

Economic and Social Commission for Western Asia

# Skills Development for the Clean Energy Transition in the MENA region

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## IEA Workshop



UNITED NATIONS

الأمم المتحدة  
ESCWA

Shared Prosperity **Dignified Life**



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# ESCWA's Energy-focused activities

## Implementation Approach

Regional Convening Power for Intergovernmental Mechanisms

Informing Regional Processes for Global Negotiations and National Action

Building Partnerships

Conducting analytical studies and reviews

Field projects, Capacity building and knowledge sharing,

## Sustainable Energy System

Circular Carbon Economy framework

Enabling Just and Inclusive energy transition

Regional Interconnections (Electricity/Natural Gas)

Technology Transfer/Policies & Regulations

## Energy Efficiency (EE)

Programs to double the share of EE

Regional Initiatives to Upscale EE in MC

EE policies Development at National & Regional levels

Energy Productivity in Key Economic Sectors

## Renewable Energy (RE)

Programs to significantly increase the share of RE in energy mix

RE policies at National & Regional levels

RE Technology Assessment / Implementation

RE Financing Schemes

## Climate Change Mitigation

Integration of EE & RE, Hydrogen, Fuel Switching

Extractive Industries

Carbon management technologies

Gas Methane and Gas Flaring Management

Waste to Energy Technologies

Program Mandated by the **ESCWA Committee on Energy, Group of Experts on Fossil Fuels**, Support provided to the **Arab Ministerial Council for Electricity**

# Is the Arab region on track?



## Electrification

- **Nearly 91%** access (98% of urban vs 83% of rural) in 2021



## Renewables

- **5.1%** of TFEC, mainly in the residential sector (2021)



## Clean cooking

- **88%** access (2021)

Source: ESCWA, 2023; IEA, 2023; World Bank, 2023

# The rural energy access gap

How can governments and related stakeholders work together to design inclusive training programmes for jobs in clean energy industries?

Some facets of lacking access to sustainable energy in rural communities in Arab countries:

- ***Interruptible energy services:*** even where modern energy is available, its supply is not always guaranteed to be safe, reliable, and secure.
- ***Affordability:*** energy costs are high compared to the average income levels in rural areas.
- ***Inferior fuels:*** inferior liquid fuels come at high environmental and economic cost.

# Regional Initiative for Promoting Small-scale Renewable Energy Applications in Rural Areas of the Arab Region (REGEND)



## Regional Initiative to Promote Small-Scale Renewable Energy Applications in Rural Areas of the Arab Region REGEND

Social, Economic, and Environmental Impact Assessment Report



## Regional Initiative for Promoting Small-Scale Renewable Energy Applications in Rural Areas of the Arab Region Business models toolkit



## Regional Initiative to Promote Small-Scale Renewable Energy Applications in Rural Areas of the Arab Region (REGEND)

Policy toolkit



## Regional Initiative to Promote Small-Scale Renewable Energy Technologies and Applications in Rural Areas of the Arab Region (REGEND)

Factsheet







# REGEN field projects

Country	Location	# of Projects	Capacity (kWp)	Beneficiaries	# of Beneficiaries (Direct and Indirect)
Jordan	Al-Achaari, Maan and Batir, Al-Karak	17	76	<ul style="list-style-type: none"> <li>– Women agri-food cooperative</li> <li>– Women entrepreneurs (Agriculture and Agri-food)</li> <li>– Farmers</li> </ul>	850
Lebanon	Akkar Al-Atika and Chaqdouf, Akkar	6	35	<ul style="list-style-type: none"> <li>– Women agrid-food cooperative</li> <li>– Women embroidery cooperative</li> <li>– Beekeeper's cooperative</li> <li>– Agricultural cooperative                             <ul style="list-style-type: none"> <li>– Municipality</li> <li>– Municipal clinic</li> </ul> </li> </ul>	600
Tunisia	Chorbane, Mahdia	7	117	<ul style="list-style-type: none"> <li>– Dairy cooperative</li> <li>– Water pumping cooperative</li> <li>– Women Entrepreneurs (Agriculture and Agri-food)                             <ul style="list-style-type: none"> <li>– Farmers</li> </ul> </li> </ul>	1,050
<b>Total</b>		<b>30</b>	<b>228</b>		<b>2,600</b>



