'Agri.

The project on "The assessment of potential tourism in the Parco Nazionale dell'Appennino Lucano Val d'Agri Lagonegrese, The European Charter for Sustainable Tourism in Protected Areas and the strategic paths of development" consisted in the progress of research activities in support of the protected area. Thanks to the collaboration between FEEM and Ciset (Centro Internazionale di Studi sull'Economia Turistica, Università Cà Foscari, Venezia) the activities focused on the investments that the park should make in terms of products and markets to attract a greater number of tourists. In 2013, with FEEM's support, the Park was granted the European Charter for Sustainable Tourism.

A field survey was carried out in 2013 within the "Green Road Basilicata" project focused on the integration of eco-tourism with modern models of tourism (sea, mountain and cultural tourism). The survey aimed at testing real interest in an integrated *sea-mountain* model, and at identifying the characteristics that make a product attractive to the market. The project has shown that networks and synergies are key for the promotion of modern tourism.

The project enerAGRIa shows that energy plays a key role in Val d'Agri, where educational tourism is based on the energy theme. The new project has closer links with the territory and new highlights have been added.

The project on "The potential of archaeological tourism in Grumentum" began as a study of the archaeological site of Grumento Nova. It was then further extended to embrace previous analyses. The aim was to investigate the characteristics of archaeological tourism in Basilicata in order to assess its competitiveness with other sites, with a focus on the archaeological site of Grumentum.

The project "Diffused Hotel: a strategic tool for the sustainable development of a protected area" was aimed to assess the feasibility of this new model of hospitality in order to promote the requalification of the historical centers of the inland area of the Basilicata region. After defining the theoretical framework, research activities focused on the existing buildings and established actions aimed at valorizing the building heritage with innovative techniques in compliance with the local architectural style.

The research on "Film Tourism" monitored the effect of the movie "Basilicata Coast to Coast" (BCTC) on tourism in Basilicata. The aim of the survey was to determine whether there is still a "BCTC effect" three years after the film's release. The collaboration between FEEM and the Lucania Film Commission (LFC) was a milestone of the project, strengthened through joint participation in conferences and debates. FEEM has also offered support for the implementation of the LFC website.

A new research project was launched in 2013 to investigate the online destination image of Basilicata. The survey aims at providing a snapshot of the current web image of this region as a tourism destination.

The last research project is focused on business tourism in Val d'Agri. The research starts from the study of the business tourism trend, analyzing the case study of business tourism in Val d'Agri. This is an area where eni's up-stream oil and Southern District activities generate business tourism that has a multiplier effect throughout the local economy. The aim of the survey was to provide a scientific analysis of this effect and its impact on tourism and the local economy.

FEEM Activities in Ravenna

FEEM firmly believes that investing in culture, in scientific, economic and social research, and in continued education throughout life, is key for economic and sustainable development.

The activities promoted by FEEM in the territory of Ravenna are among those covered by the 2011-2014 Agreement signed by eni SpA and the Municipality of Ravenna. The main aim of the agreement is to ensure growth in the region by combining industrial development with local sustainable development. The novelty of this agreement is eni's commitment, with FEEM's scientific support, to conducting studies and activities aimed at promoting and disseminating technical and scientific culture and training, and at providing career counseling for young people.

The initiatives involve two areas of activity: the first area concerns career counseling and promoting technical and scientific culture in young people through seminars and workshops for the elementary and middle school, and higher education for university students and professionals such as specific training, university lectures and conferences on corporate culture; the second area is focused on young people and the labor market in the Province of Ravenna, based on the analysis of the working scenarios for university graduates and the promotion of meetings between firms and young people.

In short, the meetings between firms and young people were based on the study of the data of the labor market, human capital and skills available in the Ravenna area. The study then identified a panel of companies interested in offering training and internships to young people to integrate them in their business. Finally, the firms selected the young people for the training program and a six months paid work placement.

Project Leader, Cristiano Re

People

Cecilia Mezzano
Giovanna De Lucia
Chiara Reglieri
Eva Turicchia
Renata Bellocchio
Davide Poli
Rita Viscardi
Marika Armani

As of March 2014

Local Sustainable Development Area

The Local Sustainable Development area carries out research activities by providing support and advisory services to the public and private sectors in the fields of sustainable local development, sustainability communication and reporting and corporate social responsibility projects. The area integrates scientific, technical, social and humanistic skills using both a quantitative and qualitative approach in research studies and projects on the field. Its activities are focused on the following areas.

- **Sustainability reporting processes:** the team has developed a strong expertise in the context of the GRI 3.1 and G4 guidelines, leading its clients to excellent results in terms of compliance with these guidelines.

- **Materiality:** the area has developed an exclusive interview methodology adaptable to both internal and external stakeholders. This methodology takes into account the updates regarding materiality or new interview techniques in order to provide more accurate and complete results.

- **Stakeholder management:** the working group supports public and private actors in the planning and implementation of a system to raise and maintain strong relationships with their stakeholders. This allows the identification of projects of common interest in an effective and sustainable way.

- **Studies on territorial impacts:** these studies allow the analysis of the territorial impact of a company under different points of view. This include: **i) infrastructure:** these studies allow us to study the impacts of infrastructure on the number of firms that settle in a given territory, and on several financial statements indicators. This kind of study allows us to appreciate the socio-economic impacts of the presence (or creation) of an infrastructure network due to the existence of a plant in a specific area; **ii) SROI:** the approach derived from the SROI (Social Return On Investment) is used to analyze specific investments to assess their return in terms of social and economic welfare. This methodology incorporates the impact studies and permits to evaluate the effects of an investment over the years; **iii) linked industries analysis – input-output tables:** this analysis is based on the use of input output tables and aims to estimate the effects of investments on the territory in terms of generated wealth. From this analysis it is also possible to show the impact on employment; **iv) linked industries analysis – field activities:** the area also applies other methods to calculate the linked industries of a company. In particular, studies have been carried out on the findings of the national statistical institutes comparing information on different geographical areas in such a way as to isolate the effects of the presence of the company.

- **Projects with local communities and territories:** the area's main activity is to plan and implement, along with local governments, initiatives that meet the needs of the community. Aimed at creating shared value and growth of the territorial capital, the area conducts studies designed to investigate the cultural, social, economic and environmental conditions of a given context, so as to lead the public administrations, businesses and third parties sector in the conception and implementation of shared policies and programs for local sustainable development.

- **Applied projects in 2013 - Enipower:** support for the drafting of the Sustainability Report, materiality analysis, *linked industries analyses* and support for the stakeholders engagement activities in production plants; *Syndial:* support for the drafting of the Sustainability Report, and materiality analysis; *Saipem:* creation of a survey on the issue of integrity in the company and processing of results. The area has also provided support to specific projects in Basilicata and Ravenna.

Applied projects in 2013 - Enipower: support for the drafting of the Sustainability Report, materiality analysis, *linked industries analyses* and support for the stakeholders engagement activities in production plants; *Syndial:* support for the drafting of the Sustainability Report, and materiality analysis; *Saipem:* creation of a survey on the issue of integrity in the company and processing of results. The area has also provided support to specific projects in Basilicata and Ravenna.

Project Leader, Cristiano Re

People

Paolo Cominetti
Floriana Florestano
Alice Giorgio
Cecilia Mezzano

Chiara Raffaelli
Chiara Reglieri
Sergio Vergalli

As of March 2014

Eni Award Scientific Secretariat

Since 2003, FEEM has been supporting eni in organizing the Scientific Secretariat of the prestigious eni Award. The prize was officially launched in July 2007 to replace and extend the former Eni-Italgas Prize, which in 2006 had reached its XIX edition.

The award is promoted by eni in order to encourage basic and applied scientific research within the national and international scientific community, to provide incentives for technological development and innovation, to promote a better use of energy sources and help new generations of researchers to emerge.

Over the years the Award has gained a solid reputation as one of the most important scientific prizes in the fields of energy and environment and today it is considered the “Nobel Prize for Energy” by the international scientific community for several reasons: the increasing number of projects submitted by researchers all over the world, the worldwide network of universities and research centres as well as the prestige of the Scientific Commission that includes renowned international scientists and two Nobel Prize Laureates.

In 2013, FEEM prepared the Eni Award 2014 Edition, the first of the triennial cycle 2014-2016. Large participation in the call for proposals confirmed the positive increase trend of the previous Editions, totalizing 1405 submitted Candidatures and thus achieving a 21.65% increase if compared with the 2013 Edition (1155 Candidatures). This outstanding outcome provides further proof of the interest of the worldwide scientific community in this Prize.



In 2013, the Eni Award Scientific Commission welcomed three outstanding representatives of the international scientific research community for the new 2014 Edition: Khalid Aziz (Otto N. Miller Professor Emeritus, Department of Energy Resources Engineering, Stanford University), Fredrick Sarg (Research Professor, Department of Geology and Geological Engineering, Colorado School of Mines), Michael Graetzel (Professor, Laboratory of Photonics and Interfaces, École Polytechnique Fédérale de Lausanne).

More information on the Eni Award is available at www.eniaward.net

Project Manager
Filippo Tessari

People
Simona D'Angelo
Lorenzo Messaggi
Marco Soggetto

As of March 2014

Eniscuola and Schoolnet

Since 2000 FEEM supports eni in carrying out educational projects such as Eniscuola and Schoolnet. The projects aim at providing pupils and teachers of lower-middle schools with advanced teaching support on the subject of energy, sustainability and environment and at increasing the use of the Internet as a fundamental tool for learning and acquiring information.

