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### **Les Rencontres Économiques d'Aix: Panel on Energy Future**

#### **Emerging Economies: Accelerating Renewable Energy Adoption and Exercising Financial Prudence in Public Investments in Shale Exploration**

Keeping the average global temperatures below the 2 degrees target in the Paris Climate Accord requires both developed and emerging economies to reduce their greenhouse gas emissions. Choices made in emerging economies matter globally. Most of energy growth in the near future is in emerging economies in Asia (BP Energy Outlook 2018). Coal plants that are under construction or planned, (despite the decline of coal consumption in China) would cause the carbon budget for the 2 degree target to be exceeded (Edenhofer et al 2018).

#### **Renewable Energy**

Emerging economies' acceleration of their transition from fossil fuels to renewable energy is critical for simultaneously reducing their emissions and broadening energy access for its populace. Accelerating the low carbon transition requires overcoming financing barriers and navigating the political incumbency of fossil fuels (Gamper-Rabindran 2018a).

On the issue of financial barriers. Generating renewable energy and integrating moderate amounts of renewable energy into the grid has become cost-competitive relative to coal-fired generation in specific cases in developed economies (Gamper-Rabindran 2018a). However, more expensive capital costs in emerging economies (relative to that in developed economies) and renewable energies' front-loaded investment costs often tilts the economics in favor coal-fired generation (Hirth and Stackel 2018).

Several policy actions can reduce the costs of capital for renewable energy projects, specifically by "derisking efforts" i.e., reducing the real and perceived risks of renewable energy projects (United Nations Development Program (UNDP) 2013). Governments in emerging economies can provide a stable and supportive environment for renewable energy, such as guarantees of access for independent power producers to the grid (UNDP 2013). (Legacy coal generators, including state owned utilities that own the grid or that have preferred access to it have in some cases blocked the access of independent power producers.)

As another vital player in the energy transition, development banks can help shift away some of the financial risks from investors by providing loan guarantees (UNDP 2013). These measures would increase investors' willingness to venture into renewable energy investments, perceived as new and risky, and thus spur familiarity with such investments. At the same time, derisking efforts need to focus prudently on levelling the playing field for competing energy options and steer away from the mistake of subsidizing poorly conceived renewable energy programs.

On the issue of political obstacles. The shift towards renewable energy generation and away from coal would create winners in the renewable energy sector. However, job losses for coal workers and revenue losses for coal beneficiaries, including state owned enterprises and their political beneficiaries, can lead to strong pushback against renewables. Despite this political reality in many emerging economies, coalitions of players that benefit from the rise of use of renewable energy have been able to move

forward, while fighting uphill battles, to push ahead in advancing renewable energy generation (Baker, 2017). Earning the broad public's support for the renewable energy transition would require ensuring their access to these resources at reasonable costs.

## Shale

Shale oil and shale gas has emerged as new players in the global energy stage (Gamper-Rabindran 2018a). While US oil and gas production will continue to grow, the US, which is also a major consumer of oil and gas, will countries only a small share of the global oil and gas exports (BP Energy Outlook, 2018).

As detailed my edited book, *The Shale Dilemma*, the shale boom in the United States has piqued the hope of emerging economies to extract their shale reserves. At present, China and Argentina are the only two emerging economies (and the United States and Canada are the only developed countries) that have achieved commercial success in shale extraction.

Shale investments face uncertainties. Investments could yield upsides such as the US shale boom or downsides such as the downgrading of shale reserves in the United States, Poland and South Africa. Emerging economies have contemplated, pledged or provided scarce public funds for the construction of shale infrastructure to support and jumpstart a nascent shale industry. Given uncertainties in shale investments and the opportunity costs of these public funds, it is critical that governments make transparent information on these investments. Such transparency would enable informed public debate to shape more prudent portfolio investments of public funds that are guided by the expected returns to society as a whole.

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