



Technology Mechanism ramps up its work to help countries scale up climate action on technology

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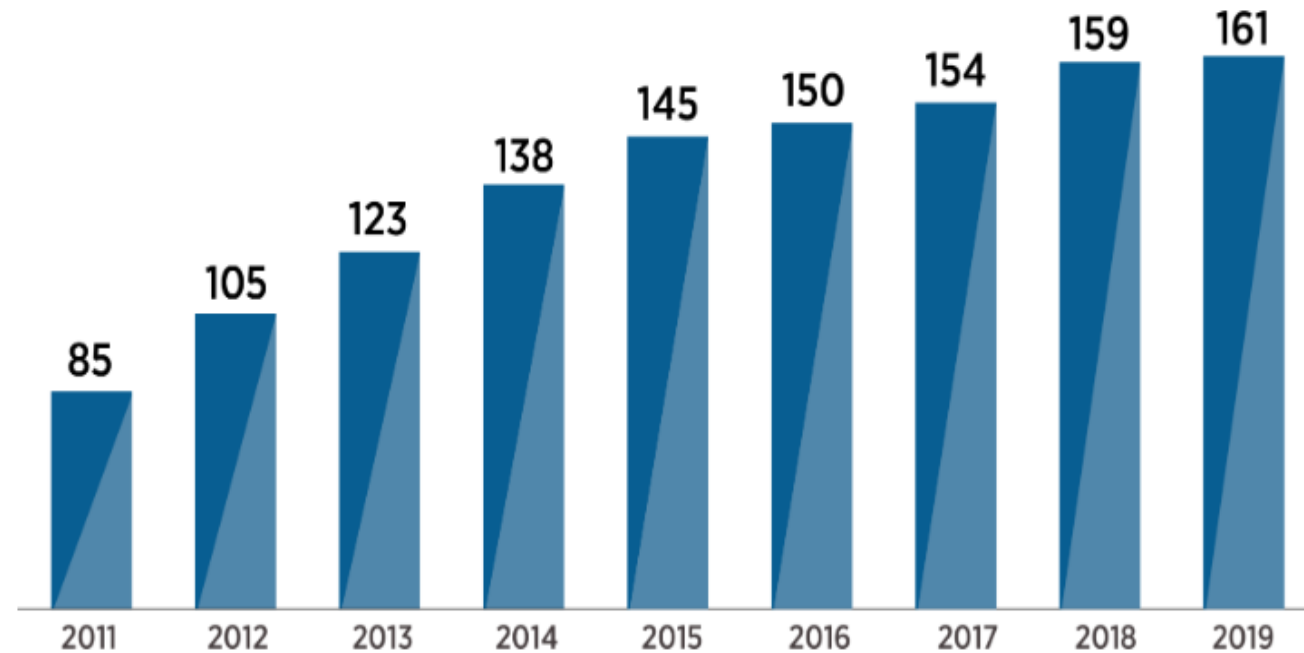
Mandate

To promote the widespread adoption and sustainable use of **all forms of renewable energy** worldwide

- » Intergovernmental Organization (IGO)
- » Established in 2011
- » Offices in Abu Dhabi, Germany and New York