Both projects are web-based and use multimedia technology for dissemination. A broad range of learning support systems are provided and they can all be downloaded by the pupils.

Eniscuola's main tool is the www.eniscuola.net website. The website has over 3,000 pages with documents, pictures, graphs, charts, experiments, games and interviews with national and international scientists including Nobel Prize Laureates.

The Eniscuola project has been acknowledged by UNESCO's Italian National Commission and is part of the United Nation's Decade of Education for Sustainable Development, by contributing to spread its goals and ideals.

In July 2010, the Italian Ministry of Education, University and Research proposed to eni to collaborate in the digital school project “Scuola Digitale” in order to innovate the didactic system using information technology and communication tools.



People

Andrea Bellati
Tiziana Bosco
Gioacchina Di Cataldo
Emanuele Ferrari
Fabio Fornasari
Concetta Gagliano
Davide Gorla
Elisabetta Monistier
Benedetta Palazzo
Andrea Portaluppi

As of March 2014

PUBLICATIONS

FEEM has a broad range of publications addressed to both the academic and non academic readerships.

At present FEEM has two **Editorial Series**:

Edward Elgar Publishing, FEEM Series on “Economics, the Environment and Sustainable Development”

Editorial Board:
Carlo Carraro (Series Editor)
Kenneth Arrow
William Baumol
Partha Dasgupta
Karl-Göran Mäler
Ignazio Musu
Henry Tulkens

Il Mulino, FEEM Series

Editorial Board:
Giuseppe Sammarco (Series Editor)
Geminello Alvi
Carlo Carraro
Gianmarco I.P. Ottaviano
Alberto Quadrio Curzio
Domenico Siniscalco
Guido Tabellini

Recent Titles:

Il turismo come risorsa: le nuove frontiere nello scenario di sviluppo della Basilicata, edited by Mariaeater Cassinelli and Livio Chiarullo, published with *il Mulino*



FEEM circulates a series of **Working Papers** in English (FEEM “Note di Lavoro”) collecting the output of research in the field of economics, energy and the environment.

FEEM **Note di Lavoro** are included in the Social Science Research Network (SSRN), the electronic bibliography by the American Economic Association (EconLit), the Research Series in Agricultural and Applied Economics (AgEcon), the Research Papers Series in Economics (RePEc), the Berkeley University Press (BePress) and the German National Library of Economics (ZBW).



Since 2011 FEEM publishes an open-access, online e-journal, the **Review of Environment, Energy and Economics - Re3**, a tool for the dissemination of the work and research-based policy analysis of FEEM researchers and leading international scholars, covering the areas of the environment, energy and economics (Re3 at: <http://re3.feem.it>).



Since 1997, in cooperation with the publisher “il Mulino” FEEM publishes the journal for sustainable development **EQUILIBRI**, targeted to a broad audience of readers.

Editorial Board:
Giuseppe Sammarco (Editor)
Geminello Alvi
Carlo Carraro
Massimo Livi Bacci
Danilo Mainardi
Domenico Siniscalco



Since 2009, FEEM also publishes an electronic bi-monthly newsletter **FEEM News**, providing updates and highlights on research, events and publications.



Since 2012 FEEM distributes an electronic monthly bulletin **Re3News**, with a short editorial focused on the “Editor’s Choice” and the latest contributions published in its e-journal, Re3.



INTRODUCTION



Accounting for the contribution to the cultural, scientific and economic progress of the society in which one operates is an interesting exercise for companies of all stripes. For non profit organizations utilizing private and public resources in the pursuit of their mission, “social” reporting and accounting is an imperative.

Indeed, conventional balance sheets and financial statements are fundamental reporting tools, but they fail to disclose the actual performance of non profit institutions in terms of impact and relevance for their respective stakeholders.

FEEM has been a frontrunner in company social reporting, and has applied best practices and principles in communication to stakeholders throughout its long-standing activity. For this reason, since 2008 FEEM decided to resume the publication of a fully-fledged social report.

Given the increase in the scope and quantity of activities, a social report is fundamental to provide not only qualitative and descriptive information, but also to provide objective indicators and statistics about the overall results from the operations. We claim that the numbers provided represent clearly not only the impact of activities, but also an overall evaluation of all the inputs that contribute to our productivity. Among them, human capital is obviously fundamentally important.

This social report aims at showing that during the 2011-2013 period FEEM has operated as a responsible organization towards all its major stakeholders: *(i)* our people; *(ii)* the research community; *(iii)* the policy sphere; *(iv)* young generations; and *(v)* the general public.

Our people

Human capital is without doubt the most important input for FEEM's activities. It is mainly composed of researchers, often with a post-graduate diploma, and classified in different categories according to career advancement and profile: *senior* researchers are defined as such when they have a Ph.D. and have performed research for at least 2 years under FEEM contracts or they have no Ph.D. but have performed research for 5 years under FEEM contracts. They are typically experienced research leaders with key responsibility in the design and implementation of projects. *Research associates* are typically affiliated to a university or to other research institutions and are involved in contingent projects. Staff includes full-time employees and non permanent staff involved in support activities for specific projects.

FEEM's operations include a much larger number of collaborators than full time employees. This organizational mode is typical in the non profit sector and in research institutions, as it allows flexibility and reflects the high turnover rate of young researchers, typically moving to other institutions after a successful training period in FEEM.

In the 2009-2013 period staff activities have been streamlined and reorganized with the creation of the FEEM staff register in 2008. In 2013, the 29 full-time employees provide efficient secretarial and administrative support, and communication services for the organization of events, media relations and publications.

The gender audit yields a balanced mix in the organization, with a prevalence of women. Interestingly, this pattern is observed across categories, confirming the same balance by gender among researchers, non permanent staff and employees. In 2013 we can observe a slight increase in the national dimension (4%) and overall the average age is 33 years.

FEEM People	2011	2012	2013
Total headcount	167	193	186
By categories:			
Researchers	105	120	100
<i>Junior Researchers</i>	46 (44%)	62 (52%)	53 (53%)
<i>Senior Researchers</i>	27 (26%)	27 (22%)	24 (24%)
<i>Research Associates</i>	32 (30%)	31 (26%)	23 (23%)
Collaborators	35	45	57
<i>Support activities</i>	16 (46%)	20 (44%)	18 (32%)
<i>Special projects</i>	19 (54%)	25 (56%)	39 (68%)
Full-time employees	27	28	29
By sex:			
Male	73 (44%)	86 (45%)	81 (44%)
Female	94 (56%)	107 (55%)	105 (56%)
By nationality:			
Italian	137 (82%)	155 (80%)	156 (84%)
Non-Italian	30 (18%)	38 (20%)	30 (16%)
Average age (years)	36	35	33

Overall the educational profile of FEEM's people is very high: in 2013, 92% have a graduate degree, and 56% also hold a post-graduate diploma. Among researchers, 82% hold a post-graduate degree. In particular, 54% of our researchers holds a Ph.D. which was obtained abroad in 54% of cases.

FEEM Researchers	2011	2012	2013
	105, of which	120, of which	100, of which
<i>Post-graduates</i>	85 (81%)	108 (90%)	82 (82%)
Master	73	90	70
<i>of which obtained abroad</i>	49 (67%)	48 (53%)	45 (64%)
Ph.D.	65	71	54
<i>of which obtained abroad</i>	33 (51%)	40 (56%)	29 (54%)

Research community

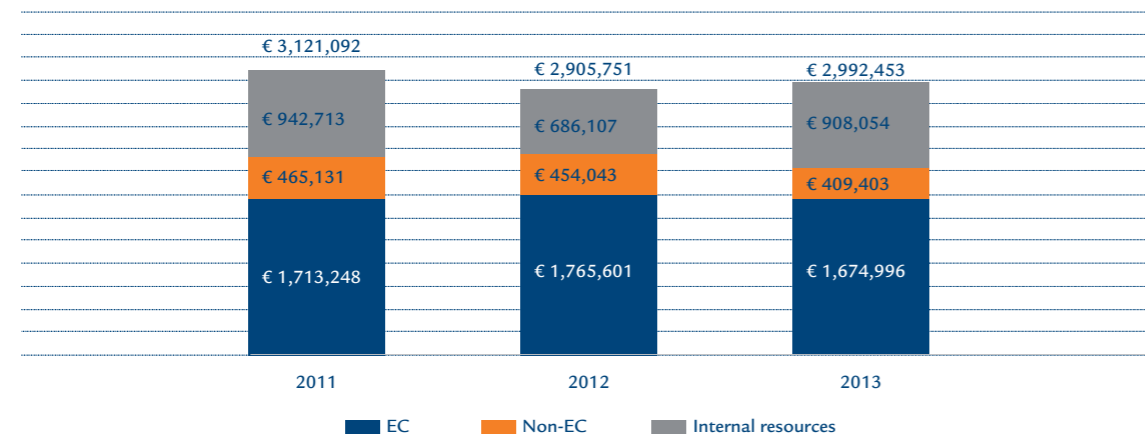
The research community is a primary stakeholder, which FEEM targets by carrying out research projects, by publishing high quality research, by organizing scientific events and training initiatives, and by managing large international networks.

Research projects

In 2013, FEEM has been actively working on 38 projects, 32 of which financed by third parties, and mainly by the European Commission.

Research projects	2011	2012	2013	2011-2013
Total research projects	47	42	38	127
of which				
<i>funded by the EC</i>	30 (64%)	27 (64%)	26 (68%)	83 (65%)
<i>funded by others</i>	7 (15%)	7 (17%)	6 (16%)	20 (16%)
<i>funded with own resources</i>	10 (21%)	8 (19%)	6 (16%)	24 (19%)
Average project duration (in years)	3.2	3.2	3.2	3.1

Research funding by source
(Euro)



Over the years FEEM has achieved a high success rate in research funding under the European Commission, and in particular under the EC 7th Framework Programme on Environment (EC FP7 - Environment, including climate change), ranking among the best Italian research institutions.

