Time for Collective Action to Boost Female Employment and Leadership in South Asia's Power Sector

The Second WePOWER Partnership Forum

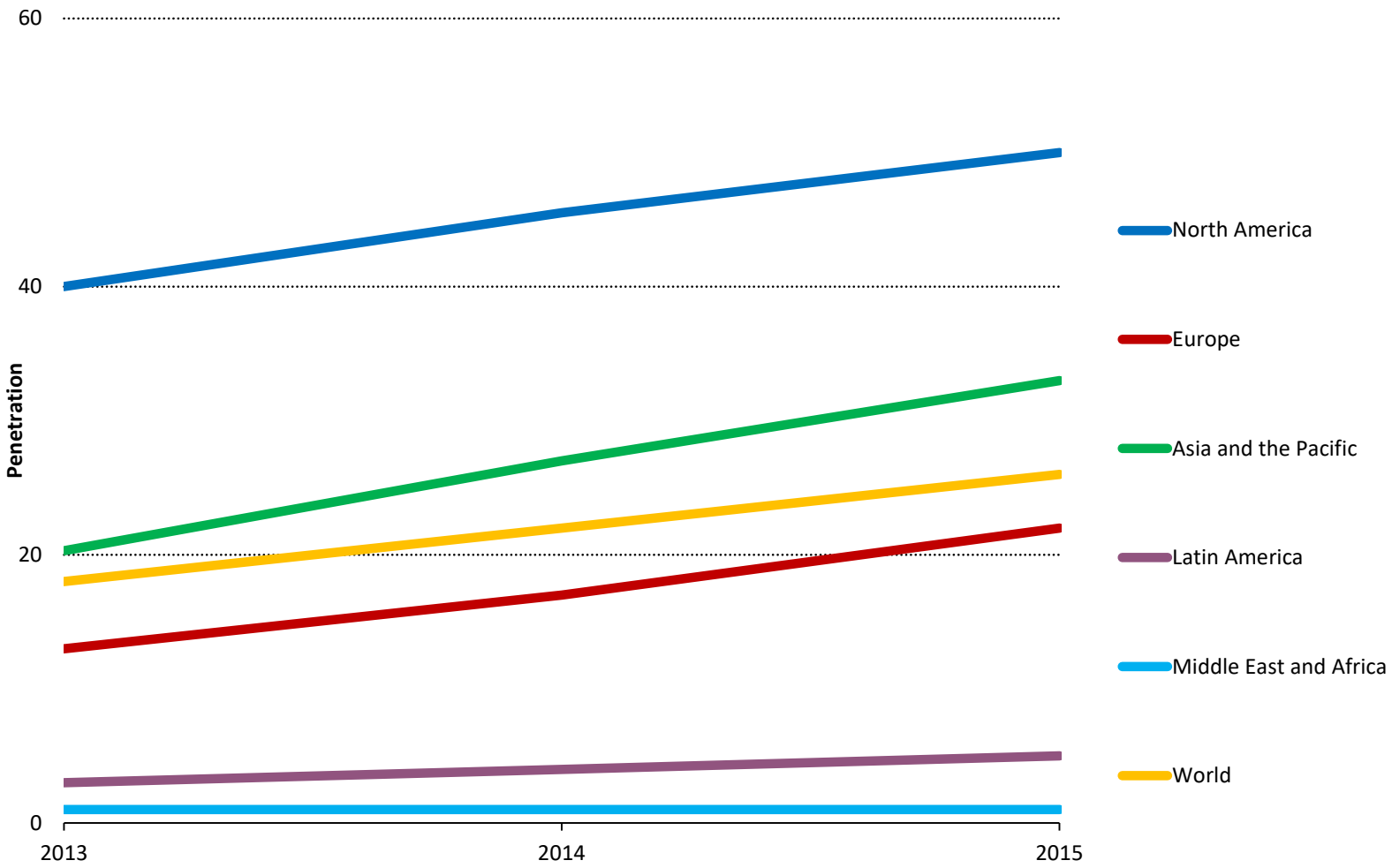
Women in Power Sector Professional Network in South Asia (WePOWER)

