

# Renewable Energy and Jobs - Annual Review 2021

## *The Need for a Just Transition*

**Presenter:**

- **Michael Renner, Programme Officer  
Knowledge Policy and Finance Centre, IRENA**

**TUESDAY, 30 NOVEMBER 2021 •**

## SPEAKER



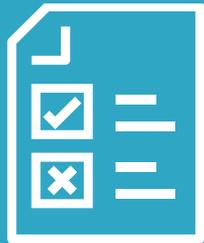
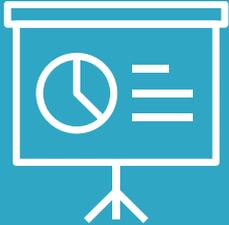
**Michael Renner**  
Knowledge Policy and  
Finance Centre  
**IRENA**

**Michael** is a Programme Officer in KPFC. His work is focused on the socio-economic impacts of renewable energy, including employment and just transition issues.

He is a co-author of IRENA's *Renewable Energy and Jobs, Annual Review* and the *Gender Perspective* series, and has contributed to the agency's *World Energy Transitions Outlook* and *Post-COVID Recovery* reports.

# IRENA insights

WEBINAR SERIES



# IRENA's work on the socio-economics of renewables

## Annual reviews of employment in renewables



## Analyses of local capacities



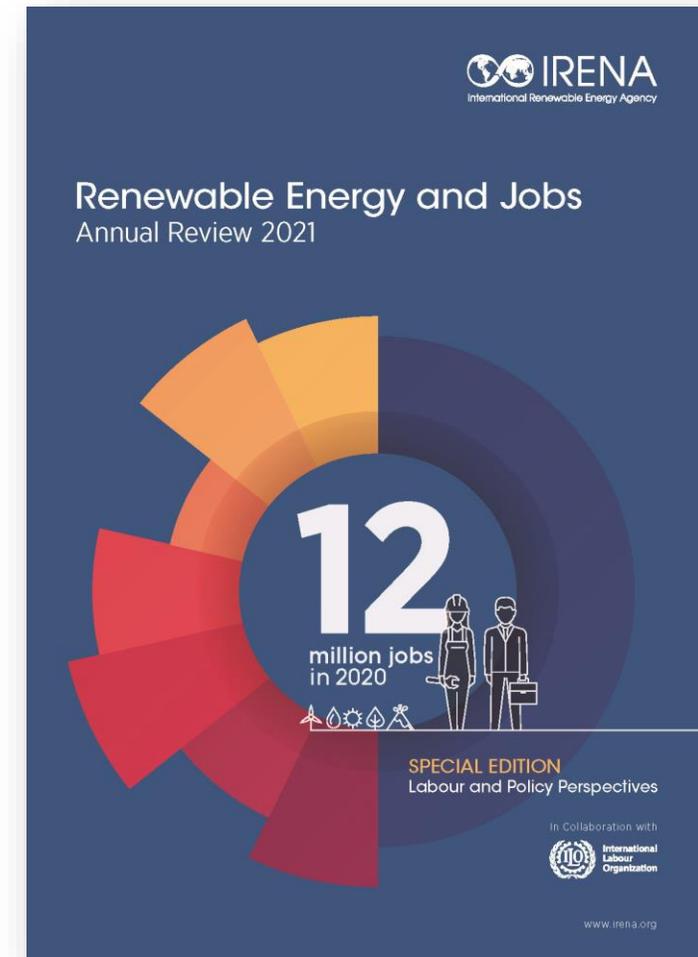
## Assessing gender equity in renewable energy



