IEA Workshop:

The role of state-owned enterprises in the low-carbon energy transition

Monday, 26 September 2016

OECD Château de la Muette, Room D
2 rue André Pascal, 75116 Paris

The global climate accord that emerged out of COP21 in Paris in December 2015 underscores the need for deep emissions reductions in the energy sector and signals a coming transition to a low-carbon economy. State-owned enterprises (SOEs) have an important role to play in achieving global climate goals, given that they produce a significant share of energy-related CO_2 emissions. SOEs are important both in terms of phasing down emissions-intensive activities in electric power and energy-intensive sectors as well as ramping up clean energy technologies. This workshop will explore the role of SOEs in the coming low-carbon transition, and how SOEs in a variety of country contexts can be supported to efficiently manage this transition.

AGENDA

8:45-9:15	**Registration and coffee**	
9:15-9:30	**Welcome**	
9:30-11:00	**1. Supporting efficient SOE participation in the transition to a low-carbon energy system**	
	Around the world, the energy landscape is shifting towards greater shares of low-carbon and non-fossil fuel sources in the energy mix. Strengthening the capacity of SOEs to manage this transition can serve both SOE corporate level interests as well as broader public policy goals. This session will explore the overall dynamics of change in the energy sector and the challenges of managing the transition that are specific to SOEs.	
	Moderator:	**Philippe Benoit**, IEA
	NCSC China	**Chen Ji** Assistant Professor, International Cooperation Department
	Statoil Norway	**Arne Eik** Leading Climate Change Advisor
	University of Sussex UK	**Lucy Baker** Research Fellow, Centre on Innovation and Energy Demand
	Vattenfall Sweden	**Annika Ramsköld** VP Corporate Sustainability
11:00-11:30	**Coffee break**	

11:30-13:00 2. SOEs in the power sector

Many SOEs are actively expanding their low carbon generation capacity and reducing the carbon intensity of their supply mix. IEA analysis shows that while SOEs in the power sector account for about 42% of fossil fuel power generation, they also own 60% of zero-carbon generation capacity (mainly in hydropower and other utility-scale renewables and nuclear). This session will examine how state-owned power companies are managing the coming energy transition, and the challenges and uncertainties they expect to face.

Moderator:	**Mark Radka**, UNEP
CFE Mexico	**Federico López de Alba** Manager, Environmental Protection
Statkraft Norway	**Eric Boonman** Head of Origination, Global Environmental Markets
NTPC Limited India	**Anand Kumar (A.K.) Gupta** Executive Director (Commercial)-I/C
Hydro-Québec Canada	**André Besner** Manager, Environment & Sustainable Development
TEPCO Japan	**Masaaki Hanaoka** Executive General Manager (London)
Discussants:	**BPA (US): Terry Oliver,** Chief Technology Innovation Officer **EDF (France): Jean-Yves Caneill,** Head of Climate Policy **MVM (Hungary): Beata Szoboszlai,** Head of Strategy Planning **PGE (Poland): Ewa Gasiorowska,** Director of Compliance

13:00-14:00 Lunch

14:00-15:15 3. Financing the SOE decarbonisation challenge

The transition to a low-carbon energy system requires additional investments in clean energy technologies and energy efficiency, areas in which many SOEs are already very active. In particular, IEA analysis shows that many SOEs have been playing a major role in renewable energy investment: globally, around 31% of utility-scale non-hydro renewable generation capacity commissioned in 2015 was state-owned (if nuclear and hydro are added in, this share rises to 45%). This session will examine successful financing strategies and models for SOEs that cut across the energy sector.

Moderator:	**Andrew Prag**, OECD
Brazilian Development Bank (BNDES)	**André Carvalhal** Head of London Office
European Bank for Reconstruction and Development (EBRD)	**Josué Tanaka** Managing Director, Operational Strategy and Planning, Energy Efficiency and Climate Change
African Development Bank	**Engedasew Negash** Manager, Energy Division; Eastern & Southern Africa Region
Société Générale France	**Olivier Musset** Global Head of Energy, Natural Resources & Energy Financing Group

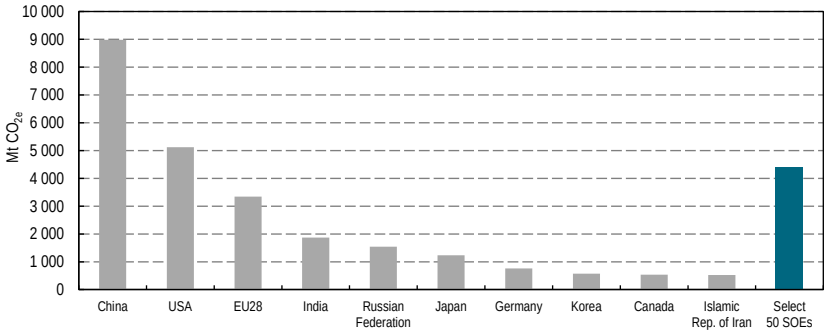
15:15-15:45	**Coffee break**	
15:45-17:00	**4. Tools and instruments to motivate SOE action towards the low-carbon energy transition**	
	This session drills down to examine more specific tools and instruments to support the efficient transition by SOEs towards low carbon. It will explore levers that exist to incentivize SOEs to change course, both in terms of shifting out of high-emissions activities and technologies and ramping up cleaner ones. Some levers are external and can be exercised, for example, through financial and policy channels or through various forms of political signalling depending on country context. Other levers are related to internal governance dynamics and strategic priority setting within companies.	
	Moderator:	**Liwayway Adkins**, IEA
	TERI India	**Aayushi Awasthy** Associate Fellow
	UK Institute of Development Studies	**Wei Shen** Research Fellow
	IEA	**Alessandro Blasi** Lead Programme Manager, Economics and Investment Office
	OECD	**Andrew Prag** Policy Analyst, Investment and Climate Change
17:00-17:45	**5. Tour de table and way forward**	
	This brief session will provide closure to the workshop by summarising the key lessons about the role of SOEs in the coming low-carbon transition. It will seek to pin down ways in which SOEs in different country contexts can be supported to efficiently manage this transition through effective financing solutions and tools and instruments to motivate SOE action.	
17:45-18:00	**Workshop summary and Close**	

