Stakes, Opportunities and Challenges in the Global Market

June 2017
OPPORTUNITY

Market needs
• Secure, economic, clean
• Heat and power
• 80-50 problem
• 50% primary energy demand increase by 2050

Market growth OECD v non-OECD
• Non-OECD Power: export market opportunity
• OECD and non-OECD heat and power
• The OECD do as they choose; Non-OECD do as they must

Market dynamic
• Time of change… or a time of calm…?

Market size
• Global primary energy demand is $5Tn per year and a CC-policy driven re-ordering is estimated at $30 Trillion
• Context: 13,000 MTOE, 150,000 TWh, 19,000x AP1000s.
• Price drives deployment. $3 per Watt IOC.
• Policy may assist strongly to achieve 80-50.

What is bigger today? The opportunity in AI, machine learning, quantum computing or nuclear innovation?
CHALLENGE

Efficient and timely capital formation

- To support nuclear innovation
- To support first deployments of innovative reactor systems
- Export Banks for credit support in export markets
- Loan programs for project level credit support

Regulation framework – appropriately responsive and appropriately resourced

Leadership, policy and risk sharing

- Private sector to commit financial capital
- Public sector to commit political capital
- Co-operative and purposeful relationship

What is at stake?

- The US leadership position in an energy technology that will be the backbone of a sophisticated clean global competitive economy by 2050
ENERGY’S FUTURE

...NON-OECD POPULATION, GDP AND ENERGY GROWTH

The world we live in...

Population

- OECD
- Non-OECD

Primary energy

- OECD
- Non-OECD

GDP

- OECD
- Non-OECD

Primary energy: oil, coal, natural gas, hydro, nuclear and alternatives.
NUCLEAR IS ALREADY THE BACKBONE OF A CLEAN RELIABLE GRID

Source: Science August 2016

Nuclear can be deployed fast
IMSR® IS DEPLOYABLE IN MANY GEOGRAPHIES INCLUDING BRICS

- Today there are some 440 nuclear power reactors operating in 31 countries, with a capacity of over 385 GWe.
- In 2014, these plants provided 2411 billion kWh, over 11% of the world's electricity.

*Nuclear energy covers economies representing 84% of GWP and growing*

Operating reactors, building new reactors
Operating reactors, planning new build
No reactors, building new reactors
No reactors, planning new build
Operating reactors, stable
Operating reactors, considering phase-out
Civil nuclear power is illegal, no reactors

GWP ($ Bn)
- Nuclear Nations: 57,038
- Nations Seeking Nuclear: 12,499
- Non-nuclear Nations: 4,613

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CONTACT DETAILS

Terrestrial Energy USA Ltd

150 East 58th Street, Suite 2413
New York, NY 10155

T: +1 (646) 687-8212
E: info@TerrestrialUSA.com
www.TerrestrialUSA.com