In 2013 FEEM has been involved in five new multidisciplinary research projects, three of which within the EC Environment Programme, one within the EC People Programme and the final one within the joint research programme ‘Europe and Global Challenges’ of Compagnia di San Paolo, Riksbankens Jubileumsfond and VolkswagenStiftung.

Scientific publications

Publications are one of the most important outlets for the dissemination and certification of the scientific quality of FEEM’s research output.

FEEM has two editorial series with Edward Elgar and il Mulino for books published in English and in Italian, respectively, and it circulates a series of working papers in English (FEEM “Note di Lavoro”) targeted to the international research and academic community.

FEEM has published a total of 2,393 “Note di Lavoro” since the publication of its first working paper in 1993. FEEM “Note di Lavoro” are downloadable from FEEM’s website since 1998, and have been gradually included in other platforms such as AgEcon, the Social Science Research Network (SSRN), RePEc, Berkeley University Press, ZBW and EconLit.

Since 2008 the “Note di Lavoro” are distributed only electronically, with substantial cost savings and unscathed impact and visibility. In 2013 the downloads from the Social Sciences Research Network SSRN, BePress, RePEc and AgEcon and ZBW have hit a record of 112,955.

Publications	2011	2012	2013	2011-2013
FEEM working paper series “Note di Lavoro”	100	100	110	310
of which				
<i>with at least one FEEM author</i>	31%	39%	42%	37%
N. of downloads from other websites (*)	79,367	78,535	112,955	270,857
of which				
<i>Social Science Research Network SSRN</i>	21,772	26,660	26,642	75,074
<i>Berkeley University Press</i>	24,987	4,956	4,637	34,580
<i>RePEc</i>	12,347	9,976	8,094	30,417
<i>AgEcon</i>	18,175	31,501	53,028	102,704
<i>ZBW</i>	2,086	5,442	20,554	28,082

(*) FEEM Note di Lavoro are included in the Economics Research Institutes Paper Series of Social Science Research Network SSRN, AgEcon, RePEc, Berkeley University Press, ZBW and EconLit. This table reports statistics from SSRN, AgEcon, RePEc, BePress and ZBW.

The percentage of Note di Lavoro authored by FEEM researchers in 2011-2012-2013 republished in peer-reviewed journals is equal to 35%.

In 2011 FEEM launched the open-access e-journal “Re3 - Review of Environment, Energy and Economics”, a tool for the dissemination of the work and research-based policy analysis of FEEM researchers and leading international scholars, covering the areas of the environment, energy and economics. New contributions, mainly articles or interviews with videos, are published weekly, and an electronic bulletin “Re3News”, with the latest contributions published in the e-journal, is distributed monthly. All the titles published in 2013 are listed in the Appendices.

Conferences and seminars for scholars

The organization of events is a fundamental activity for FEEM, since it allows the creation and maintenance of relationships with the scientific community at the national and international level. It also generates important spillovers in terms of research opportunities that can subsequently yield outputs in the form of projects, publications and networks.

Conferences are usually large-scale events on the topics of FEEM's research agenda, while workshops are typically used for the discussion of "work in progress" and brainstorming sessions. Seminars are primarily given by residential researchers and aimed at cross-fertilization between the different research areas and programmes. Seminars are also open to visiting scholars and to the local research community, and widely publicized through the web.

Over the 2011-2013 period, FEEM has organized a total of 269 scientific events for the research community, attracting over 15,000 registered participants.

Conferences and seminars for scholars	2011	2012	2013	2011-2013
Events for the research community	87	83	99	269
of which:				
Conferences, workshops and lectures	35 (40%)	26 (31%)	43 (43%)	104 (39%)
Seminars	52 (60%)	57 (69%)	56 (57%)	165 (61%)
Total events attendance	5,366	5,336	7,391	18,093
of which:				
Conferences and workshops attendance	4,534 (84%)	3,041 (57%)	5,079 (69%)	12,654 (70%)
Seminars attendance	832 (16%)	2,295 (43%)	2,312 (31%)	5,439 (30%)

Among these events, 2 lectures were organized in collaboration with the International Center for Climate Governance (ICCG), which in 2013 promoted other seminars and cultural events attracting an overall attendance of about 1,000 participants.

Post-graduate training

Young researchers are very important stakeholders for FEEM and providing advanced training is thus one of the principal institutional activities. In this direction, FEEM organizes Marie Curie individual fellowships (sponsored by the EC), summer schools, and internships. Since 2000, FEEM organizes in co-operation with the European Association of Environmental and Resource Economists (EAERE) and the Venice International University the "European Summer School in Environmental Economics" (EAERE-FEEM-VIU), attracting every year young researchers from a large number of international universities. From 2010 to 2012, FEEM jointly organized with the EAERE and the Faculty of Agriculture of the University of Catania, the Belpasso International Summer School on Environmental and Resource Economics (Sicily, Italy). In year 2013, a FEEM researcher co-coordinated the Belpasso Summer School. From 2005 to 2010 FEEM also regularly contributed to the scientific organization of the "European Summer School and Conference in competition and regulation" CRESSE.

In 2013 FEEM co-organized 2 summer schools, one of which through the International Center for Climate Governance (ICCG) and supported 5 Individual Marie Curie Fellowships, 12 internships and hosted 8 visiting senior researchers.

Post graduate-training	2011	2012	2013	2011-2013
Summer Schools				
<i>Number of Summer Schools organized</i>	3	2	2	7
<i>Students</i>	60	60	60	180
Graduate researchers trained at the Fondazione				
<i>Internships</i>	5	10	12	27
<i>Marie Curie Individual Fellowships</i>	3	4	5	12

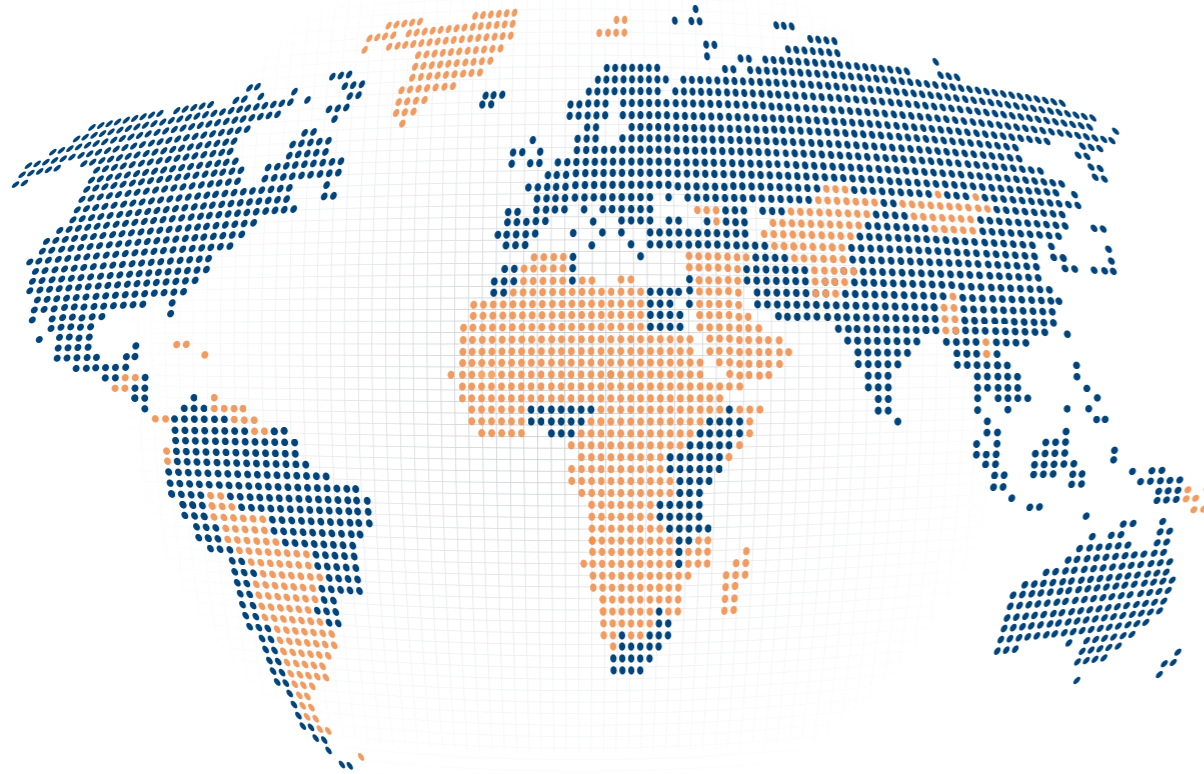
Fostering the investment in human capital in order to advance the frontiers of knowledge is FEEM's ultimate objective. For this reason, since 2009 FEEM regularly bestows a prize for the most innovative ideas by young economists. The prize (FEEM Award) is organized jointly with the European Economic Association (EEA) and yields a double dividend: rewarding scientific discovery and promising young scholars. The fifth edition of the FEEM was presented on August 29, 2013 during the European Economic Association (EEA) Annual Congress at the University of Gothenburg in Sweden.

Networks

The international research network is certainly one of FEEM's most valuable intangible assets. Built up over the years by involving the best researchers and top research institutions on various projects, the network allows FEEM to remain acquainted with the state-of-the-art of scientific knowledge, to spread its results more widely and expose its human capital to international interaction. FEEM's global footprint is quite impressive: today, FEEM is linked via joint projects, partnerships or associations with over 600 research institutions operating in 87 countries around the world.

