

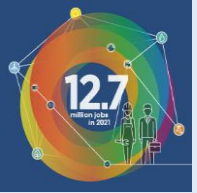
Renewable Energy and Jobs

Michael Renner
Head – Socioeconomics and Policy

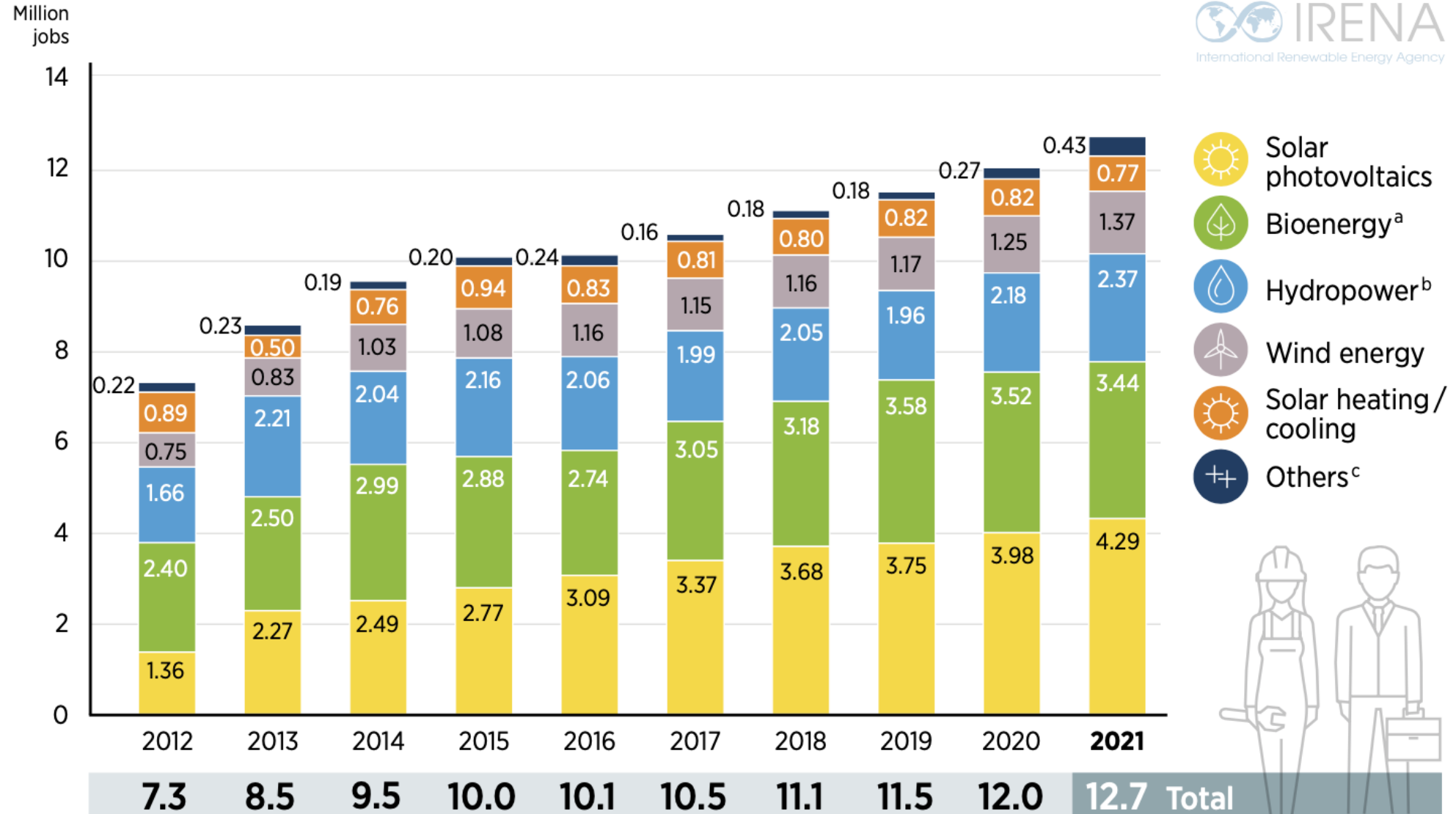
**ILO Technical meeting on
The future of work in the oil and gas industry
Information session**