## Measuring the socio-economic impact of renewables



## Studies of access context



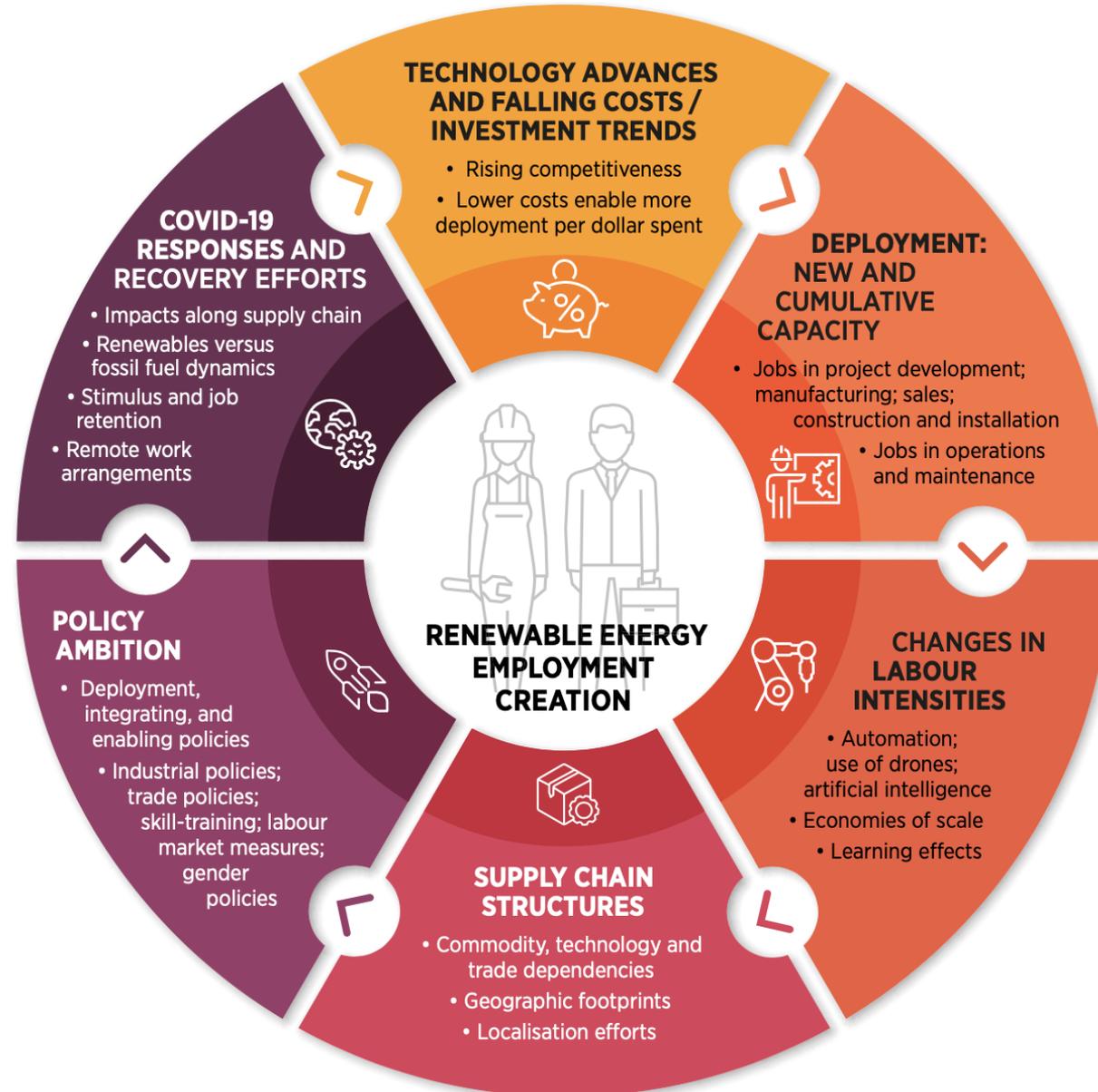


Gender Aspects

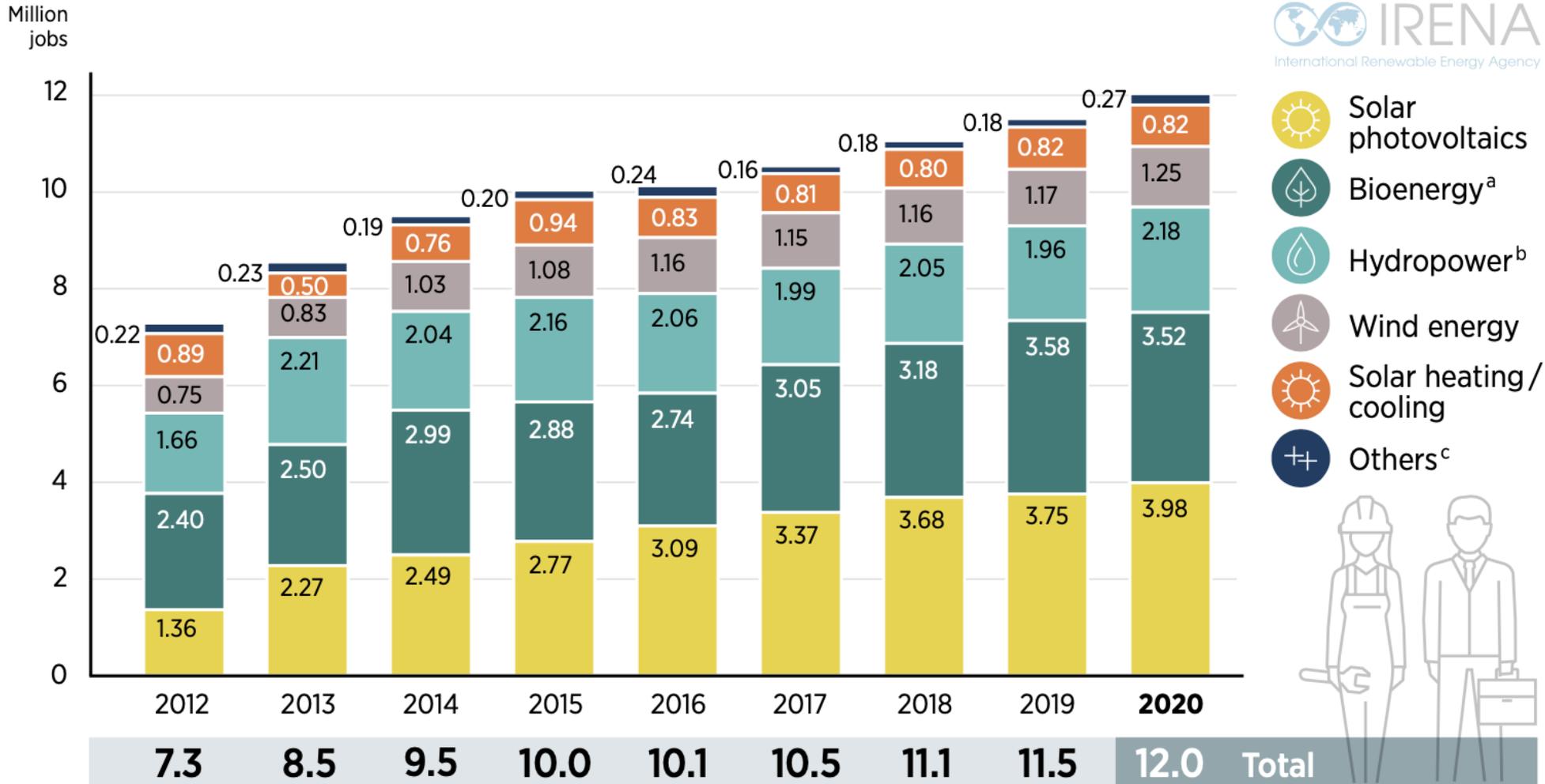
Beyond the Numbers: Job Quality

In Focus: Education and Training

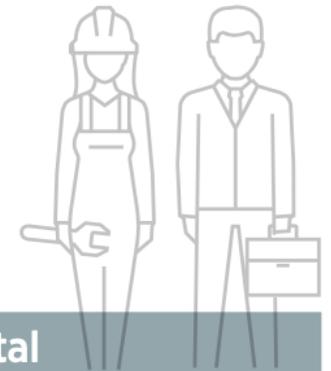
COVID-19 and the Way Forward



# Growth of renewable energy Jobs, 2012-20



- Solar photovoltaics
- Bioenergy<sup>a</sup>
- Hydropower<sup>b</sup>
- Wind energy
- Solar heating/cooling
- Others<sup>c</sup>