IRENA in the Climate Discussion

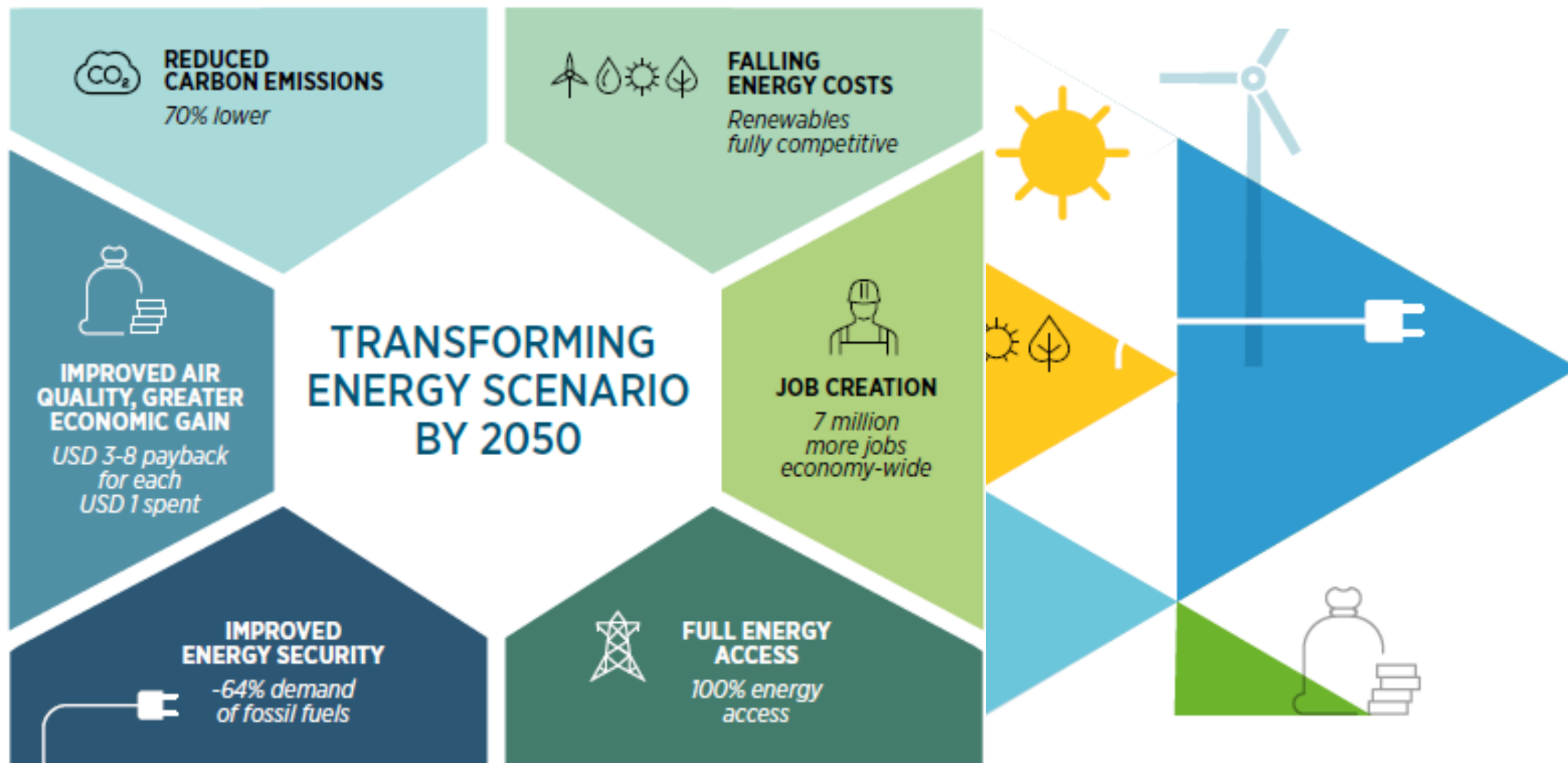
- » Close engagement at COPs (Energy Action and RE days)
- » Observer- Innovation TEC Task Force (UNFCCC)
- » Marrakech Partnership for Global Climate Action
- » Regional Climate Weeks
- » NDC Partnership



