Clean Energy Transitions: Workforce, Policies, and Implementation Strategies to Ensure Justice, Equity, Diversity and Inclusion (JEDI)

December 6, 2022
The Empowering People Initiative (EPI) is a horizontal initiative under the Clean Energy Ministerial (CEM).

Canada, the U.S and the European Commission launched the EPI at the twelfth Ministerial in 2021, to recognize an area of work that is currently underemphasized by the technology-oriented nature of many CEM initiatives and campaigns.

The EPI aims to build on and complement existing work streams that already promote equity and inclusivity, such as the Equality Initiative (previously known as C3E International) and the Equal by 30 Campaign.

**Objective**

To highlight critical socio-economic elements of the energy transition as it relates to advancing skills, inclusivity and workforce development in clean energy.

**Ambition/Target**

To bring forward novel approaches and diverse perspectives needed to move the needle on achieving a just and equitable transition for a clean energy future.
Empowering People Initiative

Co-leads
- Canada
- United States
- Europe
- India

Participants
- Mexico
- Denmark

Partner Organizations
- SDG7 Youth
- ILO
- UNIDO
- IRENA
- World Economy Council
- The World Bank
- Iea

Key Deliverables


2. ISGAN-EPI 2022 Award of Excellence in Smart Grid Workforce Development for an Inclusive Energy Transition. The award was presented to Reena Suri, Executive Director of the India Smart Grid Forum, at CEM13 in Pittsburgh.

Thank you!

Contact the CEM Secretariat to get in touch with the EPI Team: Secretariat@CEMSecretariat.org
Clean Energy Solutions Center

Presented by Rob Horner
December 6, 2022
<table>
<thead>
<tr>
<th><strong>OBJECTIVE</strong></th>
<th><strong>RATIONALE</strong></th>
<th><strong>AMBITION/TARGET</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>To accelerate the transition of clean energy markets and technologies.</td>
<td>Many developing governments lack capacity to design and adopt policies and programs that support the deployment of clean energy technologies.</td>
<td>Support governments in developing nations of the world in strengthening clean energy policies and finance measures.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>ACTORS</strong></th>
<th><strong>ACTIONS</strong></th>
<th><strong>UPDATES</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Leads:</td>
<td>▪ <strong>Deliver</strong> dynamic services that enable expert assistance, learning, and peer-to-peer sharing of experiences. Services are offered at no-cost to users.</td>
<td>Website: <a href="http://www.cleanenergyministerial.org/initiatives-campaigns/clean-energy-solutions-center">www.cleanenergyministerial.org/initiatives-campaigns/clean-energy-solutions-center</a></td>
</tr>
<tr>
<td>Operating Agent:</td>
<td>▪ <strong>Foster</strong> dialogue on emerging policy issues and innovation across the globe.</td>
<td>Factsheet: <a href="http://www.nrel.gov/docs/fy22osti/83658.pdf">www.nrel.gov/docs/fy22osti/83658.pdf</a></td>
</tr>
<tr>
<td>Partners:</td>
<td>▪ <strong>Serve</strong> as a first-stop clearinghouse of clean energy policy resources, including policy best practices, data, and analysis tools.</td>
<td>Requests: Now accepting Ask an Expert requests!</td>
</tr>
<tr>
<td>More than 40 partners, including UN-Energy, IRENA, IEA, IPEEC, REEEP, REN21, SE4All, IADB, ADB, AfDB, and other workstreams etc.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The Clean Energy Solutions Center

**Ask an Expert Service**
- Ask an Expert is designed to help policymakers in developing countries and emerging economies identify and implement *clean energy policy* and finance solutions.
- The Ask an Expert service features a network of more than 50 experts from over 15 countries.
- Responded to over 300+ requests submitted by 90+ governments and regional organizations from developing nations since inception.

**Training and Capacity Building**
- Delivered over 300 webinars training more than 20,000 public & private sector stakeholders.

**Resource Library**
- Over 1,500 curated reports, policy briefs, journal articles, etc.

For additional information and questions reach out to Jal Desai, NREL, jal.desai@nrel.gov
Green Jobs Initiatives: Creating Workforce Readiness for the Green Economy

Debra Rowe

on behalf of UNEP-YEA and HESI

December 6, 2022
Green Jobs: Workforce Readiness for the Clean Energy Transition


Contributors from the following groups to the Guidance Document:

- EAUC
- IAU
- ILO
- IRENA
- NYEC
- SDSN
- UNEP
- UNESCO
- UNIDO
- UNITAR
- UPF
- World Bank
The clean energy companies are very busy.