Over the years, FEEM has contributed to the creation of a number of thematic networks and associations, such as the Coalition Theory Network (CTN), the European Association of Environmental and Resource Economists (EAERE), the Italian Association of Environmental and Resource Economists (IAERE), and the Biodiversity and Economics for Conservation Economists network (BIOECON). FEEM is also institutional member of the European Economic Association (EEA), of the European Association of Environmental and Resource Economists (EAERE), of the Association of Environmental and Resource Economists (AERE), and of the Italian Association of Environmental and Resource Economists (IAERE). FEEM is entrusted with the management of the Permanent Secretariat of EAERE, IAERE, and International Energy Workshop (IEW). In recent years FEEM has also built new important partnerships with the Euro Mediterranean Centre for Climate Change (CMCC), the Fondazione Giorgio Cini for the creation of the International Center for Climate Governance (ICCG) in Venice, the Climate Policy Initiative (CPI), and Economics for Energy. FEEM is also involved in the International Energy Workshop network (IEW), the Integrated Assessment Modeling Consortium (IAMC), the Energy Modelling Forum (EMF), the Regional Modelling Exercise (RME) network, the Global Climate Forum (GCF), the Distretto Veneziano della Ricerca (DVR), and the non-profit international student organisation CliMates. Finally, since 2013, FEEM hosts the Italian Global Compact Foundation (IGCF), aiming at promoting the function of the Global Compact Network Italy (GCNI), a national platform that carries out activities to promote and spread the Pact of the UN Global Compact in the Italian context. FEEM, which has always supported companies in the implementation and reporting of their sustainability performances, hosts the IGCF headquarters and contributes to the development of its activities.

FEEM Global Network



Albania	Ethiopia	Malta	South Korea
Afghanistan	Finland	Mauritius	Spain
Algeria	France	Mexico	Sri Lanka
Australia	French Guiana	Montenegro	Sweden
Austria	Germany	Morocco	Switzerland
Azerbaijan	Ghana	Nepal	Taiwan
Bangladesh	Greece	Netherlands	Tanzania
Belgium	Hong Kong	New Zealand	Thailand
Benin	Hungary	Nigeria	Trinidad & Tobago
Brazil	Iceland	Norway	Tunisia
Bulgaria	India	Palestine	Turkey
Cambodia	Indonesia	Peru	Turkmenistan
Cameroon	Iran	Poland	Ukraine
Canada	Ireland	Portugal	United Kingdom
Chile	Israel	Principality of Monaco	United States of America
China	Italy	Romania	Uruguay
Colombia	Japan	Russia	Uzbekistan
Costa Rica	Kenya	Rwanda	Vietnam
Croatia	Latvia	Serbia	
Cyprus	Lebanon	Singapore	
Czech Republic	Lithuania	Slovak Republic	
Denmark	Luxembourg	Slovenia	
Egypt	Malawi	South Africa	

Policy sphere

One of the characteristics of FEEM has always been the provision of technical assistance to national and international institutions. The past twenty five years have seen a strengthening of FEEM's role as a provider of technical assistance to national and international institutions and policy makers. Indeed, through the rigor of its research, FEEM aims at improving the credibility and quality of decision-making in public and private spheres. This goal is achieved by creating an international and multidisciplinary network of researchers working on several innovative projects, by promoting training in specialized areas of research, by disseminating research results through a wide range of outreach activities, and by delivering directly to policy makers via participation in various institutional fora.

In 2013 the most significant and systematic collaborations have been, at the international level, with:

- United Nations:
 - › UN Framework Convention on Climate Change (UNFCCC)
 - › UN International Panel on Climate Change (IPCC)
 - › UN International Strategy for Disaster Reduction (UNISDR)
 - › UN Educational, Scientific and Cultural Organization (UNESCO)
 - › UN Environment Programme (UNEP)
 - › Food and Agriculture Organisation of the United Nations (FAO)
- European Union:
 - › European Commission:
 - DG Climate Action (CLIMA)
 - DG Energy (ENER)
 - DG Environment (ENV)
 - DG Research and Innovation (RTD), Cooperation Programme, People Programme, and Ideas Programme (European Research Council - ERC)
 - › European Environmental Agency (EEA)
 - › European Investment Bank (EIB)
 - › Privatization Agencies and Ministries of the main European Countries
 - › Volkswagen Foundation
- Academy of Sciences for the Developing World (TWAS)
- Asian Development Bank (ADB)
- Green Growth Knowledge Platform (GGKP)
- International Energy Agency (IEA)
- International Human Dimensions Programme (IHDP)
- Istanbul Policy Centre (IPC)
- Mercator Research Institute on Global Commons and Climate Change (MCC)
- Ministerie Van Infrastructuur En Milieu - PBL, (The Netherlands)
- Organization for Economic Co-operation and Development (OECD)
- The World Bank (WB)

At the national level, with:

- Bank of Italy
- EXPO Milano 2015
- Federazione Relazioni Pubbliche Italiana (FERPI)
- Fondazione Accenture · Fondazione AEM · Fondazione Giangiacomo Feltrinelli · Fondazione IBM
- Fondazione Mondadori · Fondazione Olivetti · Fondazione Sodalitas
- Global Compact Network Italia (GCNI)
- Italian Ministry for the Environment, Land and Sea
- Italian Ministry of Economy and Finance
- Italian Ministry of Education, University and Research
- Italian Institute for Environmental Protection and Research (ISPRA) and local public authorities for sustainable development matters (Lombardy Region; Lombardy Foundation for the Environment, FLA; Basilicata Region; Po River Basin Authority; City of Ferrara; City of Parma; Emilia Romagna Region; Emilia Romagna Agency for the Protection of the Environment)
- Italian Ministry for Foreign Affairs
- Local public authorities for matters concerning privatizations and liberalizations

General public

FEEM aims at fostering and encouraging a broader awareness and understanding of economic, energy and environmental issues, also within the civil society. This objective is pursued by using a variety of communication tools and outlets, ranging from the web to non technical publications, the organization of public conferences and roundtables, and the free access to FEEM facilities such as the Library, with a view to reinforcing the commitment towards the economic and social development of the country.

FEEM on the internet, 1994-2013

FEEM's presence on the internet started in the early 90s and the web is still today one of the main tools for FEEM to showcase its institutional activities to the general public. For this reason, FEEM's website (www.feem.it) - launched in 1994 and then completely renovated in 2009 - is constantly subject to updates and improvements in order to be always user-friendly, making information accessible and clear, and ensuring efficiency through a high-speed internet connection and dedicated line on the network of the Ministry for Higher Education and Scientific Research.

In this manner, and in order to keep the public regularly updated, FEEM also publishes a digital newsletter, *FEEM News*, bi-monthly mailed to over 7,000 stakeholders and subscribers, and a dedicated section of the website allows visitors to subscribe to the newsletter or other specific contents of interest, in order to receive updates by email or through *RSS feeds*.

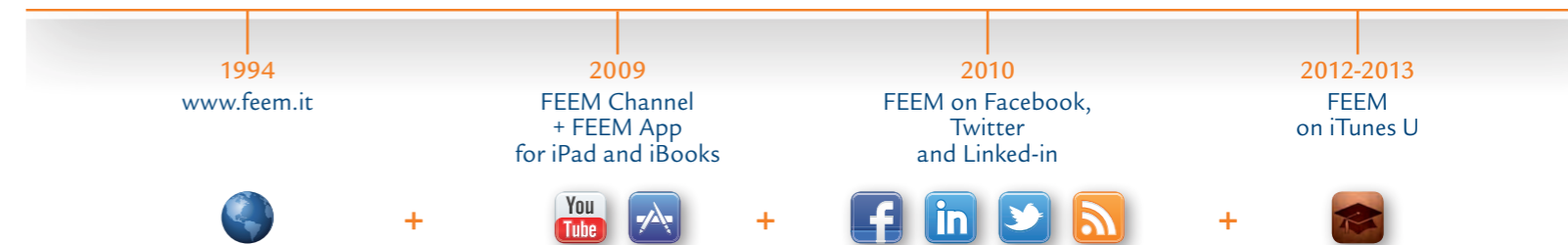
In addition to the institutional website, FEEM shares the contents of its activities and research through satellite websites dedicated to specific research projects, summer schools, events or publications, and manages video sharing and social networking sites, such as a FEEM Channel on You Tube, and institutional pages on Facebook, Twitter and LinkedIn. More recently FEEM has also built up web applications for iPad and has successfully started developing collections of thematic iBooks, aiming at opening new windows on FEEM research and using additional instruments to provide information to the community of both institutional peers and individuals with shared interests.

In 2013 over 70,000 single users visited FEEM's website and Google assigned to feem.it a PageRank of 7. (*PageRank* is an algorithm that Google uses to determine the importance of a web page). Finally, in 2013 videos and interviews posted on FEEM's multimedia Channel on You Tube registered more than 51,400 downloads, and almost 2,800 followers joined FEEM on the web social networking communities (Facebook, Twitter and Linked-in).

Another digital tool that is worth mentioning is FEEM's open-access journal "Re3 - Review of Environment, Energy and Economics", launched in 2011. Re3 has proven to be an effective tool to disseminate to a broader public the research work and policy analysis of FEEM researchers and international scholars on topics related to the environment, energy and economics. Short articles, written in a language devoid of technicalities, and interviews with videos, are published on a weekly basis, while an electronic bulletin "Re3News", with the latest contributions published in the e-journal, is distributed monthly.