Geneva, 28 November 2022



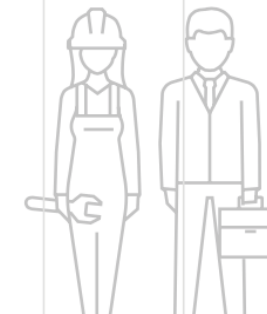
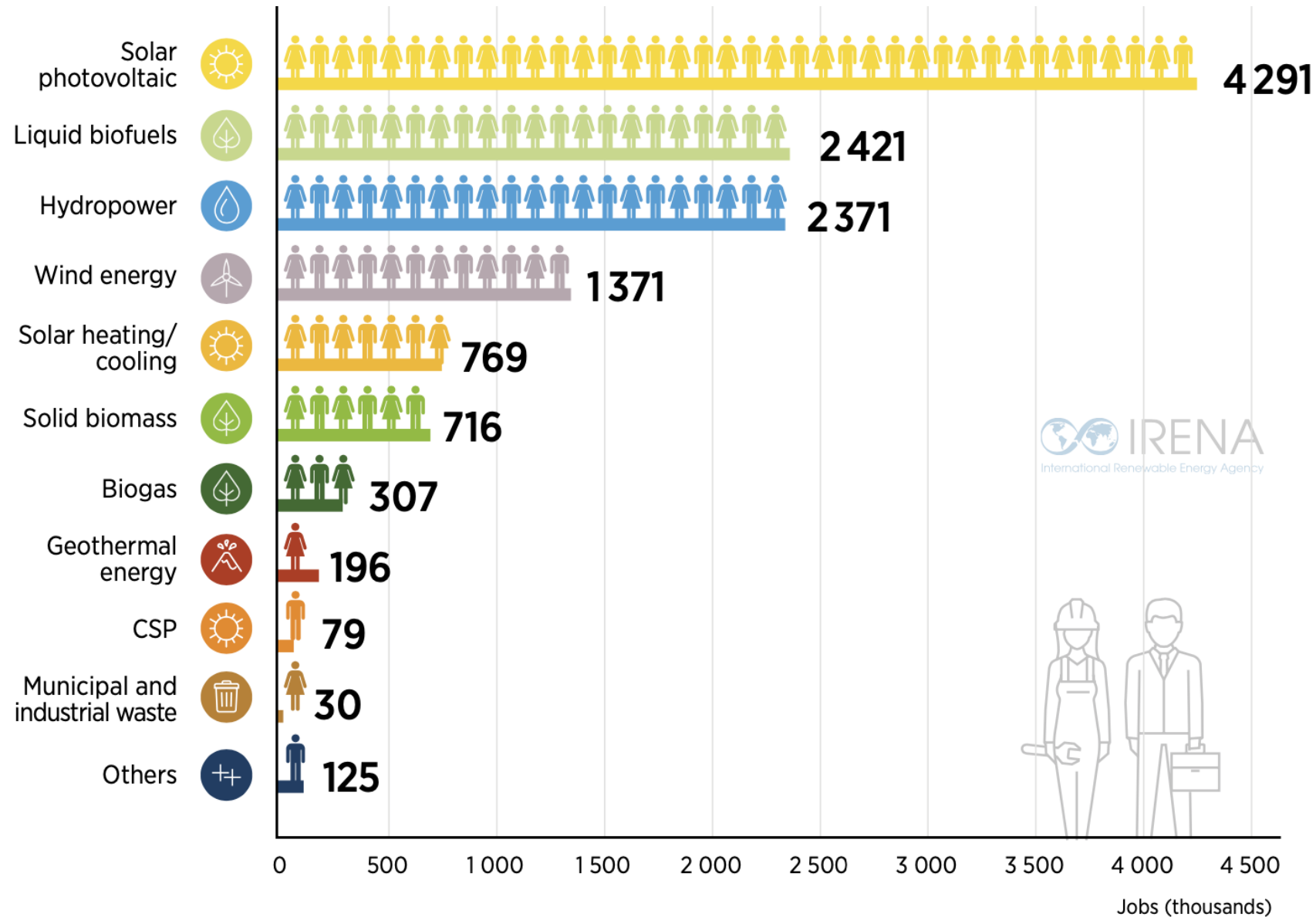


