



Strategic Advisors in Global Energy

Future Consumption Outlook In An Era of Smart Cities

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By Julia Nanay, Senior Director, PFC Energy

Skolkovo, Russia

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Remember What You Know

- With governments controlling access to energy resources, International Oil Companies (IOCs) have fewer opportunities. They have embarked on a search for different types of energy and new approaches, including the development of new technologies
- The search for alternatives to “easy to recover” oil and gas has accelerated
- Climate change debates and environmental pressures have resulted in greater attention to renewable energy sources, although natural gas is seen as a ‘clean fuel’ with a critical role in the years to come
- While the supply crunch for oil and gas is still in our future, the dynamics of the energy business are changing

Access to electricity to power industry, homes, mobile phones and computers will remain a central focus as will the development of new fuels for the transportation sector – but what forms of energy can we expect to supply our various needs?

Concluding Comments

- The high purchase price of NGVs and EVs remains a barrier to their greater penetration into the global vehicle fleet but because they are cheap to operate eventually they will become more widely used – particularly in markets where subsidies are offered to offset the high initial investment of purchasing the EV
- CNG/LNG have the potential to grow more quickly for vehicle fleet consumption particularly for buses and trucks. How quickly this happens will depend on government incentives and on domestic gas pricing
- Renewable power sources cannot currently compete with gas and coal. But costs should come down, making onshore and offshore wind in particular a more widely used power source.
- U.S. natural gas-fired power plants currently run on average at roughly 25% utilization, so doubling their utilization rates is feasible. Natural gas is abundant and seen as a “clean fuel” for the future
- Solar thermal plants are expected to achieve significant cost improvements over the coming decade. In discrete markets, where other electricity sources are not available, simple solar lighting panels are already being introduced to power small appliances, including mobile phones
- Some governments are supporting significant R&D initiatives, subsidizing the most promising technologies and creating disincentives for the construction of the least efficient and most carbon-intensive plants. This support is necessary to catalyze breakthroughs in renewable energy technology and to generate economies of scale for energy sources that still account for less than 1% of total primary energy supply
- Nevertheless, it will be many years before renewable power can beat out natural gas-fired power plants on a pure cost basis, ensuring that natural gas will remain key to meeting electricity demand growth over the next two decades