**Solution**: HESI’s and UNEP-YEA’s Green Jobs initiative is designed to help employers meet workforce needs more effectively.
Outcomes for clean energy first, then the broader green economy

Improved:

1. Curricular upgrades and employee skills
2. Career Guidance
3. Student/Employee recruitment & job placements
4. More useful research aligned to climate and other SDGs
Our Progress So Far - 5 key areas

1. Created a community of > 4000 members:
   - Higher education leaders like rectors, educators, curricular decision makers
   - Career advising associations
   - Employers from business/govt/non-profits
   - Trade associations and their members
   - Policymakers
   - Ministers and their staff
   - Student organizations
Our Progress Continued

2. Held two introductory convenings:

   a. One for educators with International Association of Universities (IAU)

   a. One for clean energy employers and trade associations with REN21
Our Progress Continued - Held two Solutions Summits

3. First Solutions Summit was on sharing challenges and possible solutions regarding:

- Recruitment,
- Career Advising,
- Employee Placement & Retention
4. Second Summit was held in partnership with the SDG Publishers Compact Fellows:

https://www.sdgcompactfellows.org/

Convened journal editors and publishers to:

• Create more relevant research
• Get the results out to practitioners
• Aligning educational materials with climate issues, clean energy and SDGs
5. Next Solutions Summits

- For technical and community colleges
- For K12
- For funders
- For practitioners and researchers
- For employers and educators and job placement staff
- For career advisors and recruiters
- For policymakers
NEW Green Jobs for Youth Pact

UNEP
UNICEF
ILO

Make the transition to a low-carbon, circular and nature positive economy via:
• Employment and entrepreneurship,
• Environmental education,
• Empowerment and youth partnerships
Other Current Projects/Collaborations

1. **ICLEI Global** and **Thriving Earth Exchange** and **EPIC-N**: increasing city-level climate mitigation/adaptation by connecting technical experts and students to communities

2. **Power for All**: India and Africa focus on workforce for the energy transition - distributed renewable energies
Other Current Projects/Collaborations

3. **Clean Energy Ministerial**:  
   - policy library and policymaking collaboration

4. International Youth for Climate Education coalition
Other Current Projects/Collaborations

5. International platform for knowledge items and networking - Green Learning Network

6. IRENA and their Energy Education Network

7. ILO’s new tool for TVETs and their great work on workforce action planning for countries
For more information:

DebraRowe@aya.yale.edu
US Partnership for ESD
UNEP-YEA
HESI

Congrats on all you have done

Congrats on all you will do in the future

Thanks to Evey Mengelkoch, Education for Green Jobs Coordinator for help with the presentation slides.
Thank you!

DebraRowe@aya.yale.edu
Energy Transition Education Network

Samah Elsayed, Programme Officer- Renewable Energy Education
International Renewable Energy Agency (IRENA)
Renewable Energy Workforce

43 million RE jobs in 2050 (122 million ET jobs)

Women in Renewable Energy

- Oil and gas: 22%
- Wind: 21%
- All renewable energy: 32%
- Solar PV: 40%

45.9% economy-wide average

12.7 million RE jobs in 2021

ENERGY TRANSITION EDUCATION NETWORK

INTERNATIONAL RENEWABLE ENERGY AGENCY
New global partnership between organisations and institutions working at the forefront of both education and energy.

Energy Education for Societal Transformation
- Ensuring that all people have the knowledge and information they need to be empowered to demand and contribute a sustainable energy future.

Educating the Energy Transition Workforce
- Building the skills and human resource capacities needed for the energy transition workforce.

Renewable Energy for Education
- Promotion of renewable energy use within educational institutions.
ETEN Focus Areas

• Develop and share curriculum and teaching resources
• Exchange and promote best practices in renewable energy learning
• Building the capacity of educators
• Contribute to analytical activities on skills gaps and priorities
• Make policy recommendations
• Engage in high-level awareness raising of the need for enhanced education for the energy transition
• Enhance and build on ongoing efforts of members
ETEN Founding Partners

International Renewable Energy Agency (IRENA)

UNESCO

Teach For All
A Global Network

ENERGY PARADIGM
EDUCATION NETWORK

Higher Education Sustainability Initiative (HESI)

IEEE
Advancing Technology for Humanity

UNICEF
for every child
Network membership is open to organizations, educational institutions, governments, and community-based organisations.