The Asian Development Bank HQ, Manila, Philippines

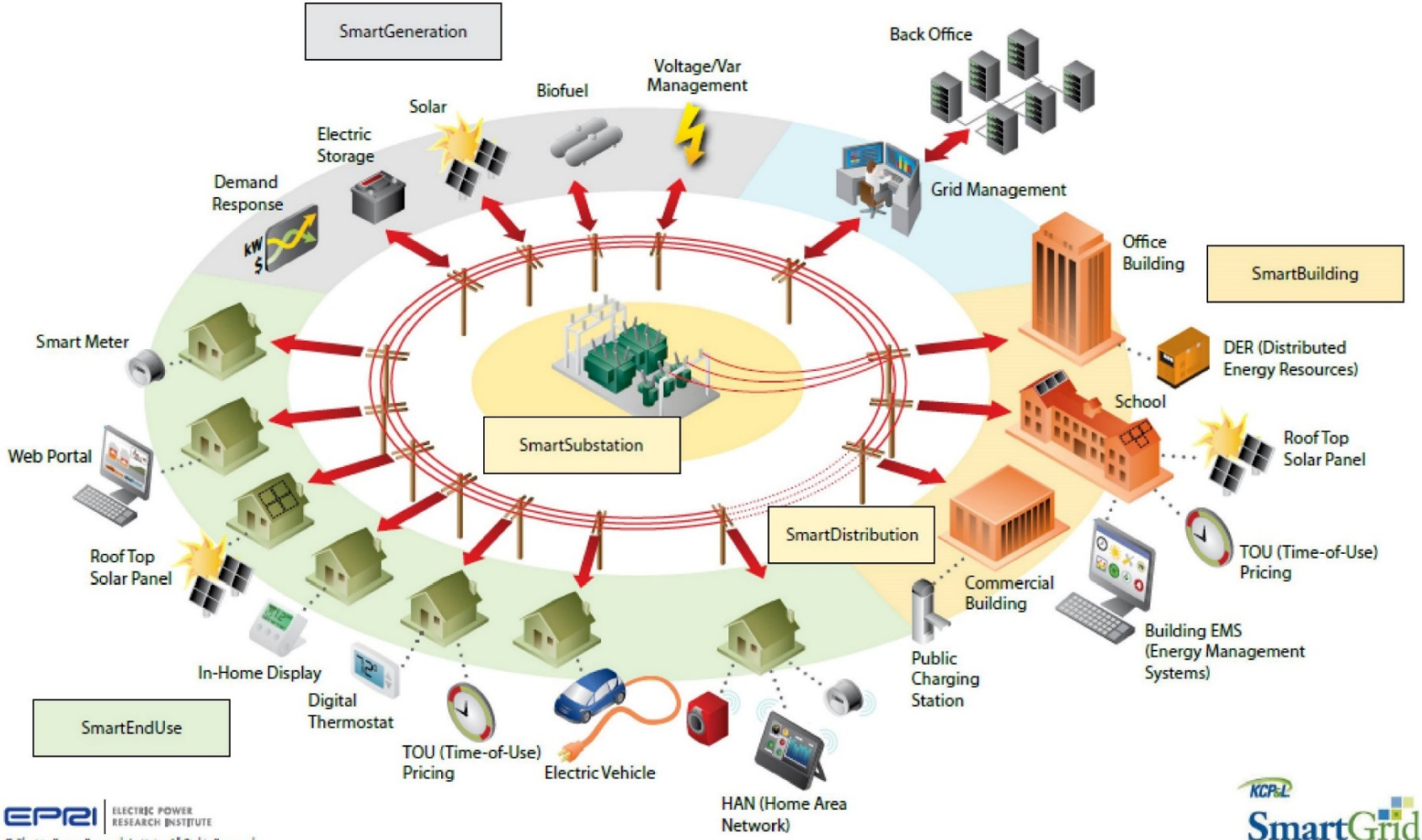
November 20-21, 2019

A. The Changing Context: The energy transition to ‘smarter grid’

Smart Meter Penetration by Regions