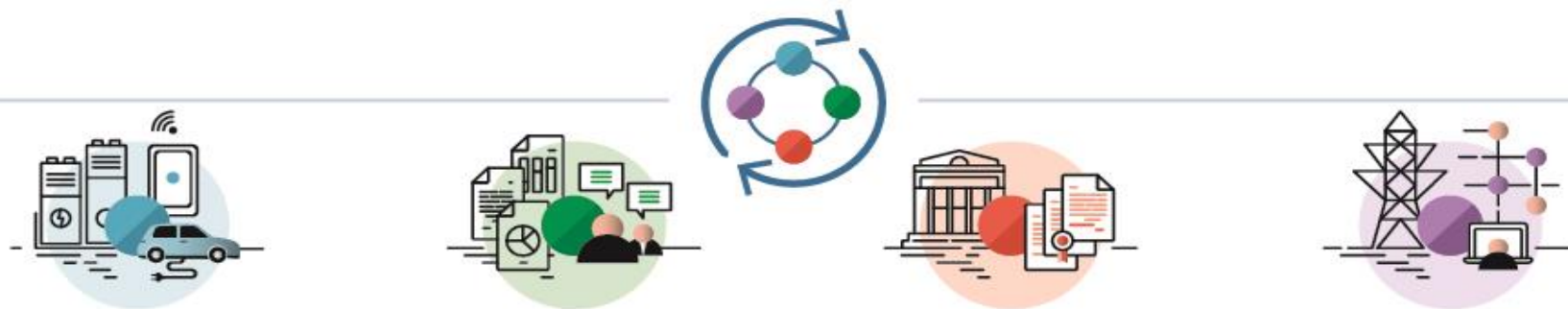
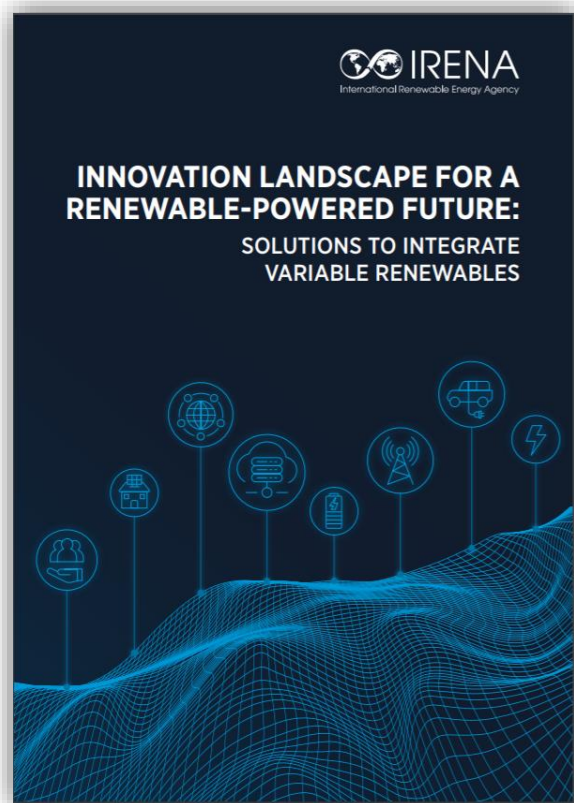
Membership

161 members + 22 in accession

Key drivers for the energy transformation



Systemic innovation for RE integration



● ENABLING TECHNOLOGIES

- | | |
|----|--|
| 1 | Utility-scale batteries |
| 2 | Behind-the-meter batteries |
| 3 | Electric-vehicle smart charging |
| 4 | Renewable power-to-heat |
| 5 | Renewable power-to-hydrogen |
| 6 | Internet of things |
| 7 | Artificial intelligence and big data |
| 8 | Blockchain |
| 9 | Renewable mini-grids |
| 10 | Supergrids |
| 11 | Flexibility in conventional power plants |

● BUSINESS MODELS

- | | |
|----|----------------------------------|
| 12 | Aggregators |
| 13 | Peer-to-peer electricity trading |
| 14 | Energy-as-a-service |
| 15 | Community-ownership models |
| 16 | Pay-as-you-go models |