The most important digital innovation carried out by FEEM in recent years, however, is represented by the launch (in 2012) of a new institutional website on iTunes U, the Apple portal devoted to the world of research and education. Traditionally at the forefront in the field of new technologies, FEEM has been the first non academic research Foundation in Italy to join iTunes U, currently the most important and globally recognized platform for sharing and providing free of charge multimedia educational content from leading educational institutions. Since its launch on iTunes U, FEEM recorded over 17,000 visitors and 4,000 registered users with over 21,000 downloads, and is now able to promote its activities to an even broader audience all over the world. FEEM channel on iTunes U is available at: <https://itunes.apple.com/it/institution/fondazione-eni-enrico-mattei/id499827802>.

FEEM on the internet, 1994-2013



Publications and events for the general public

FEEM also uses traditional communication tools aimed at reaching the general public. Since 1997 FEEM regularly publishes the journal *Equilibri with il Mulino*. The journal is targeted to a broad audience of readers, and over the years it has contributed to the understanding of sustainable development, emphasizing its complex economic, social and political implications. Today, new trends are reshaping the world's economic and political balances. In the quest for new paradigms, *Equilibri* aims at dealing with these issues, keeping a constant eye on energy, the environment and future global challenges. The three issues published in 2013 debated key topics that have emerged on today's global stage: trust as the essential ingredient for the harmonious development of society; current and future socio-economic growth in Africa; an overview of "world history", one of the most innovative approaches to the comprehensive analysis of historical events.

Besides events targeted to the scientific community, FEEM also organizes roundtables, book presentations, conferences and lectures usually open to the general public on various issues broadly related to sustainable development. Finally, FEEM also offers free access to its facilities and in particular to its Library in Milan. FEEM Library was opened to the public in 1997. Originally established for the needs of FEEM researchers, it has been enlarged over the years and now offers a collection of relevant interest for students and scholars. In the fields of natural resource economics, the holdings of the library are among the most updated in Italy, containing a great selection of books (over 5,000), scientific journals (754), electronic databases (11) and statistical yearbooks (14). In 2012 about 150 users had open access to the stacks. The reading rooms can seat 36 people.

The general public is also usually reached by media operators, representing certainly an important stakeholder for FEEM. The interest of the press in FEEM's activities has been considerable and broadly increasing.

Press coverage	2011	2012	2013	2011-2013
N. of citations by typology				
Articles, citations, press releases and announcements	579	618	822	2,019
Op-eds	7	2	7	16
Interviews	6	38	35	79
Total number of citations in national and local magazines and newspapers	592	658	864	2,114

In the last 3 years, FEEM activities have had a significant coverage in the traditional media, totaling overall about 2,114 citations or articles covering FEEM studies, research projects, events and other activities. In particular in 2013 FEEM registered a strong boost in the number of articles published in national newspapers and covering FEEM special projects and activities. The press review is downloadable from a dedicated section of FEEM's website, where journalists can find the updated and most significant articles and may subscribe to regular updates on FEEM research and related initiatives.

Young generations

FEEM supports eni in the organization of two educational projects for the middle school, Eniscuola and Schoolnet. Both projects are based on the Internet and multimedia technology. Learning support systems are wide-ranging (text, images, graphs and charts, film clips, games, exercises, data bases and links to other sites) and can all be downloaded by pupils in order to conduct "multimedia research" or create their own site.

FEEM Educational activities for Eniscuola and Schoolnet

Numbers involved at middle schools	2011	2012	2013	2011-2013
N. of schools contacted	1,500	578	110	2,188
N. of educational seminars and laboratories	235	182	520	937
N. of students who attended direct teaching activities	8,840	11,920	19,750	40,510
N. of teachers involved in teaching activities	858	1,624	1,230	3,712

The Eniscuola project is based on a website (www.eniscuola.net) daily updated with over 3,000 pages with documents, eBooks, pictures, graphs, charts, experiments, games, and interviews with national and international scientists including Nobel prize laureates such as Alan J. Heeger, Sir Harold W. Kroto, Theodor W. Hänsch and Robert Coleman Richardson; Eni Award winners; scientists from the most important universities like University of California (Berkeley) or Massachusetts Institute of Technology.

Eniscuola carries out its educational activities in cooperation with Regional School Departments, Universities and local government institutions. The project is also actively involved in the organization of numerous scientific and cultural events. Eniscuola regularly organizes seminars, laboratories and scientific theatre events in schools all over Italy. Eniscuola also began educational activities in Sicily (2009), in collaboration with enimed spa, and in Ravenna (since 2012), in collaboration with eni E&P and the Municipality of Ravenna. The Eniscuola project has been acknowledged by UNESCO's Italian National Commission and is part of the United Nations Decade of Education for Sustainable Development, by contributing to spread its goals and ideals.

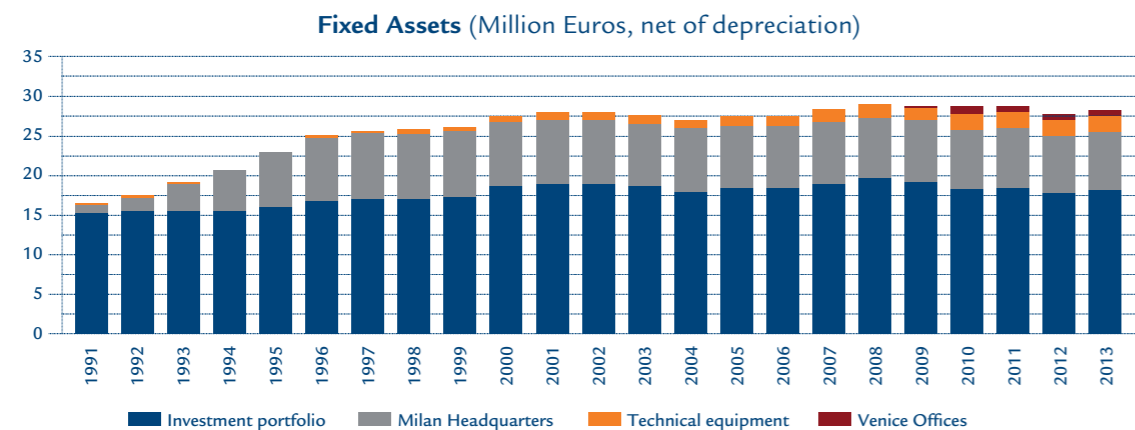
The main purpose of the Schoolnet project (www.schoolnet.eni.it) is to encourage the exchange of ideas and information among some of the schools of the areas where eni operates, in Algeria, Angola, Australia, Congo, Ghana, Indonesia, Kazakhstan, Mozambique, Norway, Pakistan, Timor Leste, Ukraine and Venezuela. Through the participation of their schools, students from elementary classes in these countries are invited to create a storyboard for an animated cartoon. In 2013, students from the middle schools involved in the project were asked to write projects in electronic format to describe the "Traditional festivities" of their home country, with the aim to promote knowledge and stimulate dialogue among different cultural identities. In 2013 the Schoolnet project contacted overall 47 schools, with the involvement of more than 100 teachers and the participation of over 1,400 students. "Welcome to our Country" is the subject proposed for the 2013-2014 edition.

Endowment and asset growth

A key objective for the financial sustainability of FEEM activities is the conservation of its endowment and assets over time. Over the past twenty years, the assets of FEEM have grown from the initial endowment of 13.3 million Euros in 1989 to approximately 26.4 million Euros at year-end 2013. This increase is mainly attributable to the additional contributions from the founders, along with the inception and increase of the Studies and Research reserve fund in the early years, when receipts exceeded total costs. Returns from financial assets is another component of asset growth.

Contributions from the founders have financed in the early 90s the complete restructuring of FEEM's Milan headquarters at the prestigious Palazzo delle Stelline, while the Studies and Research reserve fund increased its capitalization, allowing the financing of extraordinary institutional activities.

The graph below shows the composition of FEEM's fixed assets net of depreciation. Over the past twenty five years the overall value of the investment portfolio has grown from the initial 14.7 million Euros invested in 1989 to the present 18.4 million Euros, following a risk-adverse investment strategy. The value of the lease on the headquarters building increased until 1998, when the restructuring was completed. In 2010 FEEM completed the restructuring of its new local site in Venice, an aisle of an historic building located on the Island of San Giorgio Maggiore, started in 2009.

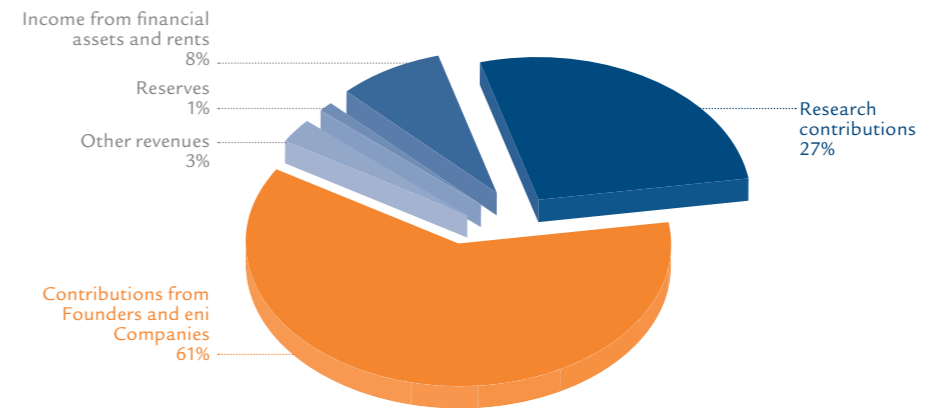


Revenues

Total revenues for 2013 amounted to 7,692,669.01 Euros. Contributions from Founders and eni companies represent the main source of funding for the annual budget, accounting for 61% of total revenues in 2013.

