Renewables for an Affordable and Clean Energy Sector

ISO General Assembly
Breakout: SDG 7 - Affordable and Clean Energy
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About IRENA

- Inter-governmental agency established in 2011
- Headquarters in Abu Dhabi, UAE
- IRENA Innovation and Technology Centre – Bonn, Germany
- Permanent Observer to the United Nations – New York

Mandate: Assist countries to accelerate renewable energy deployment
Development and welfare for all

We need cleaner, affordable, reliable and abundant sources of energy

- SDG 7 is an enabler for the other UN Sustainable Development Goals
- Climate policy an important driver - energy accounts for two-thirds of GHG emissions

Source: IRENA (2017) Rethinking Energy
Renewable power rapidly becoming competitive

Today’s strong business case for renewable power
Rapid cost reduction – PV: 80% reduction in the last 6 years

Levelised cost of electricity (LCOE) for renewable power between 2010 and 2016

Source: IRENA (2017) Rethinking Energy
Policies and innovation have placed renewables at the core of the energy transformation

Investments in renewable power have surpassed the ones in fossil fuels

2017 a record year:

- >160 GW of RE installed – lead by 93 GW solar, 47 GW wind, 20 GW hydro
- RE cumulative capacity > 2,000 GW
  - Despite low oil prices
- 280 USD billion invested in RE / Solar PV and wind leading

Source: IRENA (2017) Rethinking Energy
Renewable solutions for energy access

- Some 1.1 billion people without electricity access today

- ~130 million served by RE systems:
  - 100 M solar lights
  - 24 M solar home systems
  - 9 M through mini-grids

- 50 – 250 GW potential to hybridise existing diesel generator capacity, 12 GW on islands

- 1 million telecom towers in South Asia and Sub-Saharan Africa

Source: IRENA (2018) OFF-GRID RENEWABLE ENERGY SOLUTIONS
Policies implemented to drive the transformation

Number of renewable energy regulatory incentives and mandates, by type, 2014-16

- Technical specification support these policies and regulations – International standards are key

Standards and quality Infrastructure to meet expectations from all stakeholders

**Instruments available to policy-makers and regulators** to facilitate technology trading, mitigate technical risk, attract investment and public acceptance, and meet expectations by all stakeholders in a USD trillion market

Source: IRENA (2017), Boosting Solar PV Markets: The Role of Quality Infrastructure
Quality Infrastructure supporting policy-makers

1. **Policy Objectives**
   - Economic and affordable photovoltaic systems
   - Support development goals
   - Reliable photovoltaic systems
   - PV integrated in power systems

2. **How Quality Infrastructure supports the policy objectives**
   - Attracts investment through risk mitigation
   - Increases public acceptance
   - Encourages efficient services
   - Fosters good practices
   - Promotes consumer protection

3. **Where to apply quality infrastructure**
   - White papers
   - Guidelines
   - Regulations
   - Incentives
   - Industry guidebooks
   - Vocational training

Source: IRENA (2017), Boosting Solar PV Markets: The Role of Quality Infrastructure
The energy transformation is underway and standards will be key to implement the needed solutions at scale.

We entered into an era of low equipment cost and higher pressure on marginal profits, quality infrastructure is critical to mitigate risks and achieve the expected services to communities and return on investment.

Harmonisation of technical requirements to facilitate the globalisation of RE.

Quality is not about hardware only, but a system approach is needed.

Progress on standards and conformity assessment schemes needs to engage all stakeholders.

International and regional cooperation networks strengthen and accelerate the development and implementation of QI for PV systems. Leverage on existing initiatives.

QI supports effectiveness of policies for PV markets – all white papers should include the role of QI.
Thank you!

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