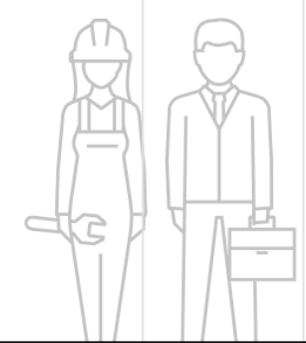
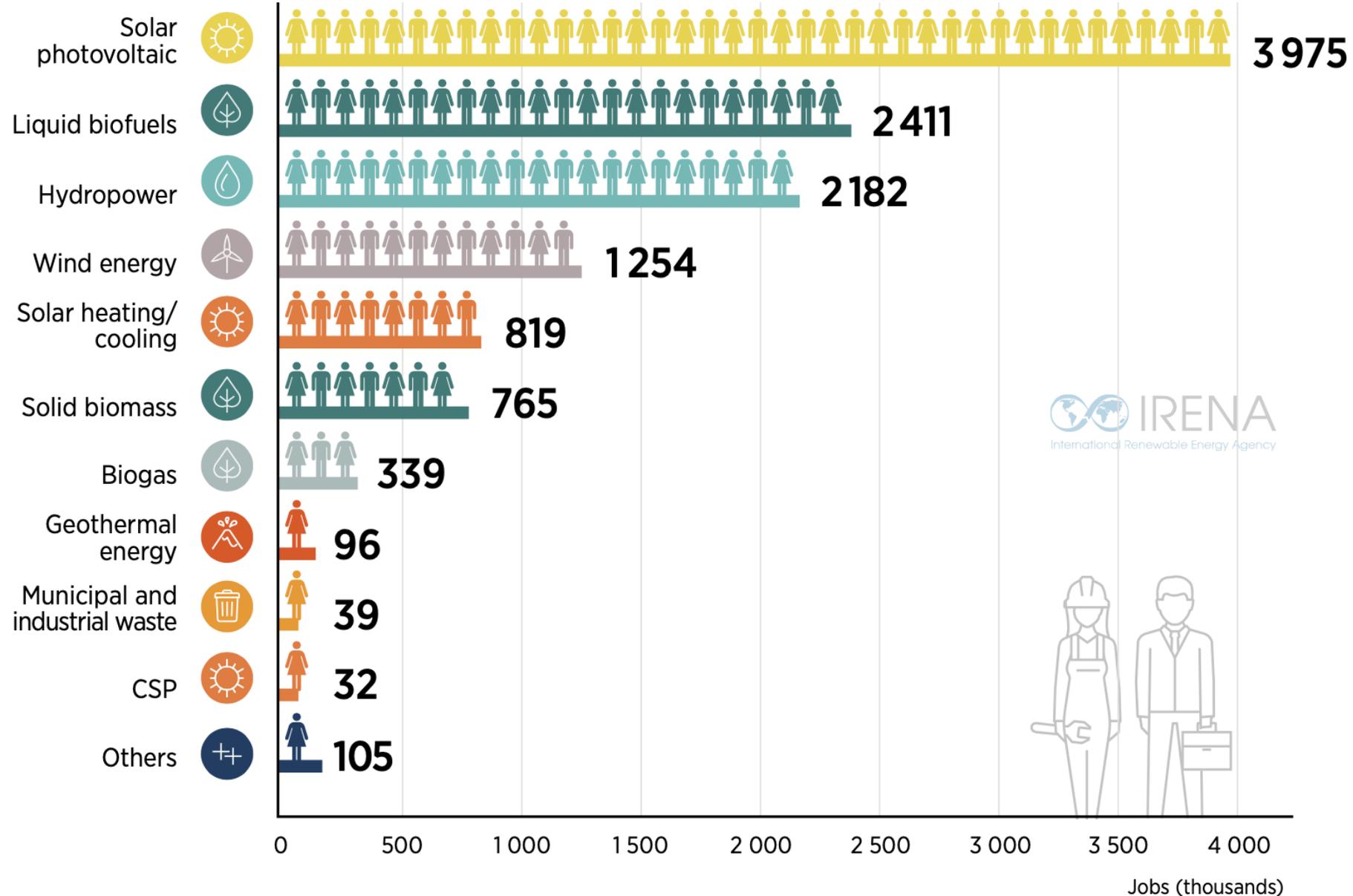


Under IRENA's 1.5C pathway, renewable energy could employ **43 million** people worldwide by **2050**