Evolution of global renewable energy jobs, 2012-21

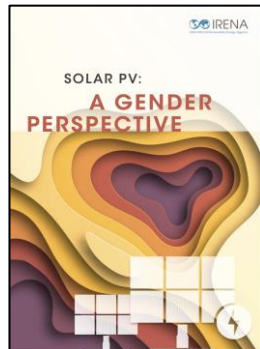
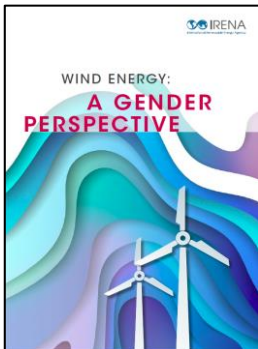
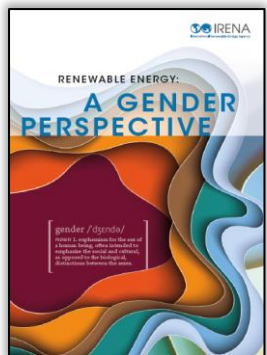
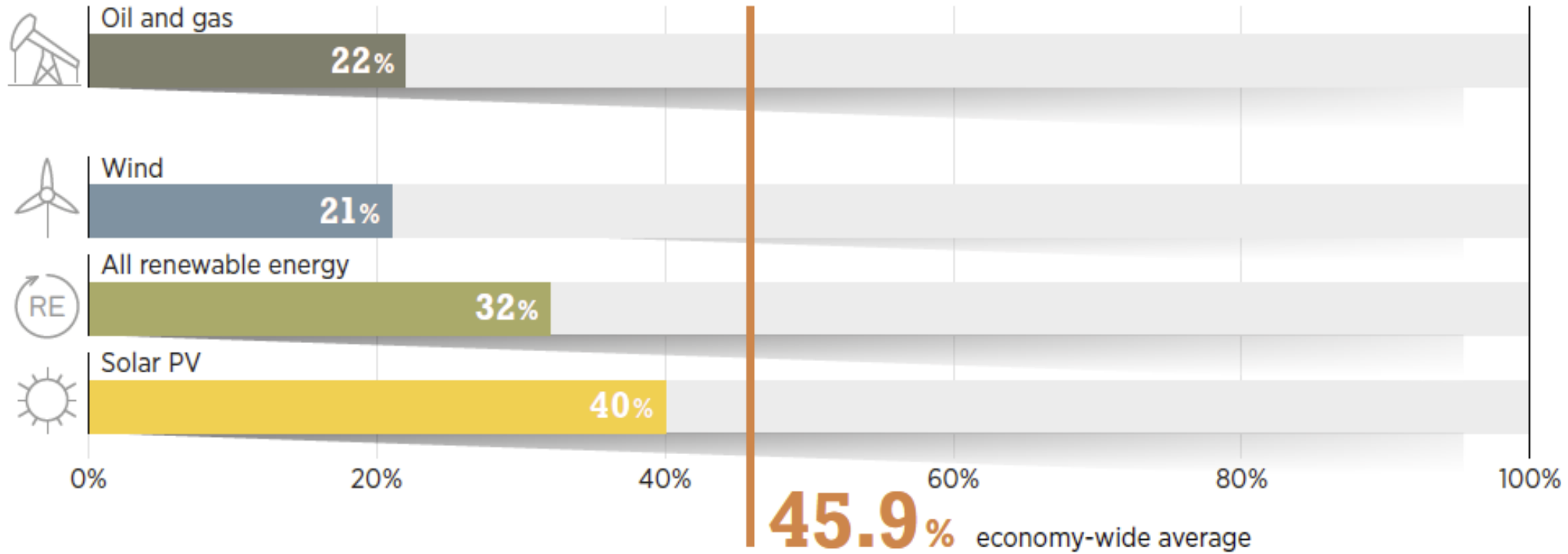




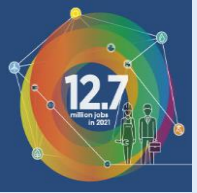
Renewable energy jobs by technology, 2021