FEEM has developed a remarkable fundraising capability. External funding raised from third parties – mainly from the European Commission through the research framework programmes contributions, along with several domestic and international institutions – covers approximately 27% of FEEM's total revenues. In 2013 third party funding totaled 2.1 million Euros. Returns from the investment portfolio and rents represent 8% of total revenues. Financial assets, managed by professional asset managers, provided an annual income of approximately 0.5 million Euros in 2013. The remaining 4% comes from the use of the reserve funds and other extraordinary items. The revenues breakdown for 2013 is shown in the graph below.

Breakdown of Revenues 2013



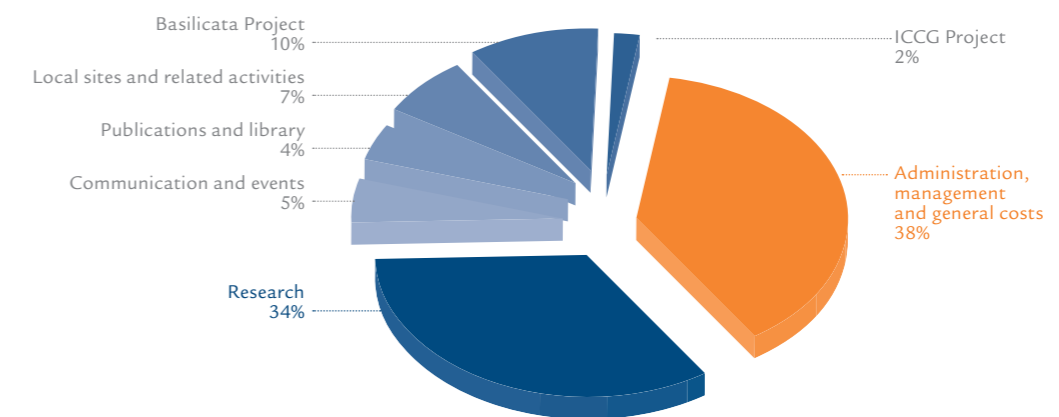
Spending

In 2013, expenditure for research projects and other institutional activities amounted to approximately 4.7 million Euros (62% of the total budget), whereas administration and management expenses amounted to 2.8 million Euros (38% of the total budget).

Although FEEM's institutional activities have significantly increased in recent years, the minimization of the fixed cost component and the flexibility of the organizational structure have allowed the allocation of the largest part of the annual spending to research and related activities, such as publications, communication, and dissemination initiatives.

The graph below shows the breakdown of expenditures in 2013 for administration/management (including also taxes and general costs) and for the institutional activities. The personnel expenditure has been classified accordingly.

Breakdown of Spending 2013



**Financial statement Balance sheet
(Euros)**

	31/12/2012	31/12/2013
FIXED ASSETS		
Tangible fixed assets	1,919,248	2,001,642
Intangible fixed assets	8,295,086	8,025,105
Financial assets	17,820,000	18,436,980
TOTAL FIXED ASSETS	28,034,334	28,463,726
CURRENT ASSETS		
Cash at bank and in hand	3,100,581	1,482,498
TOTAL CURRENT ASSETS	3,100,581	1,482,498
DEFERRED CHARGES	1,111,822	1,052,834
TOTAL ASSETS	32,246,737	30,999,059
	31/12/2012	31/12/2013
LIABILITIES		
Initial endowment	13,316,553	13,316,553
Grants from Founders	9,872,421	9,872,421
Studies and research fund	2,992,008	3,094,283
Surplus	102,275	144,610
TOTAL NET LIABILITIES	26,283,257	26,427,867
RESERVE FUNDS		
Investment portfolio fluctuation fund	755,453	675,453
Library fund	65,929	66,055
Reserve funds for future expenses	463,952	853,611
TOTAL RESERVE FUNDS	1,285,334	1,595,119
SEVERANCE INDEMNITY FOR PERSONNEL	200,391	252,556
DEBTS		
Suppliers	605,379	662,100
Other debts	609,259	359,821
TOTAL DEBTS	1,214,639	1,021,921
DEFERRED INCOME	3,263,117	1,701,595
TOTAL LIABILITIES	32,246,737	30,999,059

**Profit and Loss Account
(Euros)**

	31/12/2012	31/12/2013
REVENUES		
Income from financial assets	602,446	548,882
Rents	65,000	65,000
Contributions from Founders and eni companies	4,645,000	4,645,000
Research contributions	2,219,644	2,084,399
Other revenues	211,217	269,388
Reserves	112,509	80,000
TOTAL REVENUES	7,855,816	7,692,669
	31/12/2012	31/12/2013
EXPENSES		
Personnel	1,824,200	1,913,877
Researchers and non permanent staff	2,449,026	2,135,606
Statutory bodies	309,201	223,751
Travel expenses	619,516	549,478
Consumables	112,802	118,610
Services	1,071,637	1,095,776
Insurances	40,226	40,959
Rent and shared ownership expenses	170,688	161,336
Taxes	471,373	304,506
Reserves and devaluations	77,543	389,786
Depreciation	444,511	444,053
Other charges	162,817	170,320
TOTAL EXPENSES	7,753,540	7,548,059
Surplus	102,275	144,610

Art. 1 – Name

The “Fondazione Eni Enrico Mattei” is hereby established. The registered office of the Foundation shall be at the “Le Stelline” building complex, Corso Magenta 63, Milan.

Other branches or representative offices may be established in Italy and abroad to perform ancillary and other activities that are instrumental to promoting, developing and expanding the activities of the Foundation.

Art. 2 – Aims

The Foundation exists to contribute, through studies, research, training and information initiatives, to a broader awareness and understanding of economic, energy and environmental issues, at both local and global level.

In particular, the Foundation aims to:

- carry out detailed research in the area of sustainable development, with particular emphasis on its environmental, economic and social aspects, in relation to the Italian development framework, the international context and technological innovation;
- contribute with appropriate initiatives to the training of experts in the fields of interest stated in the Foundation’s bylaws;
- study, particularly through international discussion and debates, issues of particular interest to the Eni Group relating to corporate governance and the planning of company research, in order to disseminate the most recent and up-to-date knowledge and guidance.

Such aims shall be pursued by the Foundation using appropriate data collection, research, training and information methods and tools, with particular regard to the corporate purposes of Eni, and also with a view to reinforcing the commitment of the Eni Group to the economic and social development of Italy.

Art. 3 – Instrumental, ancillary and associated activities

In order to achieve its aims the Foundation may also:

- award prizes and scholarships;
- buy and take possession of movable and immovable property, plant, equipment and materials that may be useful or necessary for the performance of its activities, and provide for their administration and management;
- carry out banking and financial transactions and apply for subsidies, contributions and loans;
- form companies, buy and sell investments and interests in companies or bodies, including those of a commercial nature.

The results of studies and research carried out by the Foundation shall be made available, in the first instance, to the Eni Group.

Art. 4 – Assets

The assets of the Foundation shall consist of:

- the contributions made by the founders, as detailed in the memorandum of association;
- payments from third parties;
- movable and immovable property allocated to assets;
- income allocated to increasing the assets, by resolution of the Board of Directors;
- investments and other interests held.

Art. 5 – Revenues

The Foundation’s revenues shall consist of:

- income from assets as referred to in article 4;
- contributions received.

Art. 6 – Management Bodies

The Management Bodies of the Foundation shall be the following:

- the Board of Directors;
- the Chairman;
- the Scientific Advisory Board;
- the Board of Auditors.

Art. 7 – The Board of Directors

The Board of Directors shall be appointed by Eni S.p.A. and consist of a minimum of 5 (five) and a maximum of 15 (fifteen) members, who shall remain in office for a period of three financial years.

The Board of Directors shall be chaired by the Chairman of the Foundation or, in his absence or impediment, by the most senior member of the Board, by age.

The term of office of board members shall expire and may be renewed when the financial statements for the third financial year are approved, provided that, by that date, the Board of Directors has been reconstituted.

In the event of a resignation from office, Eni S.p.A. shall arrange for the resigning Director to be replaced.

The mandate of a Director appointed in this way shall expire at the same time as that of the other Directors in office at the time of his appointment.

Art. 8 – Convocations and quorum

Meetings of the Board of Directors shall be called by the Chairman of the Foundation or, in his absence, by the most senior Director, by age.

The Chairman or, in his absence, the senior Director, by age, may also convene a meeting of the Board when requested in writing by a majority of the Directors.

A meeting of the Board of Directors shall be convened at least twice a year, by the end of November in order to approve the budget for the coming year and by the end of April in order to approve the final balance for the preceding year.

Convocations must be sent by registered letter sent at least 10 days prior to the date fixed for the meeting.

In case of need or emergency, the convocation may be sent by telegram or fax at least three days before the date fixed for the meeting.

The convocation must state the place, day and time of the meeting, as well as the agenda.

Meetings of the Board of Directors shall take place at the Foundation’s headquarters or at the venue stated in the convocation. Meetings may also take place by videoconferencing, provided that all participants can be identified and can follow the meeting and contribute in real time to the discussion on the matters being addressed.

If these requirements are met, the meeting of Board of Directors shall be deemed to have been held in the place where the Chairman and Secretary are physically present. Meetings of the Board of Directors shall be quorate if a majority of members are present and resolutions may be passed by a majority of those present.