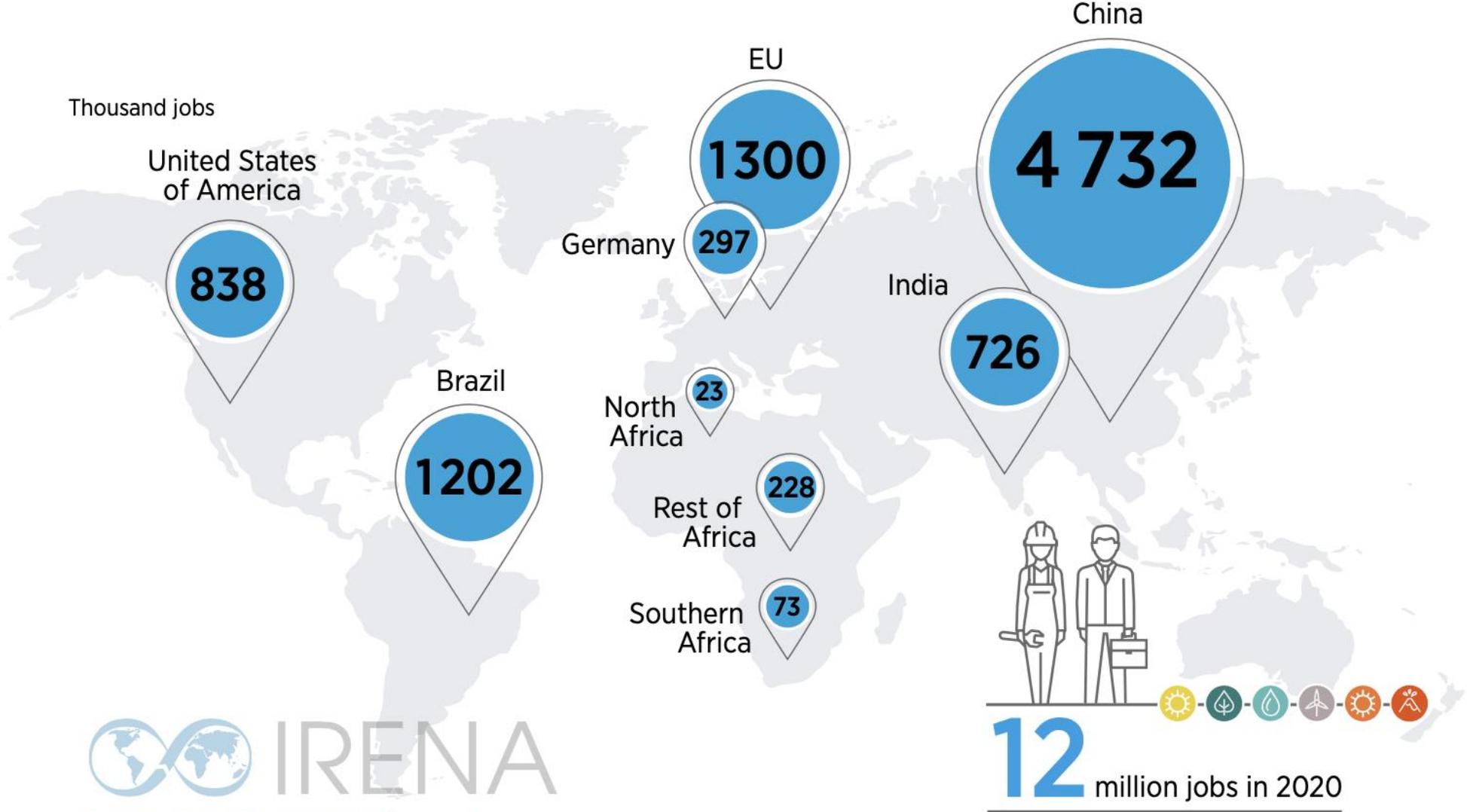
<sup>a</sup> Includes liquid biofuels, solid biomass and biogas.  
<sup>b</sup> Direct jobs only.  
<sup>c</sup> "Others" includes geothermal energy, concentrated solar power, heat pumps (ground