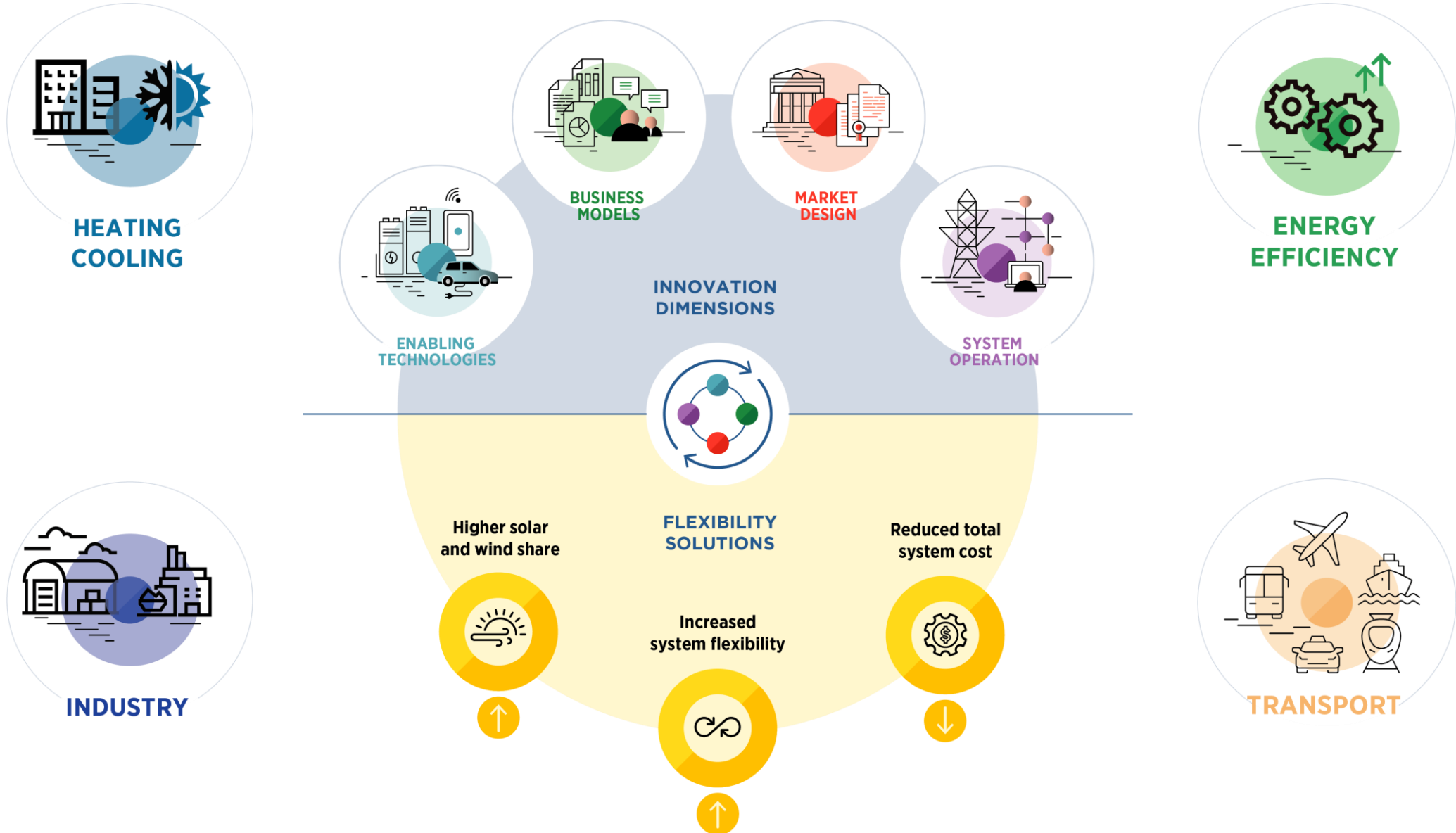
● MARKET DESIGN

- | | |
|----|---|
| 17 | Increasing time granularity in electricity markets |
| 18 | Increasing space granularity in electricity markets |
| 19 | Innovative ancillary services |
| 20 | Re-designing capacity markets |
| 21 | Regional markets |
| 22 | Time-of-use tariffs |
| 23 | Market integration of distributed energy resources |
| 24 | Net billing schemes |