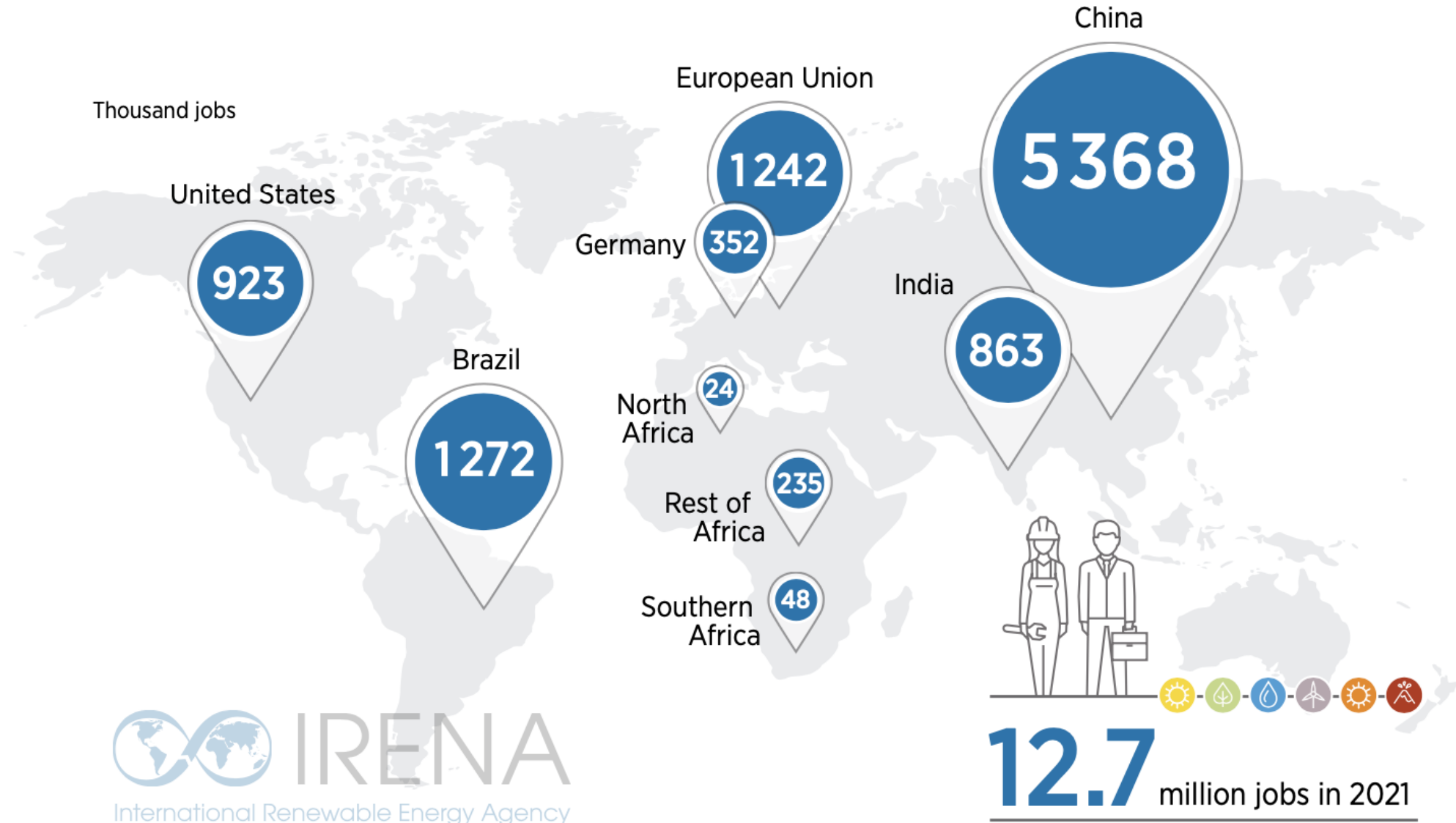
Women's share of the workforce



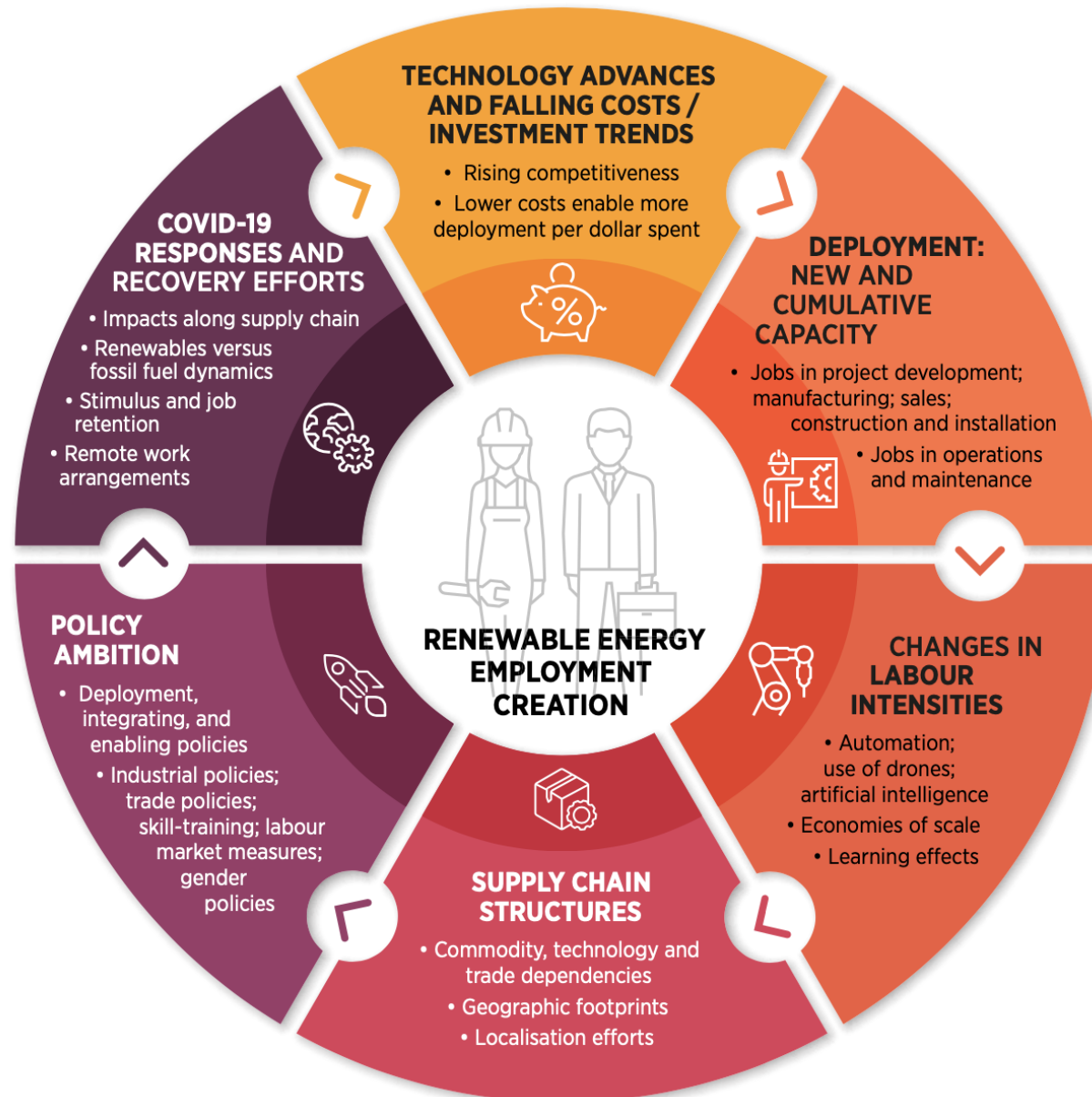
Share of women in Renewable Energy jobs (%):		
STEM jobs	<div></div>	28
Non-STEM professionals	<div></div>	35
Administrative	<div></div>	45



