

Scientific Meeting: **Economics for Energy 7th Annual Workshop.**
Economic Challenges for Energy

Madrid, February 16, 2017

ABSTRACTS

Economic Measures or Regulations for Improving Energy Efficiency? Reflections after 'Dieselgate'

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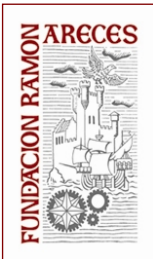
Transport is globally the fastest growing sector in terms of final energy use and carbon emissions. The main policy responses for improving the energy efficiency of road vehicles in Europe have been the introduction of carbon dioxide emission standards for vehicles and several attempts to promote public transport, active mobility and Ecodriving. After the 'dieselgate', which has revealed that automakers may report artificially low emission levels and hence may not contribute to improved energy and environmental performance as much as the official statistics show, engineering experts and policymakers declared that the regulatory regime of vehicle emissions has to be tightened and monitoring should become more stringent. However, economists do not share the same view towards ever stricter regulations and enforcement mechanisms. Without questioning that regulatory policies can be effective, their analysis shows that economic incentives are more cost-effective, i.e. may achieve the same energy benefit at a lower cost to society. Could the 'dieselgate' trigger a partial phase-out of regulations in favour of market-based mechanisms such as carbon pricing or congestion charging? This talk will outline the pros and cons of the different policy approaches, focusing on road vehicles but also expanding the discussion to other energy-consuming appliances and equipment.

A Summary of Future Energy Scenarios: Main Messages and Shortcomings

Pedro Linares

Economics for Energy y Universidad Pontificia de Comillas.

This talk will review the main messages provided by the major prospective exercises in the energy sector (IEA, Shell, BP, IHS-CERA, Bloomberg, etc.) and will identify the elements in which they agree and those in which there are significant differences. I will then add some other themes that, in my view, have not been properly covered in these studies and which would also require preparation by energy companies and public administrations.



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The Role of Innovation in Meeting Energy Challenges

Jim Watson

UKERC.

The presentation will focus on the role of innovation in energy systems. The energy sector is changing fast, and innovation is one of the key drivers of change. First, he will briefly outline why innovation is required to meet the energy policy goals that are prioritised by many countries. These include: to reduce emissions and greenhouse gases and other pollutants; to maintain or improve energy security; and to ensure that energy services are affordable. He will also explain why a broad definition of innovation is required that encompasses a spectrum of innovation stages: from R&D to commercialization. Second, Jim will discuss the main rationales for policy intervention to direct innovation to meet these goals. Whilst some innovation is driven by firms and other non-government actors, there are important market and system failures that mean governments also have a key role to play. Furthermore, he will argue that economic prescriptions for policy intervention that focus on public investment in R&D and carbon pricing are necessary, but not sufficient. Third, Jim will discuss the implications for policy – both for national governments and for international initiatives such as Mission Innovation.

Theory and Practice of Emissions Trading

Luca Taschini.

London School of Economics and Political Science.

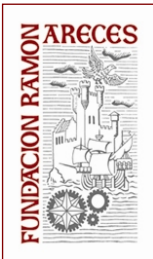
In the last ten years, the use of markets to reduce pollution, particularly greenhouse gas emissions, has come of age. According to The World Bank, 39 nations and 23 sub-national jurisdictions now regulate carbon emissions through Emissions Trading Systems (ETSs), and 13 additional ETSs are at various stages of development. The Paris Agreement, adopted by 195 countries during the Paris Climate Summit in December 2015, opens a new era in international climate action, with much stronger support for ETSs. In this talk Luca reviews the theory and practice of ETSs through the experience of the European Union ETS and discuss carbon pricing around the world post Paris Agreement.

Challenges in Designing Power Markets: The California Experience

Benjamin Hobbs

Johns Hopkins University.

Following the California power crisis of 2000-01, the state's electricity market was redesigned to include locational marginal pricing, forward contracts, financial transmission rights, and long run capacity obligations. As a result, market power has been tamed,



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although there is continuing controversy over whether prices fail to support needed investment in flexible generation capacity. Now the major challenges are integrating 50% renewables, limiting greenhouse gases, increasing distributed energy, and expanding the geographic market. He will review some of the market revisions that have been proposed to meet these challenges, including the economic principles involved and the practical issues. This discussion will highlight some of the important differences between the US and EU approaches to managing these challenges.

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