25 kWp solar PV system and solar water hearing system in Akkar, Lebanon



Solar water heating system in Maan



10 kWp solar PV pumping system in Chorbane, Tunisia



10 kWp solar PV system in Akkar, Lebanon

# REGEND capacity building



Country	# of Workshops	Topics	Beneficiaries	# of Attendees
Jordan	6	<ul style="list-style-type: none"> <li>– Good agricultural practices to promote energy sustainability</li> <li>– Good practices for food manufacturing and hygiene</li> <li>– Good practices for packaging, labeling, and marketing</li> </ul>	<ul style="list-style-type: none"> <li>– Women agri-food cooperative</li> <li>– Women entrepreneurs (Agriculture and Agri-food)</li> <li>– Farmers</li> </ul>	117
Lebanon	12	<ul style="list-style-type: none"> <li>– Renewable energy and energy efficiency</li> <li>– Food manufacturing, food safety, financial management, and accounting</li> <li>– Project proposal development</li> <li>– Social media marketing</li> <li>– Embroidery and sewing</li> </ul>	<ul style="list-style-type: none"> <li>– Women agrid-food cooperative</li> <li>– Women embroidery cooperative</li> <li>– Local civil society activists</li> <li>– Municipal staff</li> </ul>	252
Tunisia	9	<ul style="list-style-type: none"> <li>– Renewable energy and energy efficiency</li> <li>– Good agricultural practices</li> <li>– Distillation of medicinal and aromatic plants</li> <li>– Good practices for packaging, labeling, and marketing</li> <li>– Entrepreneurship</li> <li>– Cattle Breeding</li> </ul>	<ul style="list-style-type: none"> <li>– Dairy cooperative</li> <li>– Water pumping cooperative</li> <li>– Women Entrepreneurs (Agriculture and Agri-food)</li> <li>– Farmers</li> <li>– Municipal Staff</li> </ul>	121
<b>Total</b>	<b>26</b>			<b>490</b>