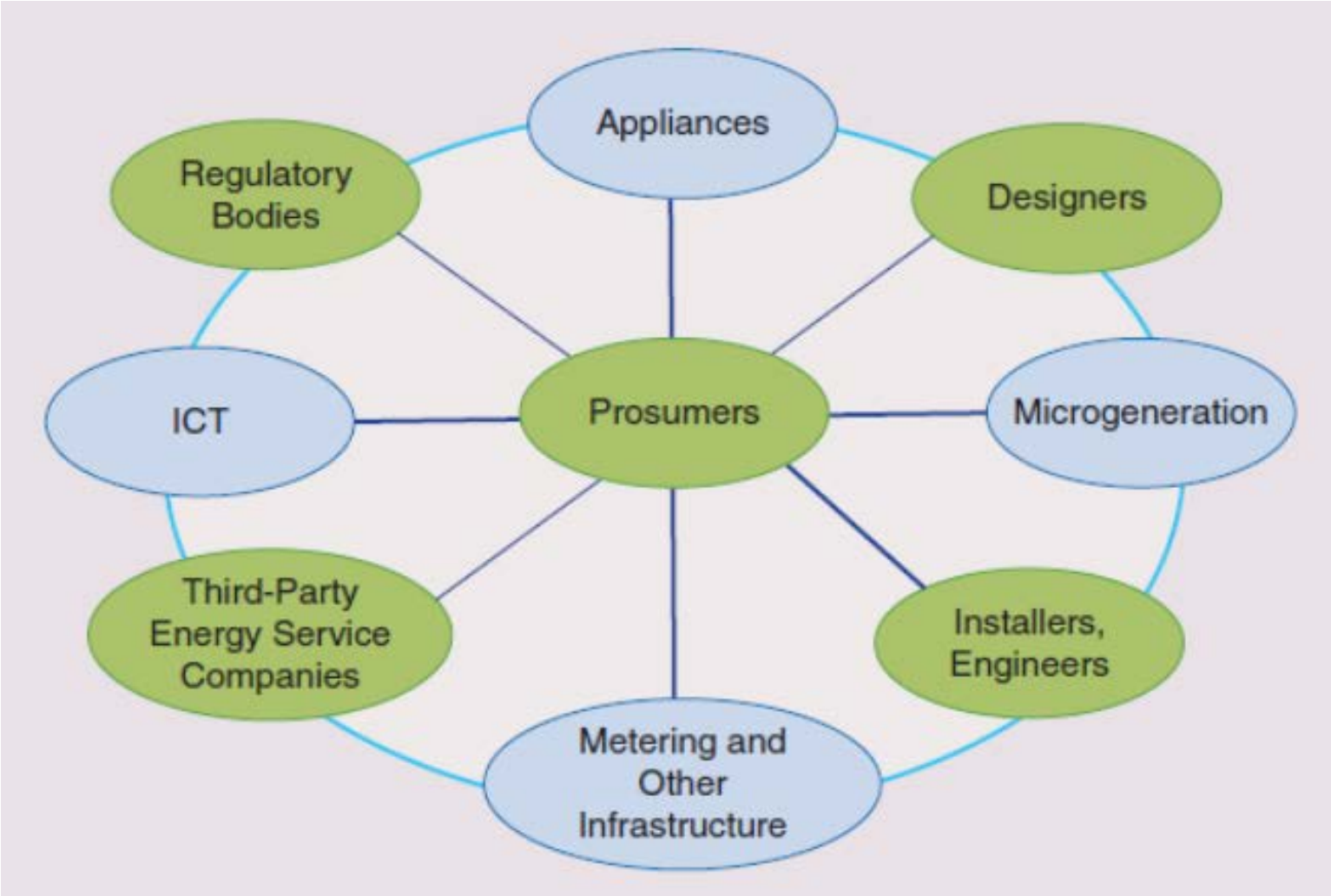


International Energy Agency, TCEP, 2016



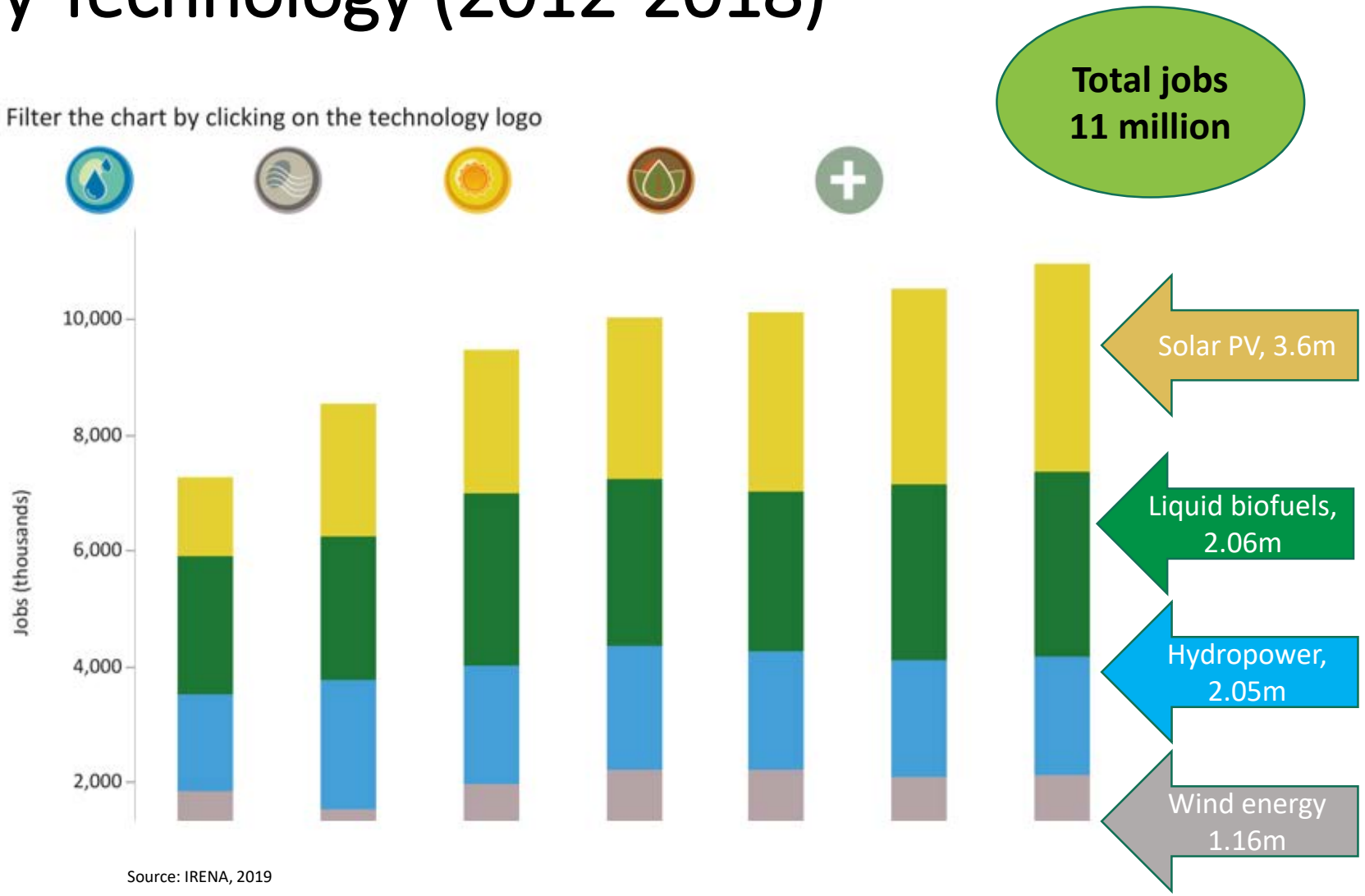
Communications between some actors in an electricity system

Enter the 'prosumer'