based), municipal and industrial waste, and ocean energy.

Source: IRENA jobs database.

# Jobs in renewable energy in 2020, by technology



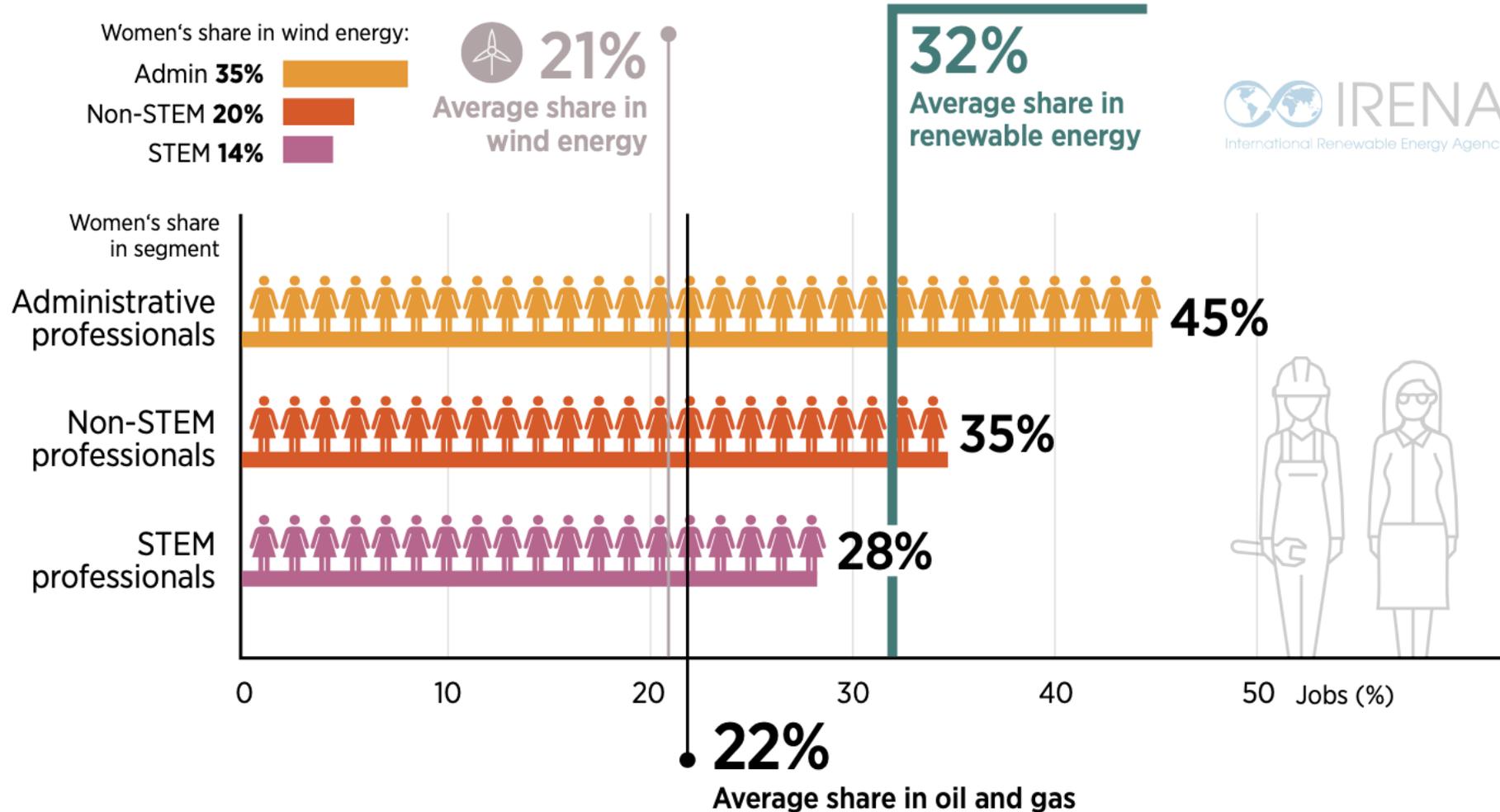
# Jobs in renewable energy in 2020, by region/country