The level of engagement can vary. Members can:

• Actively contribute to working groups around selected activities or topics
• Contribute curriculum and teaching resources to the ETEN repository
• Share tools and good practices in renewable energy education
• Participate in knowledge exchange opportunities

education@irena.org
Thank you!

selsayed@irena.org
European Commission initiatives on green skills

Clean Energy Transitions: Workforce, Policies, and Implementation Strategies to Ensure Justice, Equity, Diversity and Inclusion (JEDI)
06 December 2022
Policy background context
EU's raised climate ambition

- Climate neutrality by 2050: European Green Deal (2019), EU Long-Term Strategy to UNFCCC (2020) under Paris Agreement

- The European Climate Law, signed by MS and Parliament in June 2021, sets out:
  - Climate neutrality in the Union by 2050 as a legally binding objective
  - A 2030 target to reduce GHG emissions by at least 55% compared to 1990 levels
  - Globally, national net zero pledges increased rapidly in 2020 and 2021 in run-up to COP26; Jut Transition Declarations at COP-24 and -26

Source: Stepping up Europe’s 2030 climate ambition, COM(2020) 562 final, 17.9.2020
We are too dependent on Russian fossils fuels. We must ensure a reliable, secure and affordable supply of energy to European consumers. With the #EUGreenDeal, we know how to get there. But we need to move faster. This is what RePowerEU is about.

Source: President von der Leyen
Twitter 8 March 2022
Skills for the fair green transition
Skills for the green transition

**Technical skills**
- Labour market oriented
- Occupation/sector specific
  Example: to perform a feasibility study on solar heating

**Transversal skills**
- Labour market oriented
- Cross-sectoral
  Example: Science, Technology, Engineering, and Math (STEM) skills

**Citizenship skills**
- Society oriented
- All-encompassing
  Example: Environmental awareness
Taxonomy of skills for the green transition

• Novelty as part of the European Classification of Occupations, Skills and Competences (ESCO).

• 571 ESCO skills and knowledge concepts labelled as green, including:
   381 skills;
   185 knowledge concepts; and
   5 transversal skills.
Recovery and Resilience Facility (RRF)

- Green skills and jobs are part of the RRF contribution to the green transition (pillar 1).

- RRP s include reforms related to green skills and green jobs (EUR 1.5 billion).

- They cover:
  - Investments contributing to **reskilling and upskilling** initiatives.
  - Reforms on developing and implementing new targeted active employment policy measures for the needs of the green transition. These include employment support, **educational policies** and further active labour market policies.
European Year of Skills - 2023

• Upskilling and reskilling
• Skills relevant for the fair green transition
• Aspirations <-> opportunities
• Third countries workforce
• Skills intelligence tools and mapping instruments
Supporting documents


Eurofound (2021): Tackling labour shortages in EU Member States (Chapters linked to a climate-neutral future and the European Green Deal), URL: https://www.eurofound.europa.eu/sites/default/files/ef_publication/field_ef_document/ef21006en.pdf


European Commission (2021): The future of jobs is green (foresight study), URL: https://publications.jrc.ec.europa.eu/repository/handle/JRC126047


Thank you

Frank Siebern-Thomas  (Frank.SIEBERN@ec.europa.eu )
Pablo JACOME ALVAREZ  (Pablo.JACOME-ALVAREZ@ec.europa.eu )

DG EMPL F.3 Fair Green and Digital Transitions, Research
(EMPL-F3-UNIT@ec.europa.eu ; EMPL-GREEN-DEAL@ec.europa.eu )
STUDENT ENERGY
CAREER TRAINING
About SE: Student Energy is building the next generation of energy leaders with 50,000 youth in 120 countries.

About SECT
SE Career Training is a 4-month cohort-based program aimed at young people between the ages of 18 and 30 who are interested in pursuing a career that advances the energy transition.

The goal of SE Career Training is to provide students in our cohort with the technical and soft skills necessary for them to land an internship or entry-level role in the energy sector.
SE CAREER TRAINING
CURRICULUM

General Curriculum
- Energy Systems 101
- Model Thinking
- Energy Career Paths
- Project Management

Specialized Curriculum
- Energy Policy and Market Analysis
- Project Development and Finance
PARTNERS

1. **The Enel Foundation**: an Italian non-profit organization promoted and financed by Enel S.p.A.
2. **Power for All**: an international non-profit they have focused on growing the market for distributed renewable energy (DRE) to end energy poverty.
3. **Sustainable Energy for All (SEforALL)**: an international organization that works in partnership with the United Nations and leaders in government, the private sector, financial institutions, civil society and philanthropies to drive faster action towards the achievement of Sustainable Development Goal 7 (SDG7).
4. **Greentown Labs**: the largest climate tech incubator in North America that aims to be a supportive, collaborative, and an inspiring community for early-stage entrepreneurs to grow their businesses.
5. **Pressure Corp**: located in Houston, Texas and provides industrial facilities the ability to monetize their waste pressure by transforming this resource into turnkey clean energy. (Updated)
6. **Celium**: a US-based venture studio designed to jump-start and accelerate energy developers focused on deploying climate infrastructure solutions at scale.
Science Community Partnerships

Raj Pandya
American Geophysical Union

6 December 2022
Community Science

• Communities and Scientists Co-creating
• Three Fundamental Principles
  – Begins with community priorities
  – End with community impact
  – Science as a human right
Thriving Earth Exchange