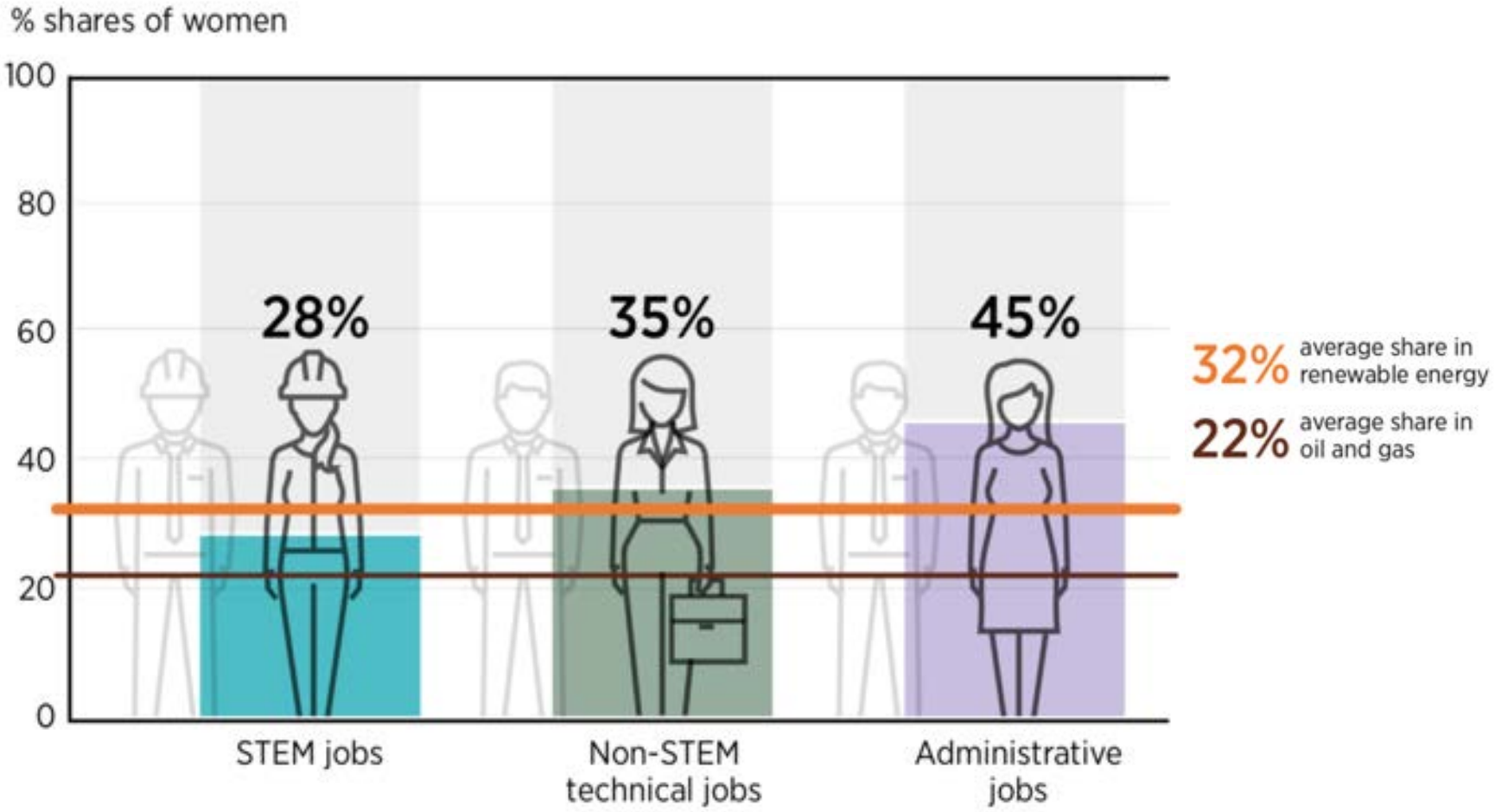


B. Employment Trends

Global Renewable Energy Employment by Technology (2012-2018)