Renewable energy jobs in selected countries, 2021

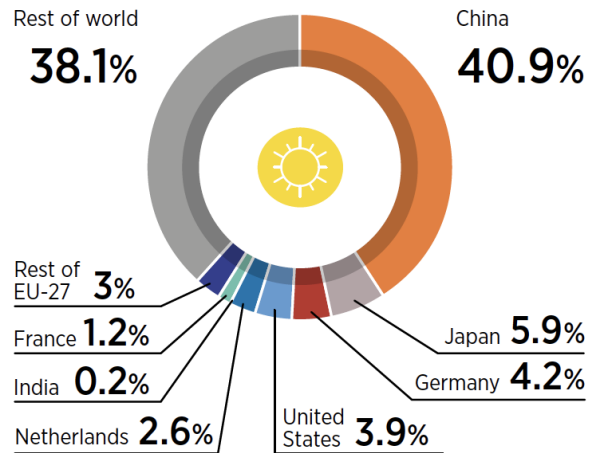


Factors influencing renewable energy job creation

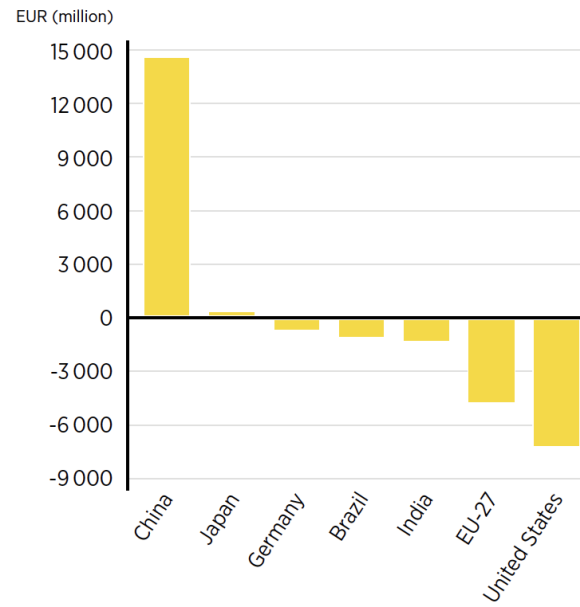


Solar PV

Share of Exports

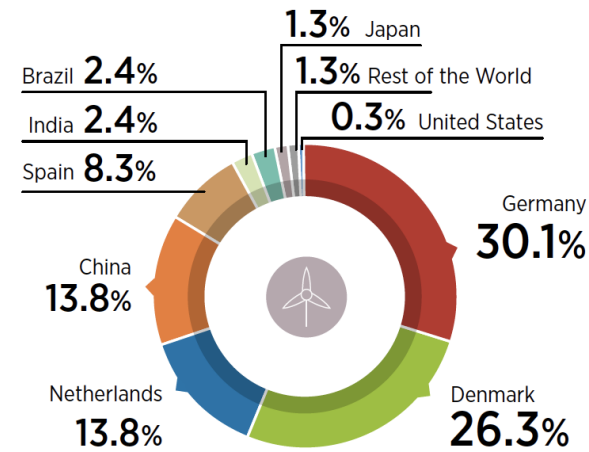


Net Trade

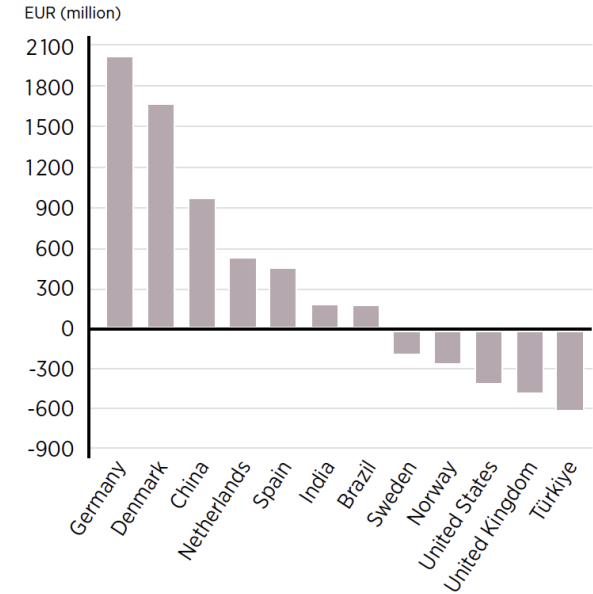


Wind Power

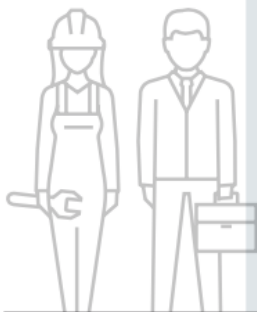
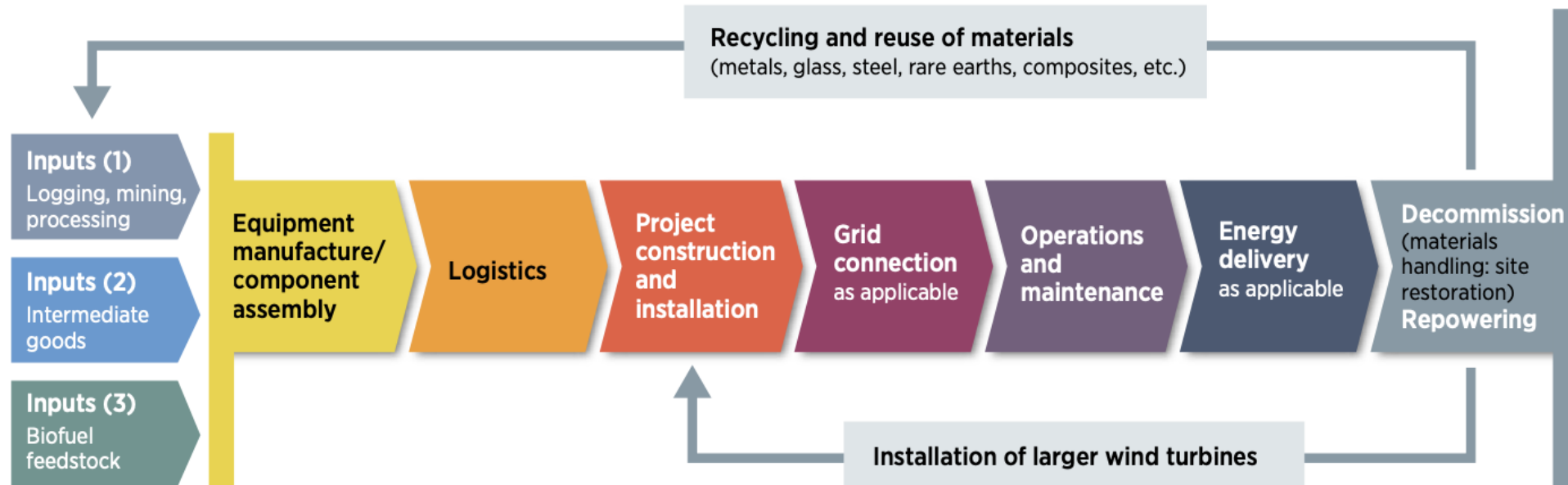
Share of Exports