Embroidery workshop in Akkar, Lebanon



Good agricultural practices workshop in Chorbane, Tunisia



Good food manufacturing practices workshop in Maan, Jordan



Financial management workshop in Akkar, Lebanon

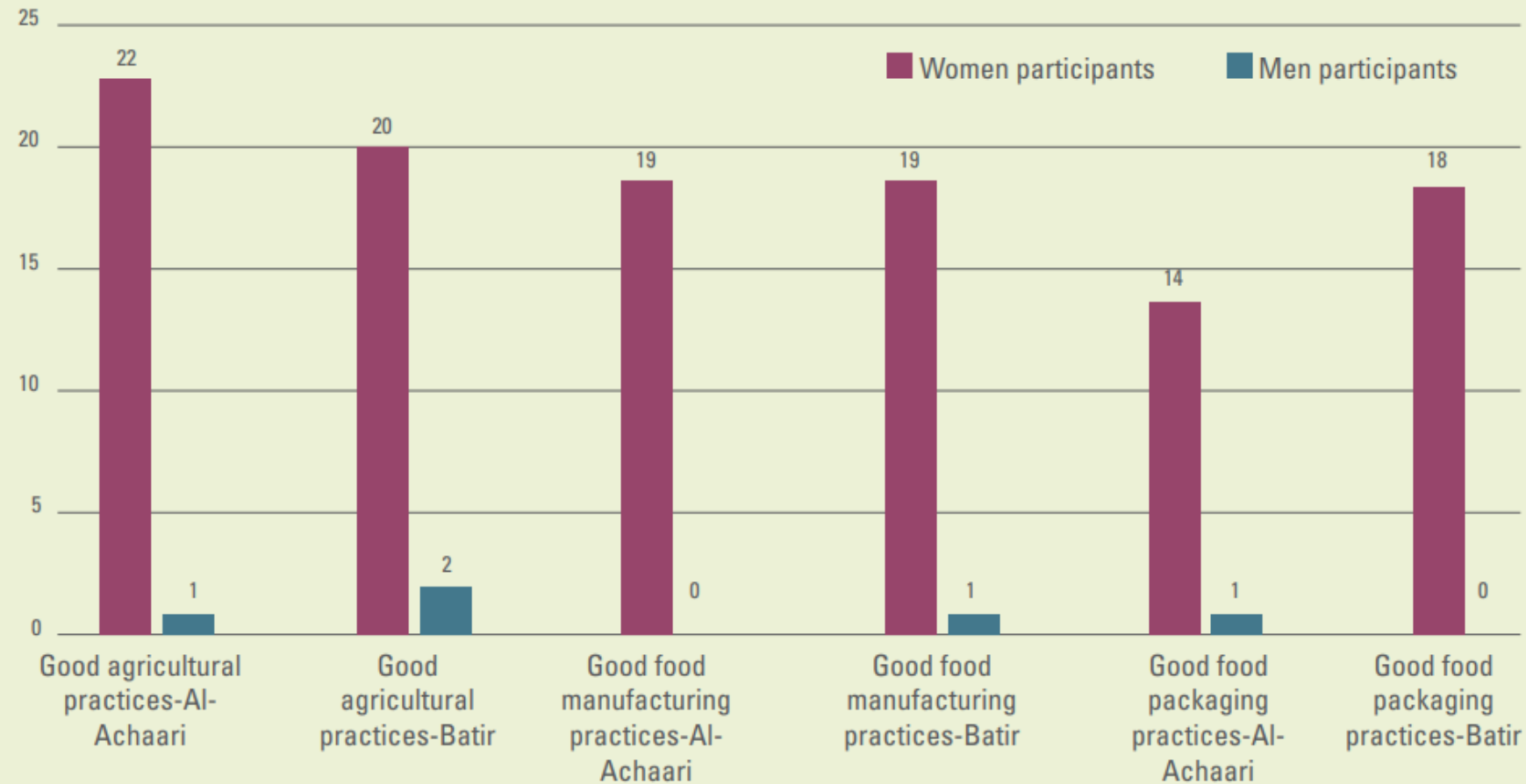


# Skills development in Jordan

**Figure 15.** Workshop on Good Food Packaging, Labelling, and Marketing Practices in Al-Achaari



**Figure 16.** Jordan Capacity Building Programme participation data





# Capacity building in Algeria



## Arab Organization for Agricultural Development



A funding agreement will be signed with AOAD to task them with implementing a capacity-building program in three rural areas in Algeria. The program which will target at least 90 rural women and youth in Algeria, will be based on REGEND's knowledge products and will cover the following topics on good agricultural and food practices based on the sustainable use of natural resources related to:

- Fruit trees and palms
- Oil extraction from fruits and olives
- Fruit and jam processing and production
- Drying, packaging, and labeling of fruits and dates
- Marketing of preserved and dried agro-food products

# E - Learning



Home Courses ▾ Professional certificates ▾ Partners Help

## COURSE DETAILS

Type  
Self-paced

Level  
Suitable for All

Duration  
15 hours

Course Language  
Arabic

SDGs  
GOAL 2: Zero Hunger  
GOAL 7: Affordable and Clean Energy  
GOAL 13: Climate Action

## Small-scale renewable energy applications in rural areas (in Arabic)

This course serves as an integrated and comprehensive introduction on renewable energy, rural development, food production, agricultural best practices, and the water-energy-food nexus. In particular, it aims to shed light on sustainable energy as an enabler for rural development, women empowerment, and sustainable agriculture and food production.

ESCWA prepared this course based on the capacity building program of the [Regional Initiative to Promote Small-Scale Renewable Energy Applications in Rural Areas of the Arab Region \(REGEND\)](#).