Source: IRENA, 2019

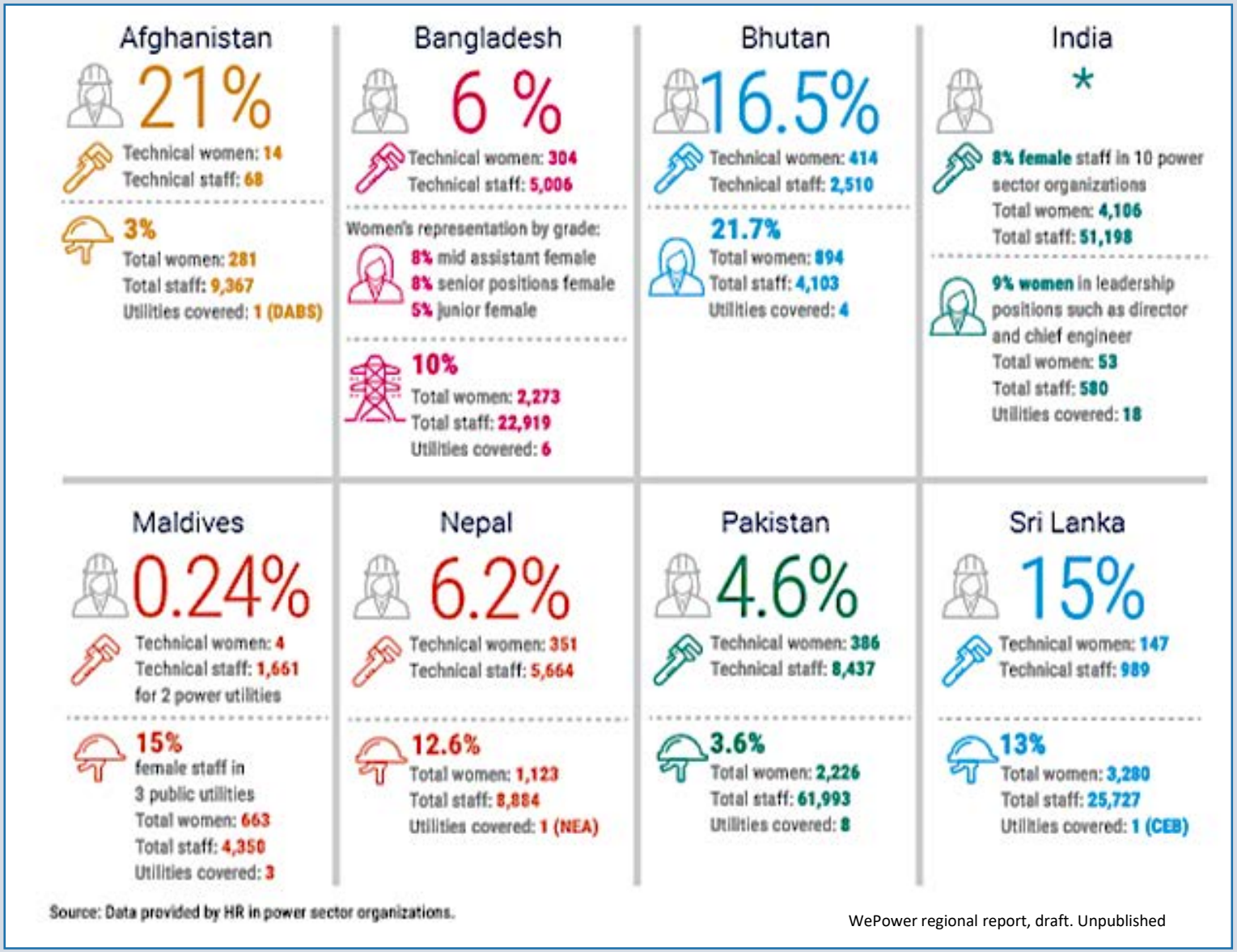


Source: IRENA, 2019b.

STEM = science, technology, engineering and mathematics.

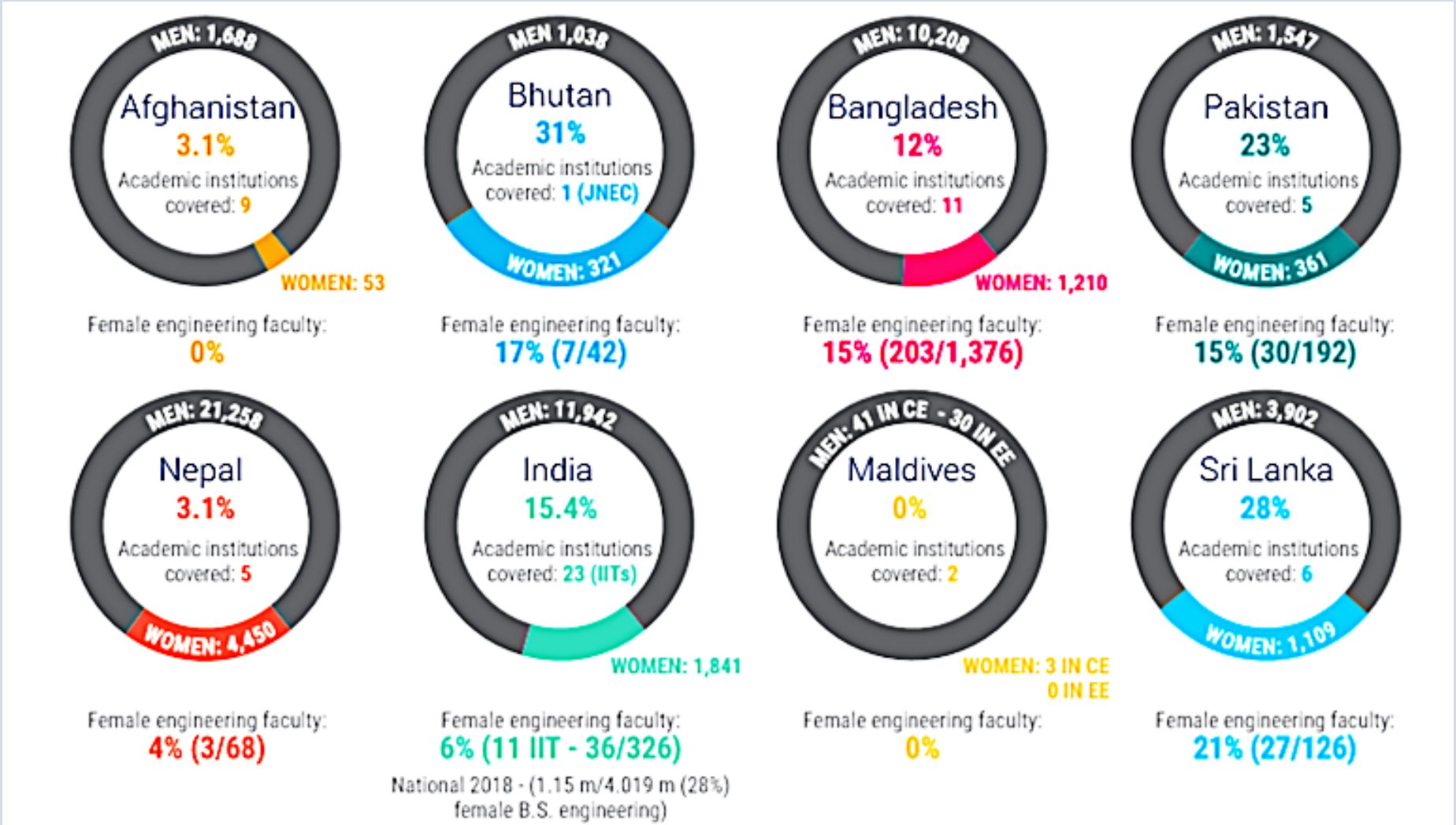
C. How far have women come, really, in stem education and jobs in South Asia?

Women in industry -- South Asia (2018)



WePower regional report, draft. Unpublished

Women's in South Asia Academic Engineering Programs (2018)



Note. Includes electrical engineering, mechanical engineering, power systems engineering and civil engineering programs. Faculty count includes visiting lecturers, teaching assistants and technical support staff.

WePower regional report, draft. Unpublished

Very low female representation in the power sector.