Net Trade



Extended renewable energy supply chain

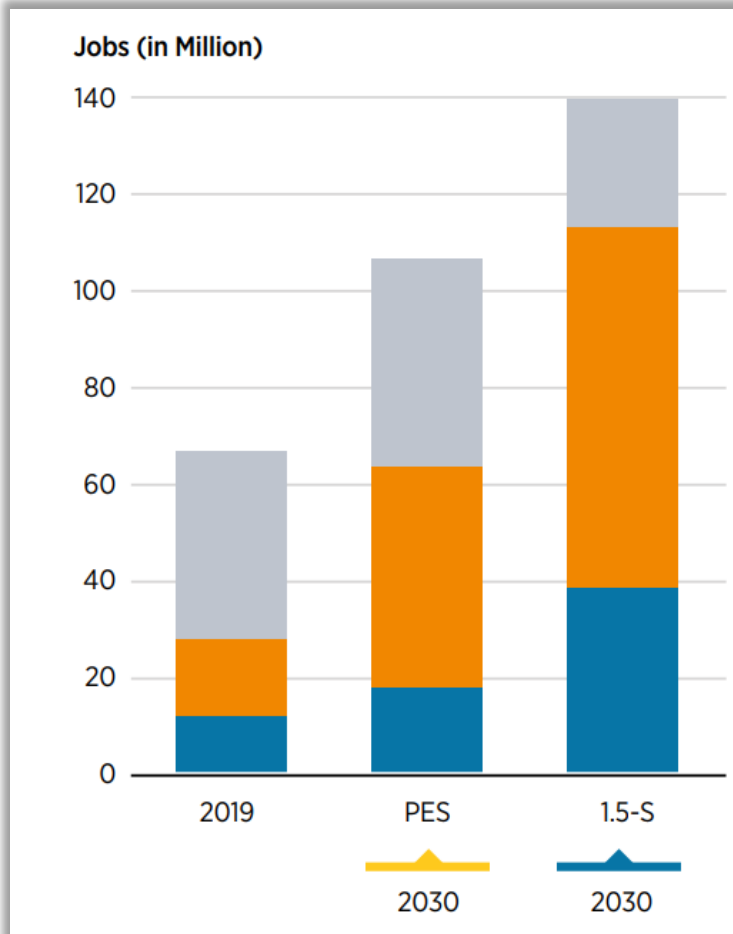


Along the supply chain:

- **Support services**
- **Enabling functions**
- **Governance**

- Research and development
- Education and skills training or retraining
- Policymaking (regulations and incentives; industrial, educational, labour policies)
- Financing (public and private; national and communal; bilateral and multilateral)
- Public infrastructure planning
- Project design and planning (site surveying, environmental studies, etc.)
- Legal services (contracting, permitting; land acquisition, etc.)
- Administrative functions and sales

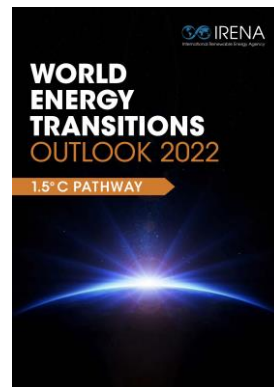
Energy sector jobs, 2019 and two 2030 transition scenarios



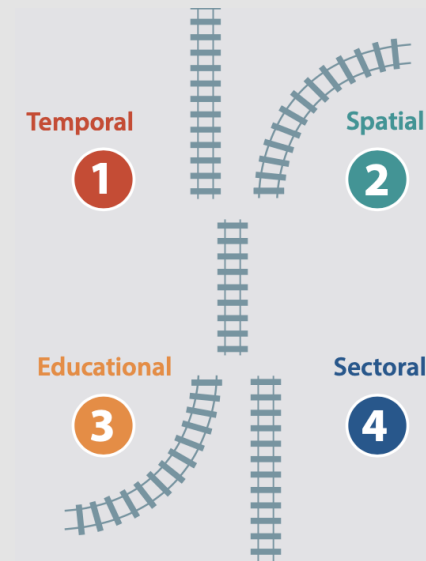
- Conventional energy
- Other transition-related sectors
- Renewable energy

“Other transition-related sectors” include:

- Energy efficiency
- Electric vehicles
- Power systems/flexibility
- Hydrogen



POTENTIAL JOBS MISALIGNMENTS



TEMPORAL MISALIGNMENTS

The creation of new jobs does not necessarily take place on the same time scale as the loss of employment.