### Target audience:

- Women and youth
- Local authorities' employees
- Workers in rural context
- Policy makers
- Researchers in national and regional agencies



Join the course



Small-scale renewable energy applications  
in rura...

learn.unescwa.org



Shared Prosperity Dignified Life



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Thank you

# Advancing SDG 7 in the Arab region

## Related policy implications and recommendations

### Implement multi-stakeholder partnerships

- Multi-stakeholder partnerships with international agencies can be leveraged to provide technical assistance and expert advice and build capacity based on lessons learned from successful global programmes

### Coordinated action from Governments

- Attention should be paid to strengthening energy governance, building strong institutions, developing intellectual and technological capacity and reskilling human resources

The infographic features a header with the ESCWA logo and the slogan 'Shared Prosperity Dignified Life'. Below the title, a row of icons represents various energy and sustainability concepts: wind turbines, a document with a checklist, an electric car, a leaf, solar panels, and a hand holding a leaf. The 'Key messages' section is divided into three columns:

- Left Column:** Access to electricity in the Arab region was around 90 per cent in 2020, leaving 42 million people without electricity access, with access higher in urban areas than rural areas. Around 53 million people in Arab countries did not have access to clean cooking, with large subregional disparities.
- Middle Column:** The Arab region is lagging in achieving Sustainable Development Goal (SDG) 7 targets. Supply chain disruptions, economic downturns, conflict and instability in several Arab countries have impacted progress, and urgent efforts are vital to achieve SDG 7 by 2030.
- Right Column:** Primary energy intensity is higher in the Arab region than the global average. Despite improvements over the past decade, the pace of improvement has slowed and lags behind the SDG 7 target of improving energy intensity by 2.6 per cent per year till 2030. Renewable energy penetration rates continue to lag other regions, and most renewable energy comes from traditional biomass. Modern renewables, however, continue to grow as their falling costs have made them increasingly cost competitive with conventional sources, particularly in the Gulf Cooperation Council (GCC) countries.





# Human capital development

- Capacity building is required to accelerate RE, EE and increasing access to modern energy, as part of a just and inclusive energy transition
- New digital technologies like AI/ML (weather forecasting, EE) and blockchain (tracking and certification of RE, REC trading, DeFi) require new skills, and therefore training.
- With sustainable H2, the region is best placed to dominate exports by 2050 due to the low cost of RE power and experience with oil and gas export.
- Retraining and skills development in order to capitalize on new opportunities is essential.



Source: Oxagon, NEOM

# Inclusive, sustainable, environmental and economic revival & development of Arab rural communities



## RE Technologies

- Effective/innovative RE-Small scale decentralized and modular, energy systems.
- Water-Energy-Food nexus
- Access to productive resources, appropriate and reliable services.

## Human Capacity

- Model based on knowhow
- Trainings, Knowledge skills/Advisory Services.
- Brining change among rural community from resource poor living standards to reliable, affordable and modern sources of energy.

## Women's Empowerment & Social inclusion

- Economic power in rural women's hands
- Female mentor
- Participative and bottom-up approach

## Entrepreneurial development

- Economic transformation, Environmental and socio-economic development priorities
- Entrepreneurial jobs in productive sectors
- Spawn energy-based enterprises around RE based service providers

## Policy and institutional Framework

- Pro-poor investments and private sector involvement
- Synergies among national/regional stakeholders.
- Innovative incentive mechanisms.

**Human Rights, Gender equality, resilience to Climate Change**

**Untapped RE Resource, high unemployment, chronic poverty, water scarcity, food insecurity, energy poverty and vulnerability to climate change of the rural communities of the Arab countries**

# Skills development

The lack of knowledge of and skills on how renewable energy technologies and applications can be utilized to increase efficiency and productivity was identified as a major barrier, alongside lack of access to finance.

## **Ex. Lebanon**

In response, REGEND organized 12 capacity building workshops attended by 252, mostly female, participants to address the lack of skills and know-how required to improve and grow existing and new income generation activities.