- Representation in utilities is low for women in all roles (3%-25%) and even lower for women in technical roles (0.1%-21%).
- Women tend to work in the middle- to lower-level nontechnical (i.e., administrative) positions, *but an encouraging number of women are now in senior and leadership positions.*

Low female enrolment in engineering education (0.5%-31%) contributes to the small pool of qualified job candidates.

Major barriers identified by participants:

- The lack of role models/networking support.
- Limited fieldwork/training opportunities.
- inadequate facilities -- separate toilets, safe transportation, daycare, flex-leave.

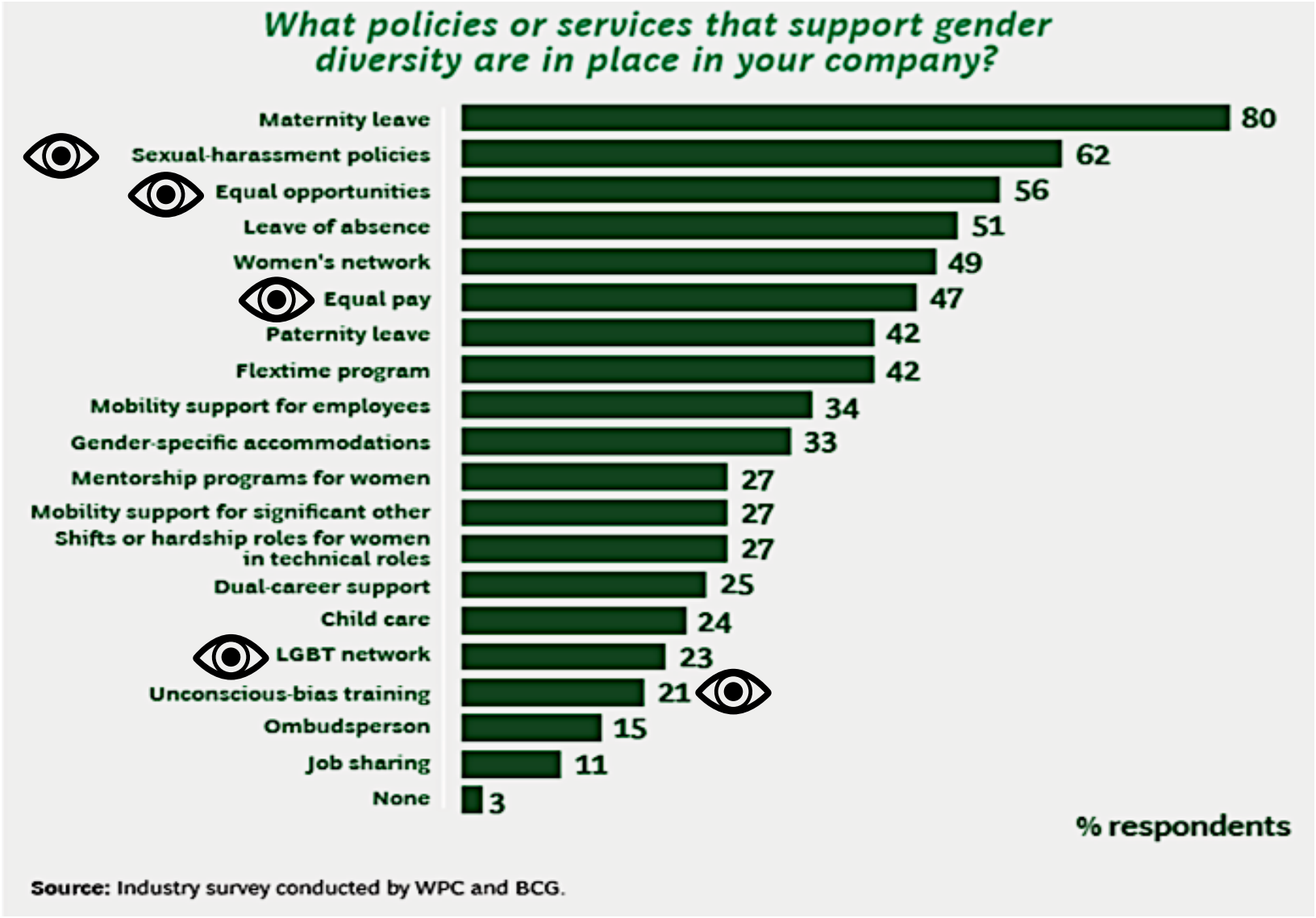
INSTITUTIONAL CULTURE

- **Active and passive discrimination,**
- **Sexual abuse and harassment.**

Still a long way to go …

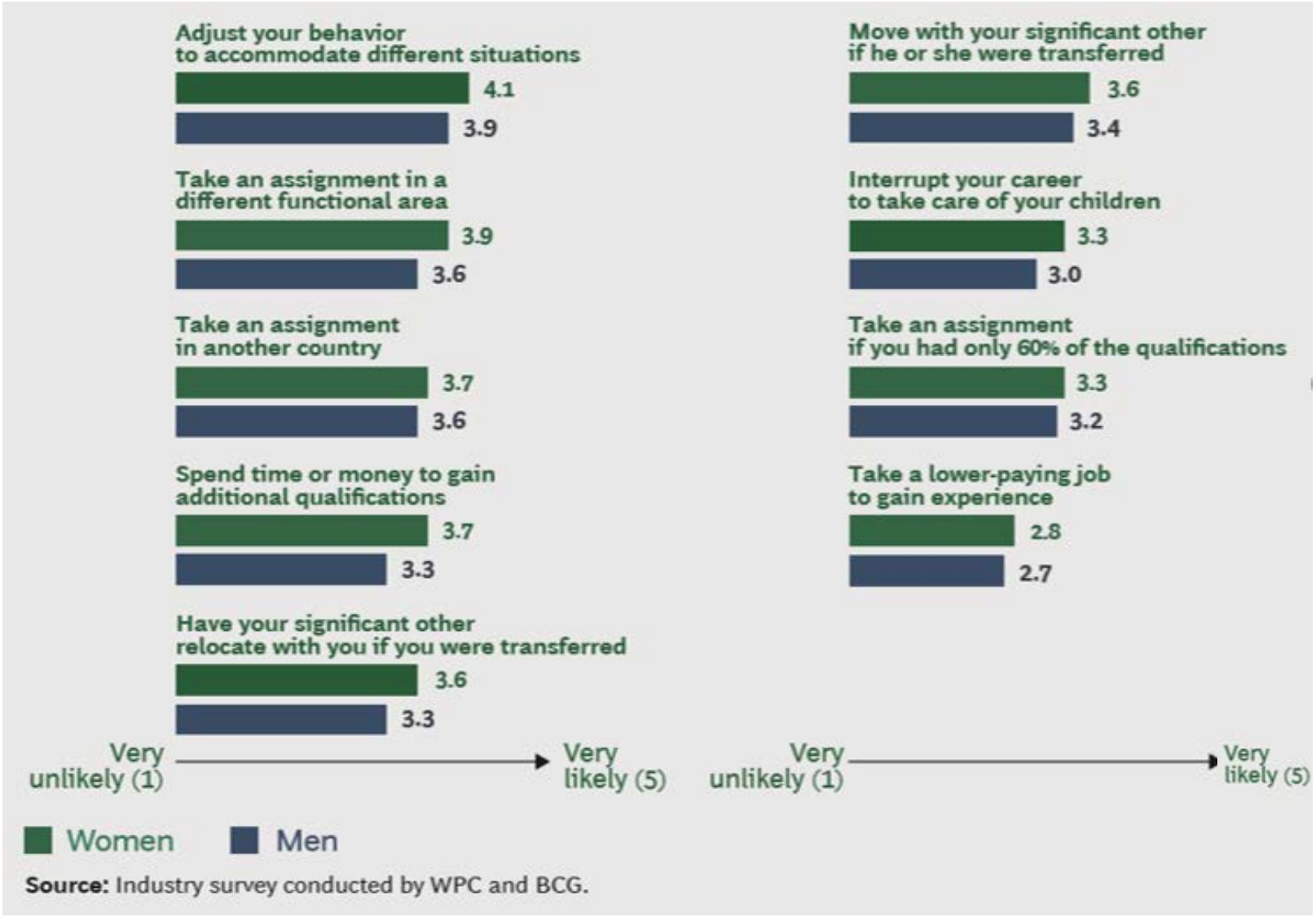
D. Institutional culture: It’s in the DNA

Policies & Services offered by Oil and Gas Companies



Women Express Greater Willingness to be Flexible than Men

