INNOVATION IN TECHNOLOGY AND BUSINESS MODELS FOR CLIMATE CHANGE MITIGATION

Conserving Now, Preserving Future
Future cumulative CO2 emissions must be limited to 900 GT in order to meet its Carbon Budget targets of limiting global warming to below 2°C levels.

Carbon Budget Emissions to 2100
1000 GT of CO2-eq

Increasing share of zero-carbon energy, together with improvements in energy productivity is required to limit the global temperature increase.

Source: Energy Transitions Commission Research
Wind and Solar Costs have declined significantly in recent yrs

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Source: Lazard Levelized Cost of Energy 9.0 (2015), Greentech Media, Lawrence Berkeley National Lab
Path to the Well below 2C Scenario

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Source: ETC Research

BAU 2040

- De-carbonization of power with extended electrification: 13 (48%)
- De-carbonization of activities, which cannot be easily: 4 (15%)
- Acceleration in the pace of energy productivity: 8 (30%)
- Optimization of fossil fuels use within overall carbon budget constraints: 2 (7%)

WB2C 2040: 20

Source: ETC Research
Leveraging several sources of energy productivity simultaneously

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Increased GDP per unit of energy used

Increase in energy based services per unit of energy used

Electrification of downstream applications

Increased energy efficiency in upstream generation

- Decarbonization of power
- District heating and cooling systems

Increased energy efficiency with unchanged energy source

- Reduces heat losses
- In buildings envelopes
- In buildings appliances
- In transport modes
- In industrial processes

Increase in GDP per unit of energy based services

- Digitization and service based economy
- Efficient urban infrastructure
- Sharing economy

Source: ETC Research
Thank you