• Community Leader signs up for free
• Trained fellow co-designs project and recruits good & relevant scientists
  • AGU has a network of 150,000 Earth Scientists
• Projects managed to outcome in 2 years
Thriving Earth Exchange

243 Projects
555 Community Leaders
375 Volunteer Scientists
137 Fellows
42 Countries
42 U.S. States
Clean Energy Transitions

• Some community members have little familiarity with energy topics because those topics feel removed from daily life
• More time and energy from residents adds to disproportionate burdens: challenged environments, heavy workloads, persistent injustices
• Assumption that residents’ hierarchy of needs means they do care about longer terms concerns is an excuse for neglecting community engagement.
SolarWorks Project
Jobs, education, inclusion

Author: Daniel Dang, Director Business Development
Organization: SolarPower Europe

Date: 6 December 2022
How it all started...

- Solar could create up to **4 million jobs by 2050 in Europe**
- First step in 2021: **create awareness** of job opportunities in solar and show the solar industry as an attractive sector to work in
- **Launch of #SolarWorks** video project together with Grow with Google (Google’s skills initiative)
- Inspire our audience with **motivational videos** in 5 growing EU solar markets (FR, NL, SP, PL & GE)
- Visit the [website](https://cleanenergyministerial.org) and watch the [videos](https://cleanenergyministerial.org)

→ Remaining bottleneck: **connect people to the jobs and fill the skills gap**
First online SolarWorks Job Fair – 1 Dec 2022

- Why work in solar?
- What skills are needed for the energy transition?
- Diversity and best practices?
- Launch of the SolarWorks Platform

~500 registered participants
50%+ job seekers!
SolarWorks Platform

Connecting people to education + jobs

future solar workers

⇒ The algorithm **matches the skills** of job seekers with the necessary job skills
⇒ If additional skills are needed, **relevant trainings are proposed**
⇒ **Target audience**: students, graduates, people working in other sectors and people without a university degree

individual profile listing skills and job preferences

trainings

- educational institutions: companies, universities, vocational training, ...

solar companies

listing job openings and needed skills

200+ jobs on launch day!
Find the perfect job in solar industry
Thank you!

Contact: Daniel Dang, d.dang@solarpowereurope.org
Skills for clean energy transitions

Olga Strietska-Illina,
Senior Skills and Employability Specialist,
Area Lead "Skills Strategies for Future Labour Markets",
ILO, Geneva

6 December 2022
In 2015, the ILO adopted the policy guidelines for a just transition towards environmentally sustainable economies and societies for all.

Skills development & ALMPs
Key policy areas to address the environmental, economic and social sustainability.
Investment in reskilling and upskilling is crucial for clean energy transitions

- Energy sustainability scenario, 2030
- Gender outlook, 2030

The green transition will have greatest effect in mid-skill occupations

Notes: Occupations measured at the two-digit level and aggregated to one-digit level so that occupations requiring high-level skills are listed under the International Standard Classification of Occupations (ISCO-08) codes 1, 2 and 3; those requiring medium-level skills are listed under ISCO-08 codes 4, 5, 6, 7 and 8; and those requiring low-level skills are listed under ISCO-08 code 9. For methodological details, see Annex 5. Source: ILO calculations based on EXIOBASE v3 and national labour force surveys.

Greening TVET and skills development: A practical guidance tool

‘How-to’ guidance contents
- Key learning points
- Knowledge or ‘theory’ component
- Self-assessment tools
- Inspiring practical examples
- Hints and tips
- Checklists
- Links to useful resources
Piloting experience

Piloting countries (2021-2022)

- **Specific support measures**
  - Ghana (sector skills bodies)
  - Zimbabwe (ToT & TVET action plan development)
  - Zambia (assessment of greening priorities at a Regional Training Centre)

- **Coaching programmes**
  - Cambodia
  - Thailand
  - Philippines

Benefits of the tool

- Both learning and action-oriented
- Flexible: can be used on its own or with coaching
- Process-oriented approach: a journey rather than a destination
- Normative, holistic (relevant to all jobs), inclusive, deals systematically with all TVET elements
ILO knowledge products and tools on skills for a greener future
Thank you!

strietska-ilina@ilo.org

ILO SKILLS - https://www.ilo.org/skills

Global KSP - https://www.skillsforemployment.org/skpEng
Discussion and Q&A

Please use the Q&A feature to ask questions and ensure your question is answered. You can find this feature in your toolbar.
Thank you to our presenters and to all attendees!
Connect with us online:

- **Clean Energy Solutions Center:**
  - LinkedIn
  - Solutions Center updates and event invitations

- **Empowering People Initiative:**

- **Clean Energy Ministerial**
  - [www.cleanenergyministerial.org](http://www.cleanenergyministerial.org)
  - LinkedIn
  - Subscribe to the CEM newsletter