How likely would you be to do the following?



Source: Industry survey conducted by WPC and BCG.

F. The future grid & skills challenges

Supporting women in STEM professions is KEY.

- **The electricity grid is increasing in complexity**

= decentralized, distributed, networked, uncertainty

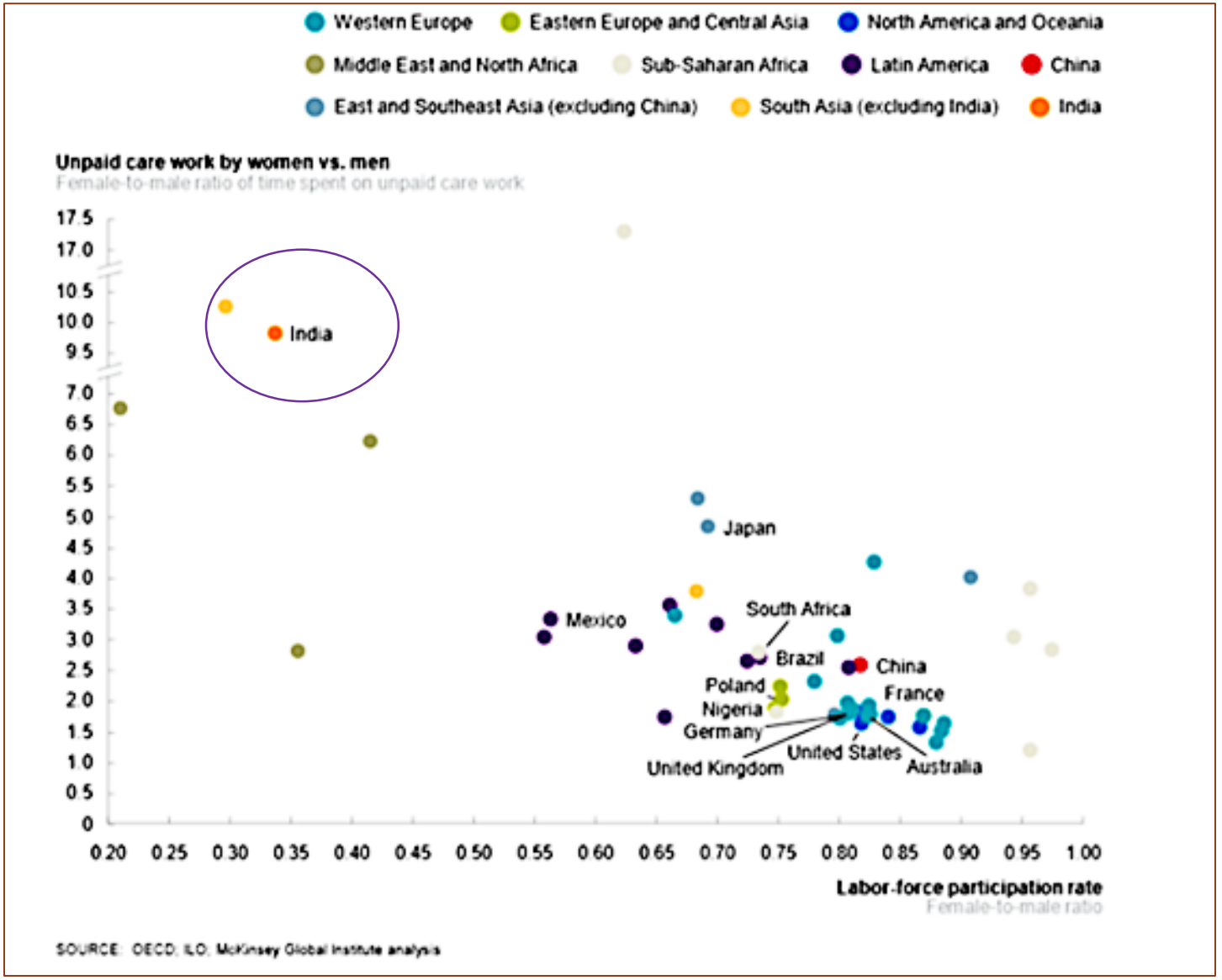
- **To serve this we need**
  - Better training, with more diversity in skills
  - New management, regulation, governance
- **A new workforce across management, engineers, to maintenance and sales agents e.g.**
  - **Network design** requires a new engineering approach & power engineering courses are being re-written
  - **Maintenance & recycling** (distributed, smaller scale, different life cycle, some of which is unknown)
  - **Regulator, market, operator, aggregator** (more diversity, more dynamics, more complex scenarios)
- **More and better trained people who are more effective, with greater interpersonal skills or *AI assisted skills***

