

**Bologna Institute for Policy Research**

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Speaker(s): Enrico Falck, Falck Renewables SpA, Italy, and Federico Giannandrea, Foresight Group, UK.

Chair: Marco Dell'Aquila (Chair), Johns Hopkins University SAIS Europe; Power Capital, UK

**Energy Risk In the Context of a Global Shift to Renewable Energy**

*Johns Hopkins SAIS Global Risk Conference*

The presenters and panelists for the Johns Hopkins SAIS Global Risk Conference come from a range of backgrounds in the energy sector and they all have variant perspectives and face unique challenges in their work as a product of the changing energy climate. Today, electricity is estimated to be one third of energy use in the global economy. Questions surrounding how to facilitate the transition to renewables have surfaced amidst growing energy demands and insecure supply. These issues are becoming more imminent as climate change drives investors and industry leaders to focus on alternative markets and new energy models. After a brief introduction about the state of the energy market and the recent discourse surrounding development of renewables, we heard from industry leaders about strategies and solutions being used to address risks linked to the global transition to renewable energy.

Professor Marco Dell'Aquila led the discussion by giving an overview of the energy sector risks resulting from climate change and increased global energy consumption. The increasing CO<sub>2</sub> emissions and global temperatures caused by climate change are impacting the global population in extremely transformative ways. Our consumption habits have exploited natural resources, and the consequences are growing evermore apparent. The dwindling glacial landscape in the arctic, polluted cityscapes across the globe, and the deteriorating ecosystem from plastic waste signal that policy development and alternative energy resources will be needed in the near future. Policy responses, as Dr. Dell'Aquila outlines, have been both top-down and bottom-up - requesting for action and change at global and local levels. It illustrates the widespread impact and inclusionary nature of climate shifts. The markets for natural resources, electricity and the energy sector at large are being significantly impacted. Climate change in concert with reductions in capital costs from technological innovation of production is driving the energy market's transition toward investment in renewables. Though renewables are slowly supplementing the need for fossil fuels, nuclear energy, and traditional biomass, they still only account for 10.4% of global energy supply. Further, wind/solar/geothermal, some of the most visible renewables sources today, only make up 1.7% of global energy supply. On the demand side, technology and climate change are also enabling customers to become "prosumers," a term Dr. Dell'Aquila uses to describe individuals consuming and producing market goods. These drivers of demand and supply are shaping the risks faced by the energy sector. Dr. Dell'Aquila notes that the limited supply of renewables, the shifting regulatory climate, and inadequate frameworks of distribution systems are all imminent risks that need to be addressed.

The panel conversation then pivoted to commentary from guests, Enrico Falck and Federico Giannandrea, who shared their take on the energy industry's response to shifting interest in renewables and growing demand. Both panelists addressed the energy trends and the risks highlighted by Dr. Dell'Aquila and remarked on the major concerns their respective companies were facing. The main arguments were that failures in establishing distributed networks for renewables, and un-even regulatory frameworks to incentivize renewables are limiting the proliferation of renewables within the energy sector. The key focus of investors is

selecting technologies and markets where there are adequate returns to be made for the risks being undertaken. However today, investors with significant capital but a low appetite for risk are increasingly having to look at markets with fewer incentives and increasing competition which is driving up risk.. Mr. Falck, Chairman of Falck Renewables SpA, Italy, uses a comparative framework analysis of the United States and the European Union to substantiate how heterogeneous regulatory structures and markets contribute to unsatisfactory economic conditions for renewables.

Essentially, with limited market access and lagging inadequate regulatory measures, the goals of the EU to substantially reduce fossil fuels by 2030 are seemingly out of reach, notwithstanding the interest of even oil and gas companies like Shell., . However, there are glimmers of light with the introduction of battery storage capacity enabling non-baseload renewables, such as solar and wind, to be deployed in substitution to coal and gas and internet-enabled demand driven changes that are occurring to electricity distributionreducing and re-shaping demand. . The panelists were in unanimous agreement that absent strong and stable regulation, , the transition to carbon-free electricity generation is in jeopardy. Overall, pressure from institutional investors on carbon emitter, a fully-functioning carbon market, greener, consistent and long term policies, as well as continued investment by states in a renewables infrastructure are critical to the global transition toward clean energy resources.