INCENTIVE REGULATION FOR THE ELECTRICITY INDUSTRY

An essential & comprehensive course on incentive regulation for the electricity industry with US, European & Australian case studies that illustrate evolving understanding & real-world experience

31 JULY – 01 AUGUST 2017, Kuala Lumpur, Malaysia

Expert Course Faculty

Dr Hugh Outhred

Hugh has 40 years' experience in energy industry research, consulting & teaching

TOPICS COVERED

Fundamental characteristics of the electricity industry

Electricity industry design and structural options

Roles and objectives for electricity industry regulation

Features, strengths and weaknesses of incentive regulation

Experience with incentive regulation & current trends: UK

Experience with incentive regulation & current trends: USA
Course Overview

This course will provide a comprehensive discussion of incentive regulation for the electricity industry, covering the fundamental characteristics of the electricity industry, the roles for competition and regulation in the industry, objectives, concepts and challenges of electricity industry regulation, the specific features of incentive regulation and its strengths and weaknesses as a regulatory paradigm. Case studies from the USA, Europe and Australia will illustrate real-world experience, including recent developments in response to increasing penetration of distributed energy resources - particularly PV, reversible storage, end-use efficiency and flexible demand.

Course Learning Outcomes

- Fundamental characteristics of the electricity industry and options for electricity industry structure
- Roles for competition and regulation in the electricity industry and comparison of their strengths and weaknesses
- Objectives for economic regulation of the electricity industry and the main types of economic regulation in use
- Features of incentive regulation, which is based on rewards and penalties, and its strengths and weaknesses
- Experience with incentive regulation in the UK, USA and Australia
- Recent developments in electricity industry structure and regulation in response to increasing penetration of distributed energy resources - including rooftop PV, reversible storage, end-use efficiency and flexible demand

Who Should Attend

The course is designed for senior staff from government, regulators and industry. Participants should have relevant professional qualifications and prior knowledge of the electricity industry.

Unique Features with powerEDGE Training

- Pre-Course Questionnaire to help us focus on your learning objectives
- Detailed Course & Reference Manual for Continuous Learning and Sharing
- Practical Exercises & Case Examples to better understand the principles
- Limited class size to ensure One-to-One Interactivity
- Assessment at the end of the course to help you develop a Personal Action Plan
2-Day Course Outline

Fundamental characteristics of the electricity industry
- Continuous energy flow from primary energy resources to end-use energy forms
- Industry timescales from microseconds to decades
- Characteristics of generation, transmission, distribution, reversible storage & end-use equipment
- Effects of increasing use of non-storable renewable energy, storage, end-use efficiency & flexible demand

Electricity industry design and structural options
- Societal objectives for the electricity industry: - reliability, affordability, sustainability
- Industry structural options: government owned monopoly, regulated private monopoly, fully competitive industry & intermediate models

Roles and objectives for electricity industry regulation
- Economic, social & technical regulation
- Interactions between regulation, markets and industry operation. Regulatory challenges.

Features, strengths and weaknesses of incentive regulation
- Rational & objectives for incentive regulation
- Information asymmetry & benchmarking
- Providing incentives via rewards & penalties
- Regulated firm responses to incentive regulation
- Strengths and weaknesses of incentive regulation

Experience with incentive regulation & current trends: UK
- Electricity industry characteristics in the UK
- Design of incentive regulation in the UK
- Experience to date & current developments

Experience with incentive regulation & current trends: USA
- Electricity industry characteristics in the USA
- Design of incentive regulation in the USA
- Experience to date & current developments

Experience with incentive regulation & current trends: Australia
- Electricity industry characteristics in Australia
- Design of incentive regulation in Australia
- Experience to date & current developments

Course summary, lessons learned and future trends
- Roles of competition and regulation in a rapidly evolving electricity industry
- Experience to date with incentive regulation
- Current trends in electricity industry regulation
- Plausible future trends

Your Expert Faculty

Dr. Hugh Outhred

In a 40-year career, Hugh Outhred (PhD) has contributed to research on electric power system analysis and control, the theory of electricity industry restructuring and electricity market design, renewable energy technology, renewable energy integration, energy sector policy and sustainability policy. He has taught more than 120 short courses on electricity industry restructuring and sustainability in many countries since 1989.

His research in competitive electricity industry design includes landmark papers published in 1980 with co-authors at MIT: *Homeostatic Utility Control and Quality of Supply Pricing for Electric Power Systems* and later papers such as *A Theory of Electricity Industry Design for Operation and Investment, Incorporating Network Effects In A Competitive Electricity Industry: An Australian Perspective, and Integrating Non-Storable Renewable Energy into the Australian Electricity Industry* (these and his other research papers can be provided on request).

In 1993 and 1994 Hugh co-authored a report on electricity industry restructuring for the California Energy Commission that highlighted the complexity of electricity restructuring in that context.

In 1995 and 1996 he led a project for the Australian National Grid Management Council to undertake electricity-trading experiments according to the proposed National Electricity Market trading rules prior to their formal implementation.

Hugh has been a member of two Australian electricity industry regulatory bodies, the NSW License Compliance Advisory Board and the National Electricity Tribunal throughout their existence from 1997 to 2000 and 1998 to 2006 respectively.

From 2004 to 2007, he was the founding Presiding Director of the Centre for Energy and Environmental Markets at the University of New South Wales.

From 2009 to 2011, he was a Lead Author for the International Panel on Climate Change (IPCC) Special Report on Renewable Energy Sources and Climate Change Mitigation, published in 2011.

Hugh has been a Fulbright Senior Fellow at the University of California Berkeley, USA and has held visiting positions at Massachusetts Institute of Technology in the USA, the University of Liverpool in Britain and the Universidad Pontificia Comillas in Spain.

He has been a Board member of the Australian Cooperative Research Centre for Renewable Energy and an Associate Director of the Centre for Photovoltaic Devices and Systems at the University of New South Wales.

Hugh is a Fellow of the Australian Institute of Energy and a Life Member of the Institute of Electrical and Electronic Engineers.

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  - By Telegraphic Transfer: Please quote AE1 with the remittance advise
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