The Chairman shall have the casting vote in the event of a tie. Resolutions regarding amendments to the bylaws, the transformation or closure of the Foundation, must be approved by a minimum of four fifths of the Directors in office. The validity of such resolutions shall depend on the approval of the relevant government authority being obtained.

Minutes shall be drawn up for all meetings of the Board of Directors and shall be signed by the Chairman and the Secretary.

Art. 9 – Duties and powers

The Board of Directors shall have complete powers for the ordinary and extraordinary administration of the Foundation. In particular it shall:

- appoint the Foundation’s Chairman from among its members;
- approve the annual budget and final balance;
- approve the annual programme of activities, in accordance with the purposes stated in the bylaws, having consulted with the Scientific Advisory Board;
- identify the actions to be taken in support of such programmes;
- appoint the Chairman and other members of the Scientific Advisory Board;
- appoint the Director of the Foundation and, if appropriate, a Deputy Director;
- if appropriate, delegate some of its powers to the Chairman, the Director of the Foundation and, if appointed, the Deputy Director;
- if appropriate, ask the Scientific Advisory Board to express opinions.

Art. 10 – The Chairman

The Chairman of the Foundation shall convene and chair meetings of the Board of Directors and shall be the legal representative of the Foundation.

In cases of emergency, the Chairman may take decisions that are within the remit of the Board of Directors, subject to ratification by the Board at its subsequent meeting.

The Chairman may appoint proxies to perform any administrative tasks assigned to him by the Board.

Art. 11 – The Scientific Advisory Board

The Scientific Advisory Board shall consist of a maximum of 12 (twelve) members, one of whom shall be elected Chairman, selected from among national and international scientific, academic and cultural experts, with particular attention being paid to their professional background and experience.

The Chairman and members of the Scientific Advisory Board shall remain in office for three years and may be re-elected.

The Chairman of the Foundation or a Board member specifically appointed by the Chairman of the Foundation shall attend meetings of the Scientific Advisory Board. Within the limits established by the Board of Directors, and in the context of the programmes it proposes, the Scientific Advisory Board shall:

- express its opinion on the annual programme of activities drawn up by the Board of Directors and ensure its implementation;

- make proposals for the Foundation’s research and study activities;

- provide considered opinions on issues submitted to it by the Board of Directors;

- make proposals to the Director of the Foundation regarding the appointment of individual project leaders;

- monitor work in progress and produce regular reports for the Board of Directors.

Meetings of the Scientific Advisory Board shall be convened by its Chairman and resolutions passed by simple majority.

Art. 12 – The Director

The Director of the Foundation shall:

- attend meetings of the Board of Directors and the Scientific Advisory Board in the capacity of Secretary;
- implement the decisions of the Board of Directors;
- manage and co-ordinate the activities of the Foundation, including its offices and personnel;
- appoint project leaders for individual research or study projects on a proposal from the Scientific Advisory Board.

Art. 13 – Financial year and reporting

The financial year shall begin on 1st January and end on 31st December of each year.

Subject to any legal obligations, no distribution of profits, management surpluses, funds or reserves shall be permitted during the life of the Foundation.

Art. 14 – The Audit Committee

The Audit Committee shall consist of three regular and two alternate members, appointed from among people enrolled in the register of auditors. Auditors shall be appointed as follows:

- one regular and one alternate auditor by the Minister for Economic Development, who shall also act as Chairman of the Audit Committee;
- the others by Eni S.p.A.

Auditors shall remain in office for a period of three financial years and may be re-elected.

Should one of the members resign, the new auditor shall be appointed by the person who appointed him. The office of the auditor thus appointed shall expire at the same time as that of the members in office at the time when he takes office.

Art. 15 – Winding-up of the Foundation

Should the Foundation be wound up, residual assets shall be donated for the public good in accordance with applicable legal provisions.

PUBLICATIONS, 2013

FEEM Working Papers “Note di Lavoro”, 2013

- 1.2013 Mikel Bedayo, Ana Mauleon and Vincent Vannetelbosch: Bargaining and Delay in Trading Networks
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Books, 2013

- Il turismo come risorsa: le nuove frontiere nello scenario di sviluppo della Basilicata, edited by Mariaester Cassinelli and Livio Chiarullo, il Mulino

Equilibri, Rivista per lo sviluppo sostenibile, Il Mulino, 2013

- 1.2013 La fiducia
- 2.2013 L'Africa che cambia
- 3.2013 Storia globale, mondi connessi

Re3 - Review of Environment, Energy and Economics, 2013

- Rethinking Global Natural Gas Markets: New Challenges and Opportunities Ahead, by Manfred Hafner and Simone Tagliapietra
- The Extraordinary Evolution of the Global Gas Industry, Interviews with Jacqueline Bucher, Anne-Sophie Corbeau, Jacques de Jong, Arild Moe, Michele Polo and John Roberts
- Towards a Sustainable University – The Ca' Foscari Experience, by Chiara Mio
- What Happened at COP 19?, Interviews with Steffen Kalbekken, Sara Venturini, Mariagrazia Midulla and Federico Antognazza
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- The Latest Insights on Green Growth Measurement, Interviews with Carlo Carraro, Fabio Eboli, Marianne Fay, Paul Schreyer and Michaela Saisana
- When Collaboration becomes Value Creation. A New Relationship between Companies and Citizens, by Ilaria Pais
- FEEM Sustainability Index 2013, by Fabio Eboli
- Urban Risks and Climate Change, Interview with Anthony Bigio
- Including non-CO2 Emissions in the European ETS, by Carlo Orecchia and Ramiro Parrado

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EVENTS, 2013

Main Conferences and Workshops, 2013

International Workshop on “Numerical Climate Coalition Models: A Modelling Comparison Exercise”
Venice, 24-25 January 2013

18th Coalition Theory Network Workshop
Coventry, United Kingdom, 8-9 February 2013

1st Annual Conference of the Italian Association of Environmental and Resource Economists (IAERE)
Ferrara, 8-9 February 2013

“Implementing Climate Policies in the Major Economies: Challenges and Opportunities” - 2nd Stakeholder Workshop of the LIMITS project (Low Climate Impact Scenarios and the Implications of Required Tight Emission Control Strategies)
Amsterdam, The Netherlands, 13 February 2013

“Bottom-up Climate Adaptation Strategies Towards a Sustainable Europe” - BASE Project Meeting
Venice, 14-15 February 2013

“Water Availability and Security in Southern Europe and the Mediterranean” - Final Conference of the WASSERMed project
Milan, 21-22 February 2013

Final Conference of the MEDPRO project: Mediterranean Prospects
Brussels, Belgium, 27-28 February 2013

“Bridging the Clean Energy R&D” - 1st Annual Conference of the SIMPATIC Project (Social Impact Policy Analysis of Technological Innovation Challenges)
Brussels, Belgium, 25 March 2013

TEDx MilanoChange: “Positive Disruption”
Milan, 3 April 2013

“Creazione di Valore Condiviso: Verso un Nuovo Rapporto con il Consumatore e il Cittadino”
Milan, 5 April 2013

ICCG International Workshop on “The Climate Challenge in the Arctic. Environmental Impacts, New Opportunities and Future Policy Options”
Venice, 6 May 2013

“Enhancing Risk Management Partnerships for Catastrophic Natural Disasters in Europe” - ENHANCE Project Meeting
Venice, 16-17 May 2013

“Impacts Quantification of Global Changes” - Global-IQ Project Meeting
Milan, 16-17 May 2013

International Workshop on “Oil Price Forecasts and Trends”
Milan, 23-24 May 2013

“Il Futuro dell’Energia” - Lab4energy project, in collaboration with eni
Milan, 29 May 2013

Official Establishment of the Italian Global Compact Foundation (IGCF)
Milan, 30 May 2013

Integrated Reporting: Italian Experiences and Prospects
Milan, 11 June 2013

The 2013 International Energy Workshop - IEW
Paris, France, 19-21 June 2013

20th Annual Conference of the European Association of Environmental and Resource Economists (EAERE)
Toulouse, France, 26-29 June 2013

“ICCG Climate Think Tank Ranking” Ceremony at the EAERE Annual Conference
Toulouse, France, 27 June 2013

TEDxCaFoscariU: “Passaporto per il Futuro”
Venice, 30 June 2013

FEEM Award Ceremony 2013, in cooperation with the European Economic Association (EEA)
Gothenburg, Sweden, 29 August 2013

15th Annual Biodiversity and Economics for Conservation (BIOECON) Conference: “Conservation and Development: Exploring Conflicts and Challenges”
Cambridge, United Kingdom, 19-20 September 2013

1st Annual Conference of the Italian Society for Climate Sciences (SISC): “Climate Change and its Implications on Ecosystem Services and Society”
Lecce, 23-24 September 2013

“Enhancing Risk Management Partnerships for Catastrophic Natural Disasters in Europe” - ENHANCE Case Study Research Meeting
Milan, 25 September 2013

MEETmeTONIGHT - 2013 Researchers’ Night
Milan, 27 September 2013

“Climate Change and Sustainable Development Economics” - Second Convention of CMCC and FEEM Research Divisions on Climate Change and Sustainable Development
Venice, 21-23 October 2013

Presentation and Launch of the Global Compact Network Italia Foundation (IGCF)
Milan, 30 October 2013

“Climate Change Adaptation Strategies for Water Resources and Human Livelihoods in the Coastal Zones of Small Island Developing States” - CASCADE Project Meeting
Venice, 30-31 October 2013

FEEM Gas Talks 2013 “Challenges and Opportunities for European Gas Markets”
Milan, 5-6 November 2013

