Session 3: Ocean energy uptake: Solutions to technical challenges

UNLOCKING THE POTENTIAL OF OCEAN ENERGY AROUND THE GLOBE

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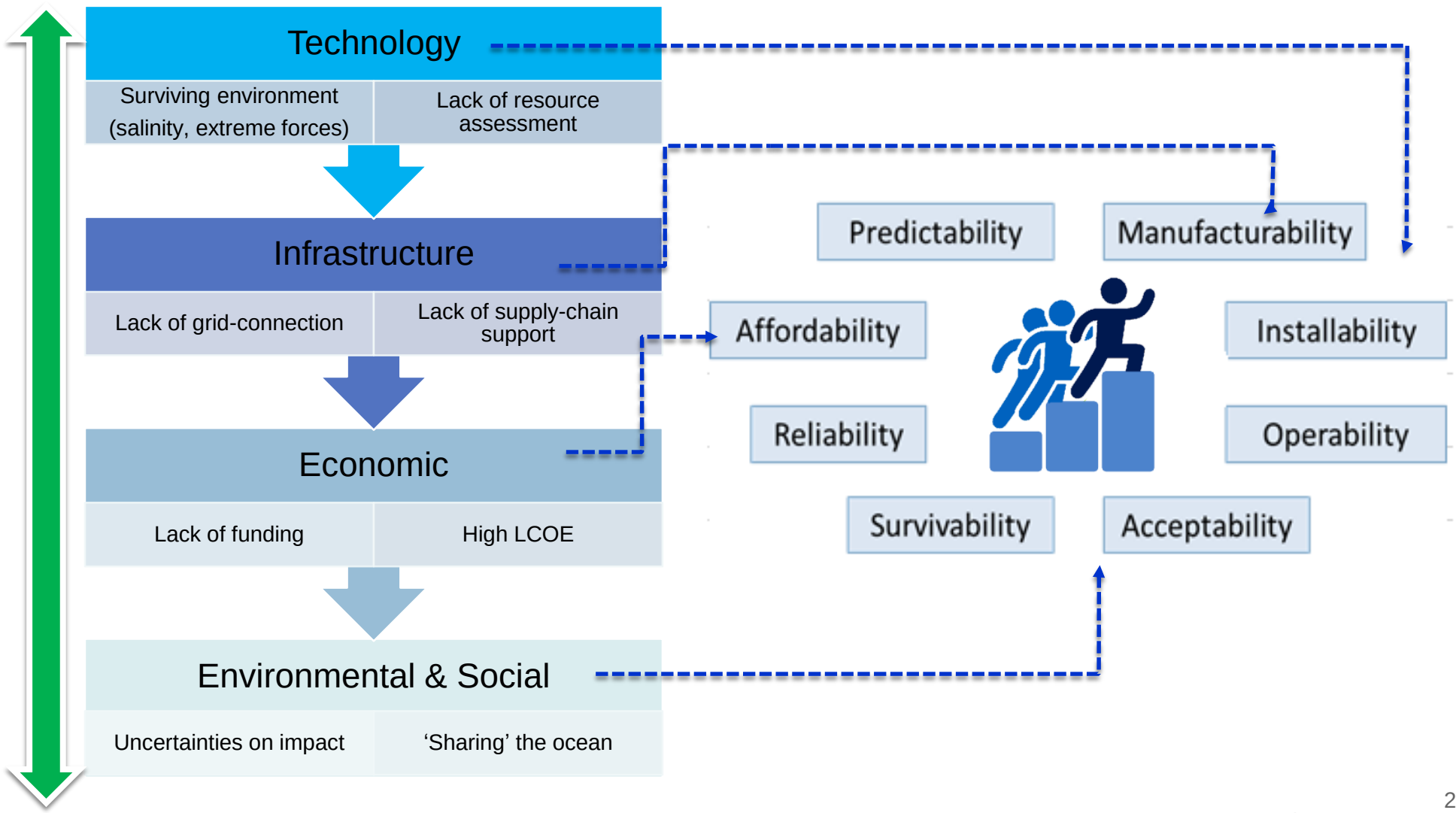
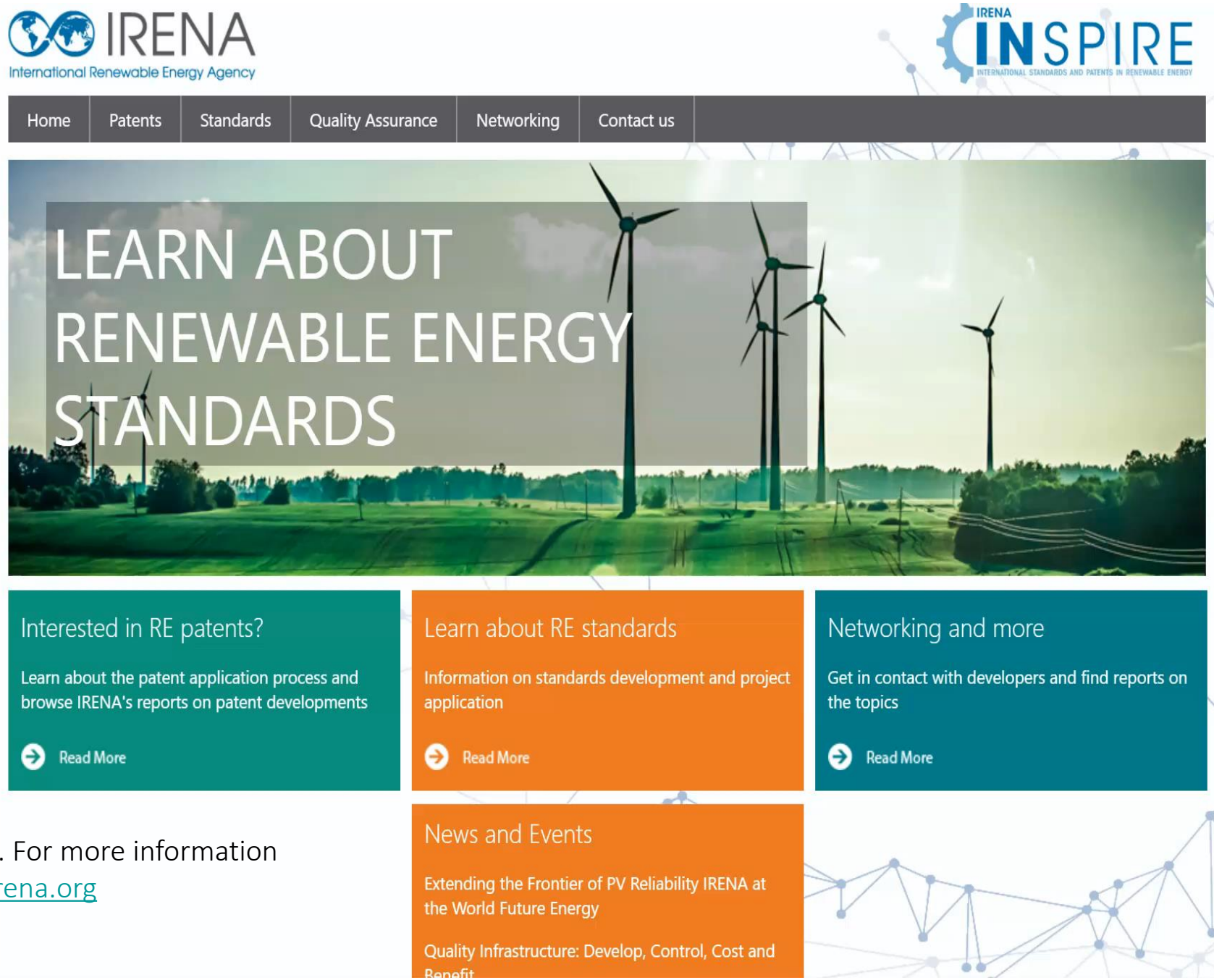
TECHNOLOGY READINESS LEVEL