Source: IRENA jobs database.

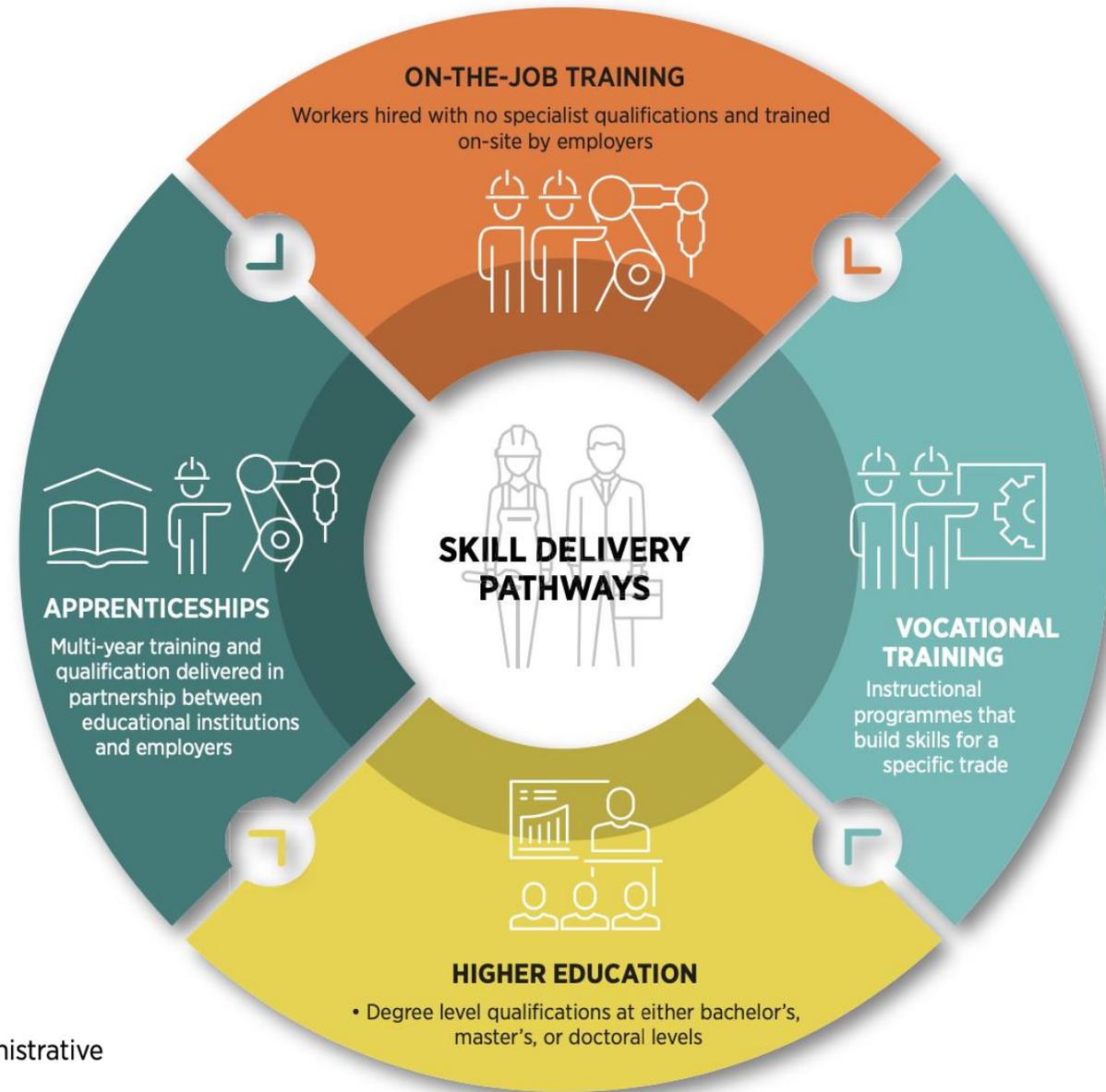
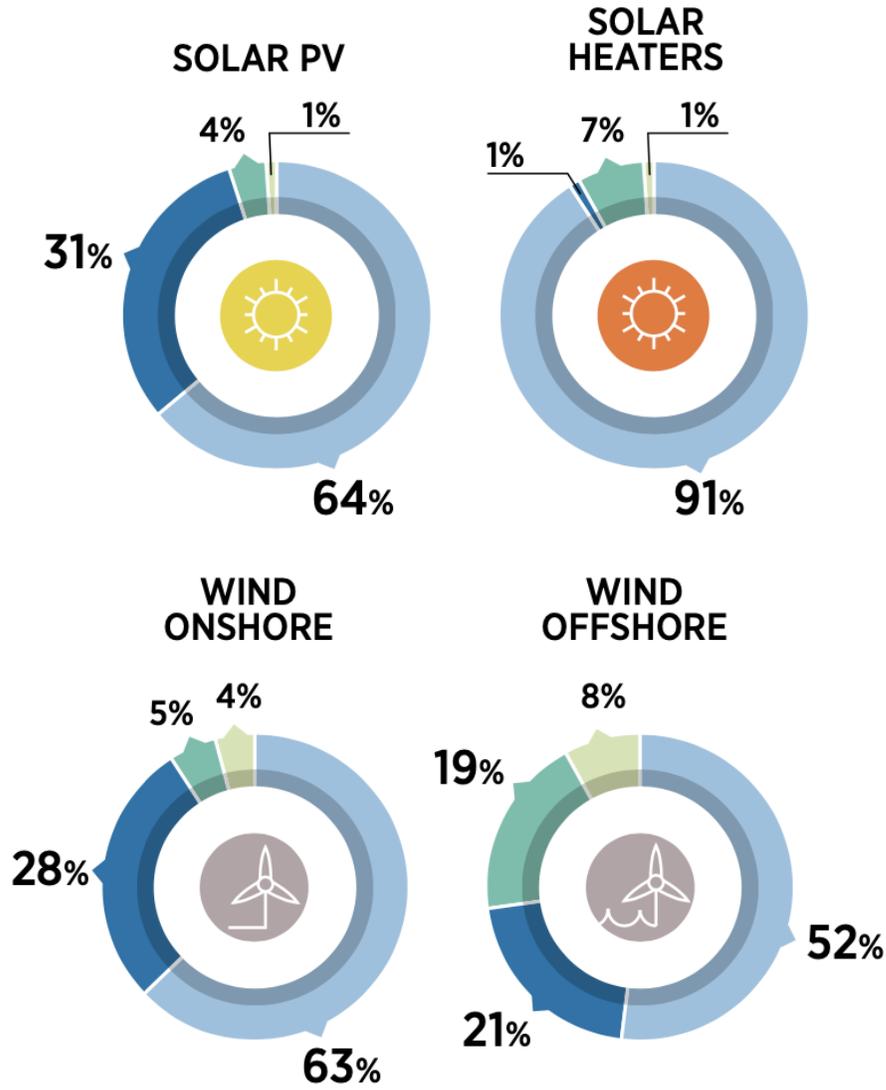
# Women's share of the renewable energy workforce

Women's share in the oil and gas, renewables, and wind power workforce, with breakdown by STEM, non-STEM and administrative positions in renewables