SPATIAL MISALIGNMENTS

New jobs are not necessarily being created in the same locations – communities, regions or countries – where losses occur.

EDUCATIONAL MISALIGNMENTS

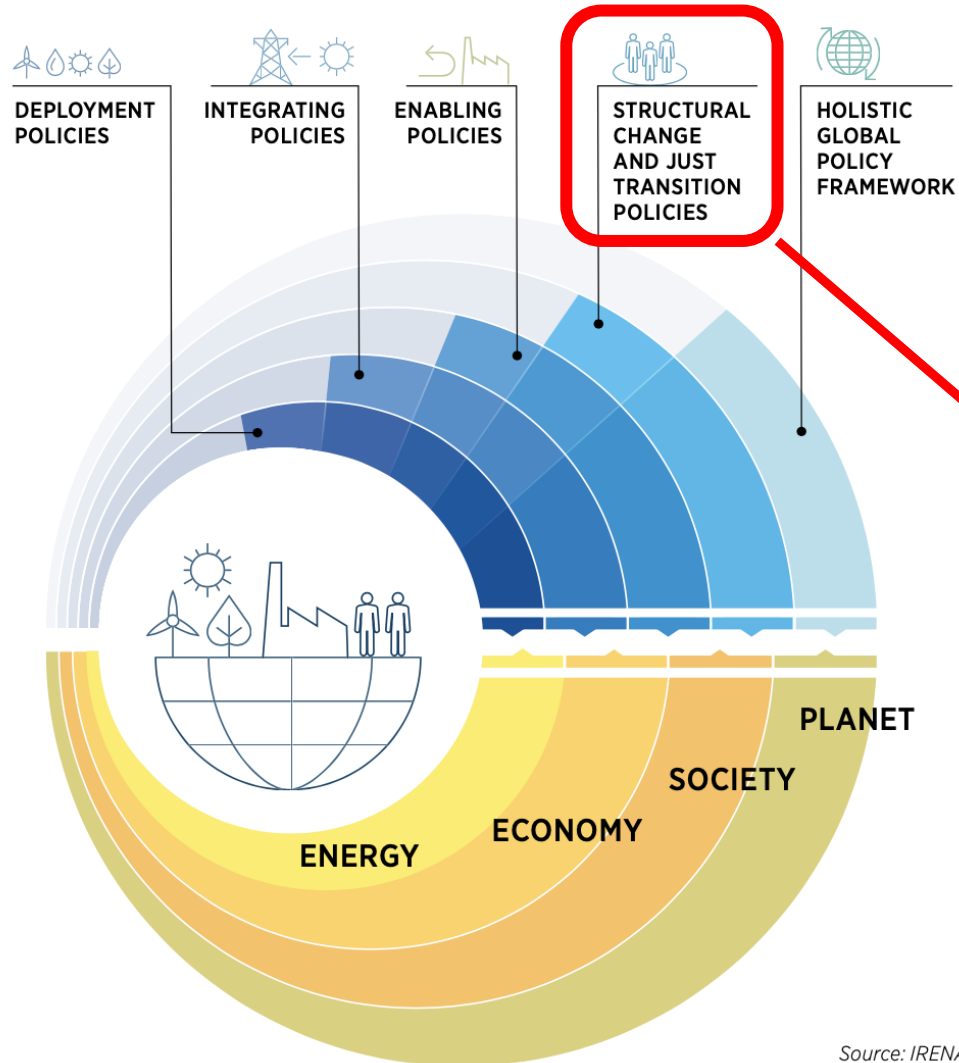
Skills levels or occupational requirements don't necessarily match with existing profiles.

SECTORAL MISALIGNMENTS

The energy transition requires diverging sets of inputs (different supply-chain structures) between rising and declining industries.

- **PES** (*Planned Energy Scenario*) is based on governments' energy plans, targets and policies as of 2020
- **1.5-S** is a scenario that limits global average temperature increase by the end of the century to 1.5°C

Holistic policy framework



Source: IRENA, 2021c.