General challenges

1. **Tracking R&D and innovation**
   - **Patents**
   - **Project Inventories and data**
2. **Quality assurance**
3. **Main recommendations for each challenge based on global experiences**



Source: UK Energy Research Center



Source: IRENA INSPIRE. For more information access: http://inspire.irena.org

UNLOCKING POTENTIAL

Key Recommendations

Technology:

Increase resource assessment campaigns and quality

Support test centres

Capital grant funding for R&D

Include in roadmaps

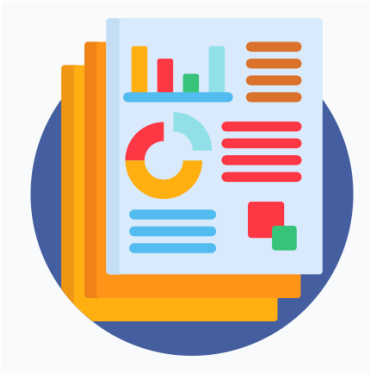
Economic:

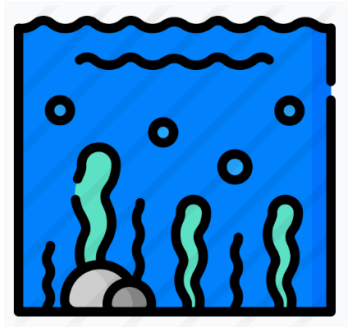
Promote niche markets

Quantify additional benefits

Innovative financial structures

Premium price MWh





Environmental and Social:

Improve access to baseline data

Consult and engage the public early on

Infrastructure:

Ensure that Network Operators have transparent plans for accommodation of ocean energy technologies

Engage and inform the emerging supply chain

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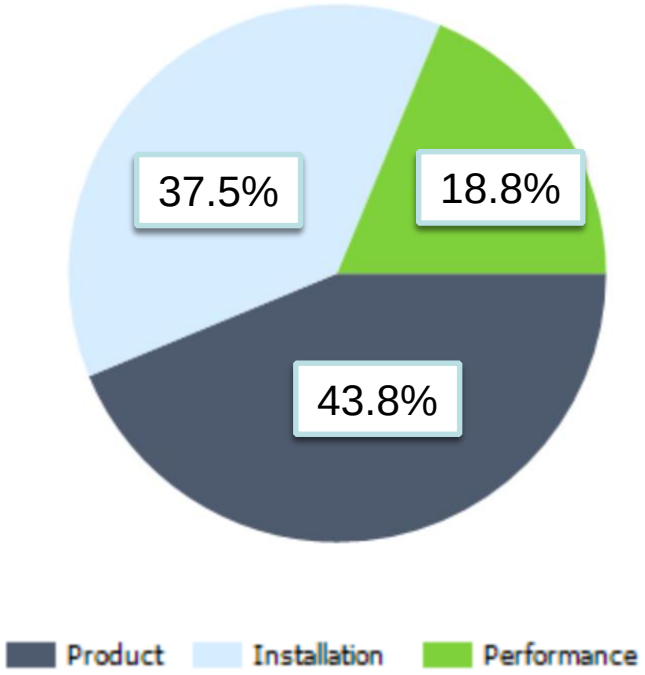
Back up

Global Trends

Standards

Aspects covered by ocean energy standards



Source: IRENA INSPIRE. For more information access: http://inspire.irena.org

Key Standards → IEC TS 62600	
IEC TS 62600 – 1:2011	Part 1: Terminology
IEC TS 62600 – 2:2016	Part 2: Design requirements for marine energy systems
IEC TS 62600 – 10:2015	Part 10: Assessment of mooring system for marine energy converters (MECs)
IEC TS 62600 – 100:2012	Part 100: Electricity producing wave converters – Power performance assessment
IEC TS 62600 – 101:2015	Part 101: Wave energy resource assessment and characterization
IEC TS 62600 – 102:2016	Part 102: Wave energy converter power performance assessment at a second location using measured assessment data
IEC TS 62600 – 200:2013	Part 200: Electricity producing tidal energy converters – Power performance assessment
IEC TS 62600 – 201:2015	Part 201: Tidal energy resource assessment and characterization