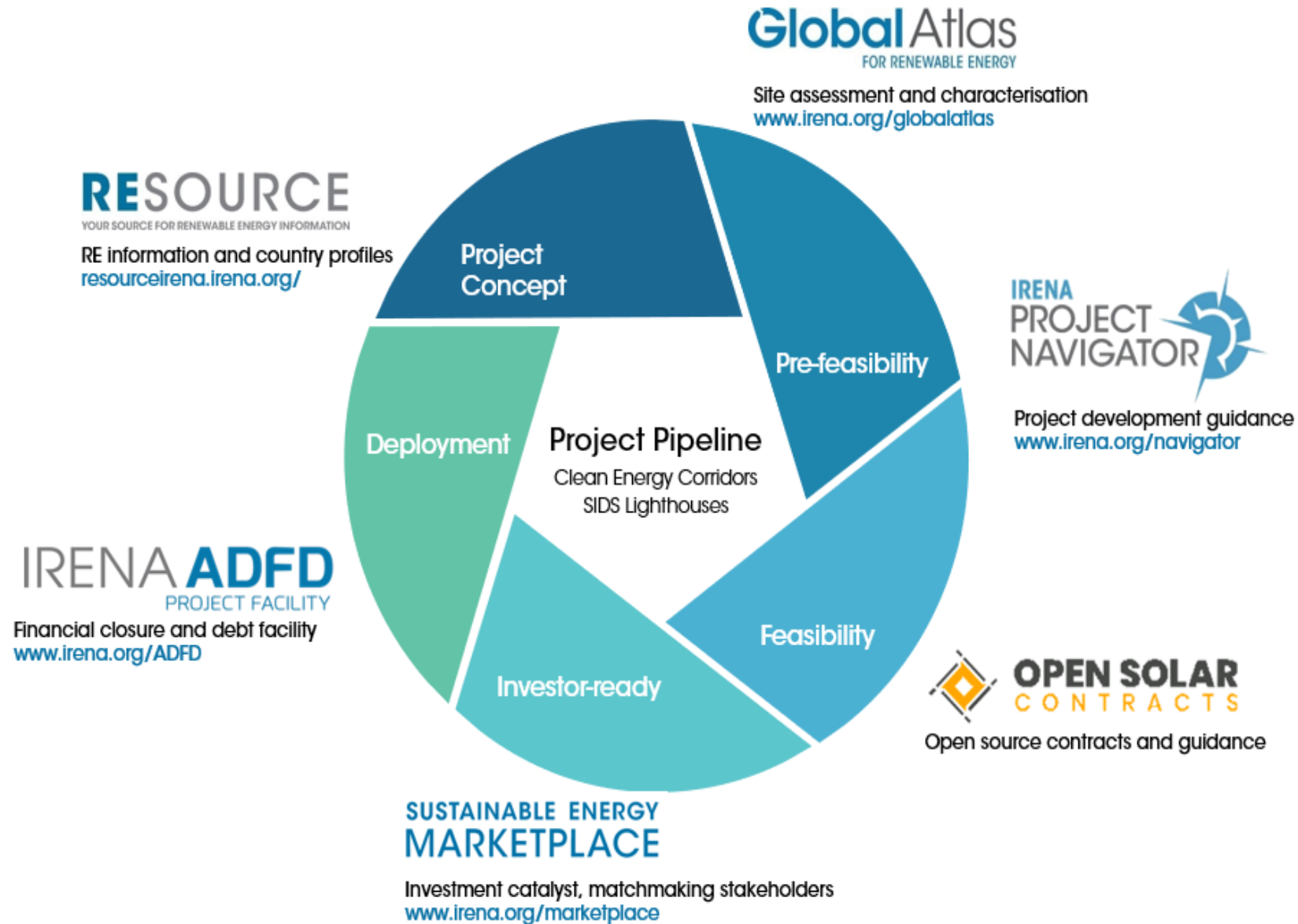
● SYSTEM OPERATION

- | | |
|----|---|
| 25 | Future role of distribution system operators |
| 26 | Co-operation between transmission and distribution system operators |
| 27 | Advanced forecasting of variable renewable power generation |
| 28 | Innovative operation of pumped hydropower storage |
| 29 | Virtual power lines |
| 30 | Dynamic line rating |

Transforming Power and End-Use



IRENA's Project Facilitation Tools & Platforms



How will COVID-19 affect future development of renewable energy sources?

1

Channel economical aids into sustainable goals

- Governments are designing policies to improve and stimulate economies that **for years to come will form communities and economies.**
- Potential carbon investments **comply with global climate goals.**
- It will take a **big investment stimulus package** to solve the recession triggered by Covid-19

2

Stimulus and recovery packages

- Opportunity to **improve economies in a cleaner, safer, and more sustainable manner** that turns immediate stimulus into long-term change.
- Recovery initiatives could benefit from the introduction of **mature and ready to scale up technologies** such as wind and solar photovoltaics to the deployment of flexible power grids, efficiency solutions, electric vehicle (EV) charging systems, energy storage, integrated hydropower, green hydrogen and many other renewable energy technologies.

3

NDCs in 2020

- To accelerate a just transition, the **NDCs** to be presented by the end of this year, as needed under the Paris Agreement, will be the backbone of the countries' economic recovery packages.



Thank you