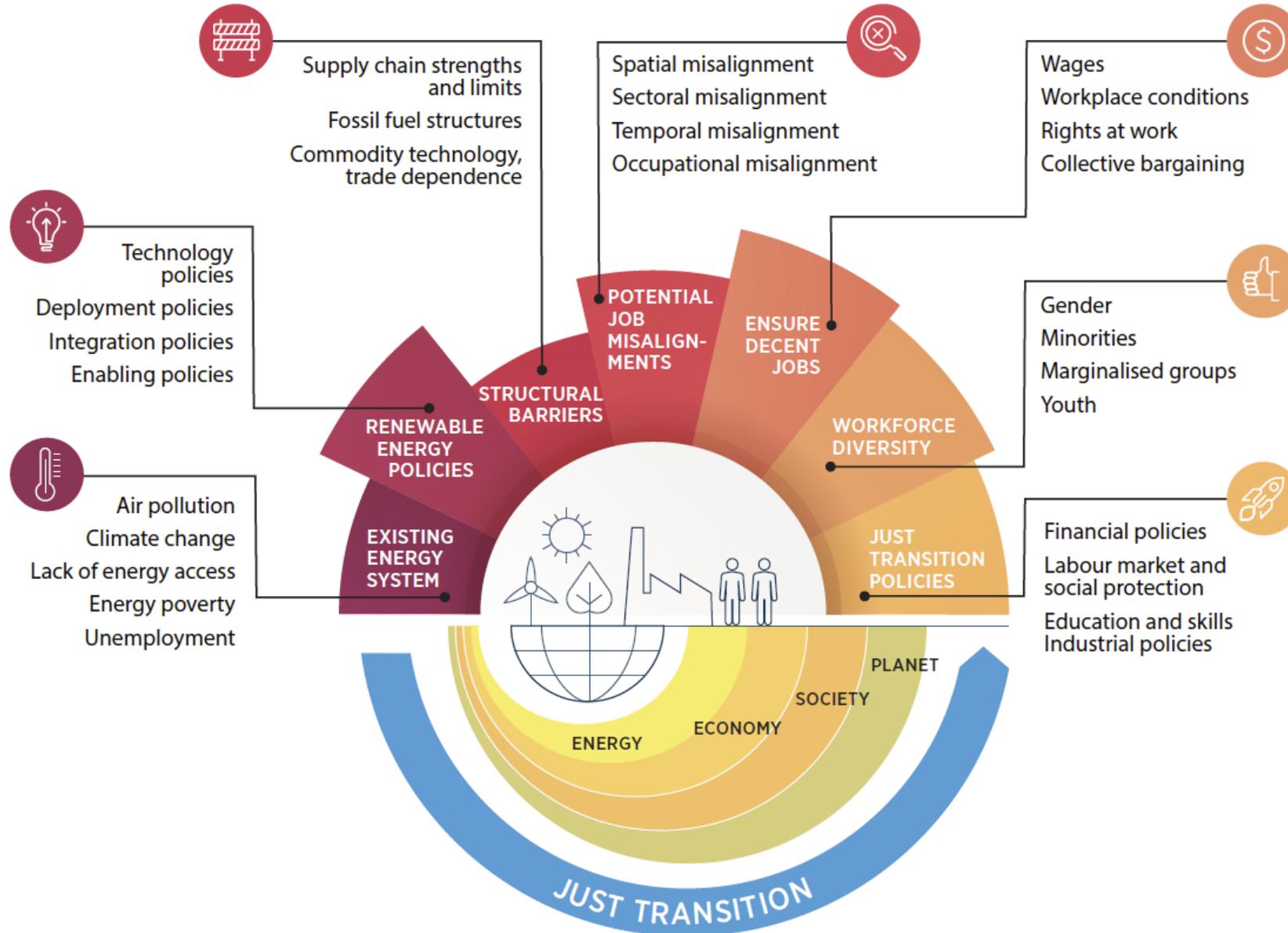
Note: STEM = science, technology, engineering and mathematics.

# Labor requirements in wind, solar; Skill-delivery pathways



● Lower certification    
 ● STEM professionals    
 ● Non-STEM professionals    
 ● Administrative

# Just Transition - a comprehensive policy framework





**Q & A**  
**10 min**

## NEXT WEBINARS

☐ TUESDAY, 14 December 2021 • 14:00 – 14:30 CET

“Benchmarking Scenario Comparisons: Key indicators for the clean energy transition”,

☐ TUESDAY, 25 January 2022 • 14:00 – 14:30 CET

“Reaching Zero with Renewables: Capturing Carbon”

☐ TUESDAY, 8 February 2022 • 14:00 – 14:30 CET

“Sector Coupling in Facilitating the Integration of Variable Renewable Energy in Cities

For more information and to register: <https://irena.org/events/2020/Jun/IRENA-Insights>

**THANK YOU FOR JOINING US!**

**SEE YOU IN OUR NEXT WEBINARS**

**[www.irena.org/events/2020/Jun/IRENA-Insights](http://www.irena.org/events/2020/Jun/IRENA-Insights)**