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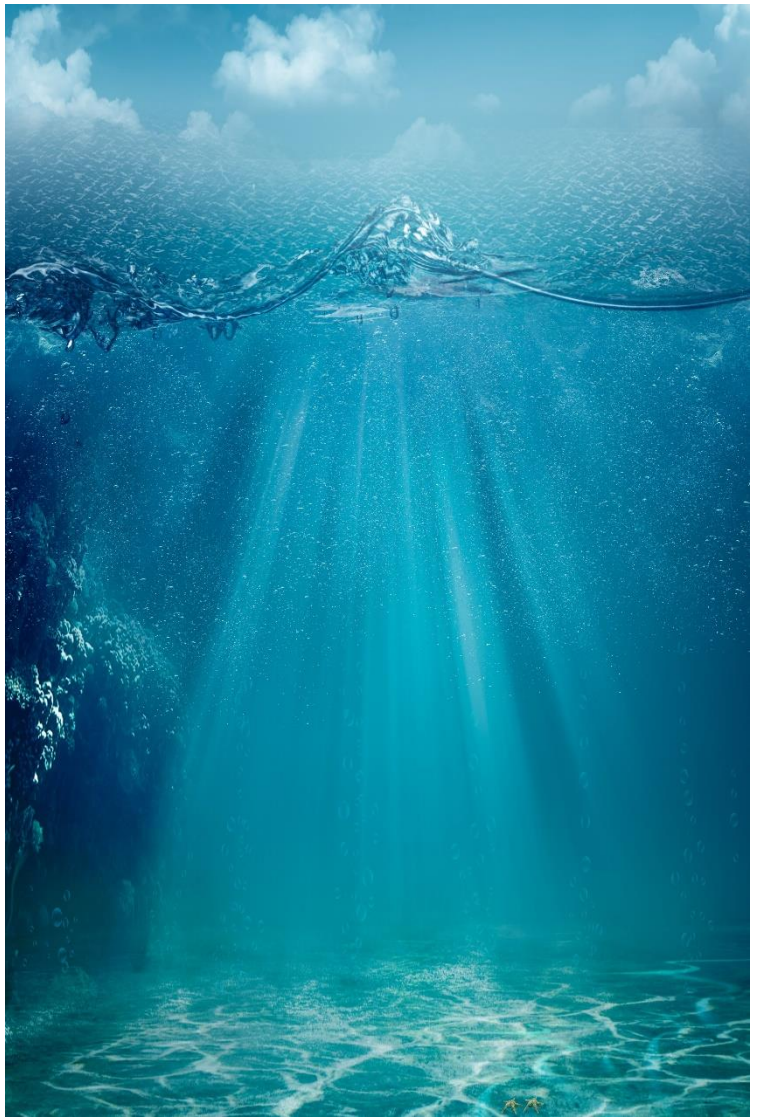
Policy and incentive recommendations to encourage ocean energy uptake

Technology	Resource-mapping
	Promote sharing best practice and lessons learnt
	Support test centres
	Capital support/Capital grant funding for R&D
	Develop assessment method
	Include in national and/or regional energy plan
Economics	Premium price/MWh
	Innovative financial structures to reduce risk
	Promote niche markets
	Quantify additional benefits
	Accelerate cost and risk reduction through road mapping



Policy and incentive recommendations to encourage ocean energy uptake

Environmental & Social

- Remove bottlenecks in granting consent process/ Adopt a ‘one-stop-shop’ approach to consenting
- Improve access to baseline data
- Incorporate ocean energy deployment in National MSPs
- Consult and engage the public early on

Infrastructure

- Ensure that System Operators have transparent plans for accommodation of ocean energy technologies
- Engage and inform the emerging supply chain