Background

SOEs are important actors in the global decarbonisation effort

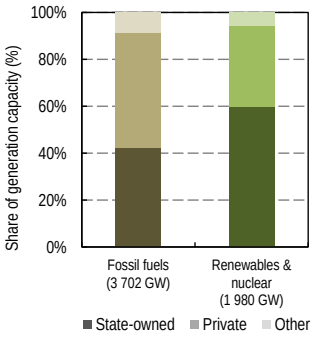
SOEs account for a significant share of global emissions. A selection of 50 major SOEs across various sectors and countries (notably power in China) generate over 4.4 Gt of CO_2; taken as a country, these 50 companies would constitute the third largest emitter after China and the United States (Figure 1). Within the global energy sector, the IEA estimates that SOEs own about 70% of oil and gas reserves and 50% of hard coal production capacity. In the electric power sector, which accounts for over 40% of energy sector CO_2 emissions and in which emissions are growing, SOEs own about 42% of fossil fuel power generation capacity (left bar, Figure 2). SOEs are also active in renewables and other non-fossil energy: globally, 60% of zero-carbon generation capacity (in hydropower and other utility-scale renewables and nuclear) is state-owned (right bar, Figure 2). Notably, many SOEs have been major developers of wind and solar power.

Fig. 1: Selected 50 SOEs would, by themselves, constitute the third largest emitting country



Note: Country emissions are from CO_2 emissions from fuel combustion for 2013 (IEA, 2015); Due to challenges with data collection of company specific data in many non-listed SOEs, CO2e emissions have been sourced from a variety of sources, including company annual reports, industry association reports, Carbon Disclosure Project country reports, CARMA database, F2000 database and others.

Fig. 2: Ownership of generation capacity, 2012



Source: World Energy Investment Outlook (IEA, 2014)
Note: "Other" refers to auto-producers, communities, and households; "Renewables" includes utility-scale renewables and distributed generation.

State ownership is also important in energy-intensive industries such as steel and cement. From the Steel Authority of India Limited (SAIL) and the Emirates Steel Industries (ESI) to PT Semen Indonesia Tbk (SMGR) and China's Anhui Conch Cement Company, SOEs are important actors across industries that consume large quantities of energy or generate CO_2 emissions as part of their industrial processes (as in the case of cement production).

In emerging economies, SOEs are sometimes responsible for a high share of gross domestic product (GDP) and emissions. For example, in China, SOEs account for 40-50% of the overall economy, and half of energy sector CO_2 emissions are emitted by the electric power sector dominated by SOEs. In India, SOEs account for a lower share of overall GDP than in China, but SOEs generate over 40% of total thermal electricity (which emits half of India's energy CO_2), and also dominate the production of coal, oil, and natural gas. Looking ahead, it is in emerging economies that the IEA forecasts the largest energy demand increases, and that therefore the most low-carbon investment is needed if global climate goals are to be achieved.

Even Organisation for Economic Co-operation and Development (OECD) member countries, in which the size of the state-owned sector has declined following decades of privatisation, maintain SOEs in sectors of strategic importance, such as energy. For example, France's electricity sector is dominated by Électricité de France (EDF), 85% owned by the French government. Similarly, state-owned Comisión Federal de Electricidad (CFE) is the principal electric utility in Mexico, serving over one hundred million people. Korea Electric Power Corporation (KEPCO), majority owned by the Korean government, produces 93% of total electricity.

Developing strategies for low carbon transition for SOEs

Traditional climate policy discussions have focused on the implementation of a carbon price, regulatory approaches, or a variety of low carbon energy incentives. However, in some countries, imposing a robust carbon price or stringent regulations has not been feasible due to institutional and/or political constraints. In others, the presence of SOEs in emitting industries may impede effective implementation of a carbon price, in part because SOEs do not always respond to economic incentives the way that profit-maximising enterprises do. Additionally, SOEs may occupy a strategic position within the economy and are expected to balance a multitude of social and economic objectives in addition to decarbonisation actions.

Increased attention needs to be paid to developing sound strategies to promote decarbonisation by SOEs, with the recognition that their heterogeneity across sectors and countries, as well as the degree to which they operate in liberalised market contexts, requires a variegated approach. Effective transition from high-carbon to low carbon business models will enable SOEs to manage the low carbon transition in the most effective manner. Pursuing decarbonisation will require additional investments in clean energy technologies across the whole energy sector, from delivering investment in low-carbon power generation to reducing energy demand in industry. This challenge will need to be facilitated by financing solutions that boost SOEs' role on the green side.