Accademia dei Lincei and FEEM Conference on “The Terawatt Challenge: What Research for our Future Energy?”
Rome, 5-6 November 2013

Methodologies and Indicators for Green Growth Measurement - FEEM Sustainability Index 2013
Milan, 12 November 2013

Presentation of the book: “La fine del potere”, by Moisés Naím. In collaboration with AGI and MONDADORI
Milan, 19 November 2013

COP 19 FEEM-Ca’ Foscari Side Event: “Costs and Benefits of Adaptation to Climate Change and the Sustainability of Public Finance in the EU”
Warsaw, Poland, 21 November 2013

FEEM-Bookcity 2013: “Trust: a Debate on the Crisis of this Invisible Institution at the Base of Economic and Social Development”
Milan, 23 November 2013

“Evaluating Economic Policy Instrument for Sustainable Water Management in Europe” - Final Conference of the EPI-WATER project
Venice, 28-29 November 2013

“Sharitaly - the first event dedicated to the sharing economy in Italy”, in cooperation with Università Cattolica
[Milan, 29 November 2013](#)

“Environmental Indicators Workshop”, in cooperation with the University of Siena
[Venice, 5-6 December 2013](#)

Lectures, 2013

FEEM Lecture by Zaid Al-Ali, International IDEA: “Constitutional Transitions in Egypt, Libya and Tunisia: Between Continuity and Innovation”
[Milan, 3 July 2013](#)

ICCG - Ca' Foscari International Lecture by Marianne Fay: “Inclusive Green Growth: The Pathway for Sustainable Development”
[Venice, 13 November 2013](#)

FEEM Lecture by Bahattin Buyuksahin and Bassam Fattouh: “The Rise of Tight Oil: a Global Energy Revolution”
[Milan, 3 December 2013](#)

ICCG International Lecture by Saleemul Huq: “Adaptation Capability in Least Developed Countries (LDCs)”
[Venice, 3 December 2013](#)

FEEM Lecture by Prof. Jeffrey D. Sachs: “Feeding the Planet - Energy for Africa”
[Milan, 6 December 2013](#)

Seminars, 2013

Building Resilience to Natural Hazards in the Caribbean: Current Framework and Future Challenges from a Governance Point of View
[Venice, 10 January 2013](#)

A Political Philosophy of Climate Change
[Milan, 17 January 2013](#)

EIO-LCA Table for Alto Adige - Sud Tirol Extended to Energy Consumption, Air Emissions and Waste Treatment
[Venice, 31 January 2013](#)

Development and Application of an Asymptotic Level Transport Pollution Model for Luxembourg Energy Air Quality Project
[Milan, 5 February 2013](#)

The Climate Agenda in Africa: Key Issues and Role of International Development Cooperation
[Venice, 12 February 2013](#)

Impact of Climate Change on Crop Yields: A Quantile Regression Analysis
[Venice, 14 February 2013](#)

Social Vulnerability Assessment of the Cologne Urban Area (Germany) to Heat Waves: Links to Ecosystem Services
[Venice, 21 February 2013](#)

Endogenous Technology Choices and the Dynamics of Wage Inequality
[Milan, 26 February 2013](#)

Dynamic Efficiency in the Italian Water Sector
[Milan, 28 February 2013](#)

MIT Emissions Prediction and Policy Analysis (EPPA) - Are cereals globally in trouble?
[Cambridge, USA, 5 March 2013](#)

The Impact of Insurance Literacy and Marketing Treatments on the Demand for Health Microinsurance in Senegal: A Randomized Evaluation
[Milan, 7 March 2013](#)

The Social Cost of Stochastic and Irreversible Climate Change
[Milan, 14 March 2013](#)

A Carbon Tax: The Lesser of Several Evils?
[Milan, 21 March 2013](#)

An Emissions Trading Scheme with Auctioning
[Venice, 28 March 2013](#)

Climate Change Adaptation and Flood Risk Transfer Instruments: Focus on Polish Case Studies
[Venice, 2 April 2013](#)

Behaviour in Social Networks: Externalities, Altruism and Peer Effects
[Venice, 4 April 2013](#)

Uranium and Nuclear Power: the Role of Exploration Information in Framing Public Policy
[Venice, 11 April 2013](#)

Second Thoughts After the Second Trading Period of EU ETS
[Venice, 18 April 2013](#)

Overview of Recent Met Office Research Relevant to Mitigation Advice
[Milan, 23 April 2013](#)

Social Incentives Matter: Evidence from an Online Real Effort Experiment
[Milan, 2 May 2013](#)

Altruistic Behaviour Depends on What We Think Others Expect: How Expectations Shape Pro-Social Behavior
[Milan, 9 May 2013](#)

The Marine Ecosystem in a Changing Climate: Lessons Learned from BIOCORE
[Milan, 16 May 2013](#)

Impact of U.S. Shale Gas Development on the Global Gas Balance
[Venice, 23 May 2013](#)

Limits to Limiting Greenhouse Gases: Intertemporal Leakage, Spatial Leakage, and Negative Leakage
[Venice, 30 May 2013](#)

Getting European Electricity Infrastructure Financed
[Milan, 6 June 2013](#)

Evolution of Coalitions in a Dynamic Game Interpretation of the UNFCCC Process
[Venice, 13 June 2013](#)

How Does Temperature Affect Land Values in the US?
[Venice, 20 June 2013](#)

Think Forward Film Festival at Art Night:
Climate Refugees
[Venice, 22 June 2013](#)

Policy Uncertainty and Investment in
Low-Carbon Technology
[Milan, 25 June 2013](#)

A Sub-National Version of the GTAP
Model for Italy
[Venice, 4 July 2013](#)

Technological Progress in Energy Efficiency and
Product Attributes Tradeoff in Chinese
Automobile Sectors
[Milan, 9 July 2013](#)

How Do Climate Policies Affect the Pace and
Direction of Technical Change?
[Venice, 11 July 2013](#)

The Role of Heterogeneity in the Formation of
International Environmental Agreements
[Venice, 16 July 2013](#)

An Overview of Urban Vulnerability to Natural
Disasters and Climate Change in Central
America & the Caribbean Region
[Venice, 18 July 2013](#)

Chaos In, Chaos Out: The Effect of
Deterministic Chaos in GCM Scenarios on
Estimates of Climate Change Impacts
[Venice, 25 July 2013](#)

Collective Risk Management: Prevention and
Risk Sharing
[Venice, 4 September 2013](#)

The Additional Contribution of Non-CO2
Mitigation in Climate Policy Costs and Efforts
in Europe
[Venice, 12 September 2013](#)

Adaptation and Natural Disasters: Evidence
from Global Tropical Cyclone Damages and
Fatalities
[Venice, 19 September 2013](#)

Economic Analysis of Incentives and
Sustainability of Renewable Energy Support
Mechanisms
[Venice, 20 September 2013](#)

Coping with Water Scarcity in Agriculture:
Policy-Support Instruments for Food Security
and Poverty Reduction Strategies
[Venice, 26 September 2013](#)

A Compromise to Break the Climate Impasse
[Milan, 3 October 2013](#)

Climate Change and Tropical Cyclones: Past
and Future
[Venice, 8 October 2013](#)

Assessing the Potential of Demand Side
Response in the Residential and Non-
Residential Sectors
[Milan, 10 October 2013](#)

Commitment to Environmental Taxation under
R&D Competition
[Venice, 17 October 2013](#)

Biofuels or Financialization: Explaining the
Increased Correlation between Grains and
Crude Oil Prices
[Milan, 24 October 2013](#)

Are Cereals Globally in Trouble?
[Venice, 31 October 2013](#)

The Policy Drivers of Photovoltaic Industry
Growth in California, Germany, and Japan
[Milan, 7 November 2013](#)

The Impacts of Climate Change on Human
Health in Cities: How are Cities Mitigating
Health Impacts of Climate Change Through
Planning and Policy?
[Venice, 14 November 2013](#)

The Economic Benefit of Climate Adaptation:
Farm Type Choice by European Farmers
[Venice, 28 November 2013](#)

Bunching with the Stars: How Firms Respond
to Environmental Certification
[Milan, 3 December 2013](#)

Money and Trust among Strangers
[Milan, 5 December 2013](#)

Think Forward Film Festival 2013
[Venice, 6-7 December 2013](#)

Commodity Supercycle or Financialization
[Venice, 9 December 2013](#)

Conflict over Natural Resources
[Milan, 11 December 2013](#)

The Greener the Better. Job Creation and
Environmentally-Friendly Technological Change
[Milan, 12 December 2013](#)

Network Economics and the Environment:
Insights and Perspectives
[Venice, 19 December 2013](#)

Summer Schools and training conferences, 2013

CMCC-ICCG Summer School on “Climate
Change Impacts and Policy in the
Mediterranean Basin”
[Venice, 20-24 May 2013](#)

European Summer School on Uncertainty,
Innovation and Climate Change
[Venice, 30 June-6 July 2013](#)

Fondazione Eni Enrico Mattei

Milan (Headquarters)

Palazzo delle Stelline
Corso Magenta 63
20123 Milan, Italy
Phone: +39.02.520.36934
Fax: +39.02.520.36946
E-mail: letter@feem.it

Venice

Isola di San Giorgio Maggiore 8
30124 Venice, Italy
Phone: +39.041.270.0411
Fax: +39.041.270.0412
E-mail: venezia@feem.it

Viggiano

Via del Convento 16
85059 Viggiano (PZ), Italy
Phone: +39.0975.350729
Fax: +39.0975.350729
E-mail: viggiano@feem.it