Key Messages:

STEM skills are in high demand and demand will grow with 'complexity of engineering'

In engineering & design, gender diversity leads to more wholistic solutions, with less bias.

Women spend more time than men in unpaid care work, but the gap narrows as female participation rises vs. men



G. Opportunities in employment in energy sector institutions/utilities

Some examples from Technology 'Audit'

- **Grid connected solar rooftop PV: Small and independent power producers**
- **Distributed Energy Resources (DER) – on and off-grid: Microgrids -- Women's participation as power producers, entrepreneurs, technicians, managers.**
- **Grid-connected solar and wind (generation) parks: Community Development modalities with MSME development; employment and training (skilled and semi-skilled).**
- **National biogas programs: Entrepreneurs at various points in the supply chain and system**

Most countries have 'schemes', financial assistance programs -- subsidies, cheap credit schemes -- to promote technology uptake and ownership for BPL and marginalised groups.

Larger generation projects – Gender mainstreamed community development programs using CSR funds (local infrastructure, livelihoods, etc.)

Smart Grid

Demand Side Management (DSM), energy efficiency, etc

Potential for small and micro power producers to emerge as the backbone of the new minigrid industries.

Policy, planning and regulation – Net metering and net-plus programs have entry points for ppor households and beyond

Special attention needed to ensure that the existing female workforce participates in retraining!

H. What is the value of a network?

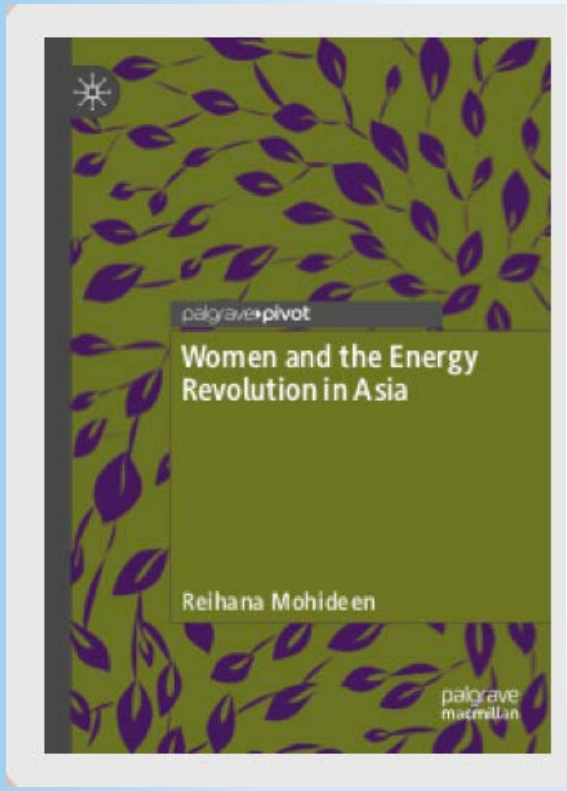
- Provide contacts and acquire influential mentors.
- Identify and open opportunities.
- A platform to share information, experiences, and lessons.
- Complement and mobilize strengths and advantages for advocacy and campaigning purposes.

Key take-aways

- ✓ It is time for collective action to boost opportunities for STEM education, practical training, employment, entrepreneurship, and leadership of women in the energy sector.
- ✓ The WePower network will be beneficial as it contributes to advancing the professional capacities of its members.
- ✓ However, it will be more effective if it leverages educators, employers and role models to join forces to collectively:
  - ➢ promote and motivate girls' STEM education
  - ➢ ensure STEM education, energy sector policies, projects and institutional workplace practices are gender-responsive.

And a challenge going forward:

How to make all these interdependent elements come together -- STEM education, to female industry professionals, entrepreneurs and women in project communities – as a force for change?



THANK YOU!

r.mohideen@unimelb.edu.au

https://www.palgrave.com/gp/book/9789811502293