

THE MAIN CHALLENGES OF HUMAN CAPACITY DEVELOPMENT GLOBALLY IN ENERGY SECTOR



Female
Participation

knowledge
transfer

Scarcity of
Subject Matter
Experts

Youth
Attraction

Working
Environment

Workforce
Retention

Empowering the Energy Sector through a Collaborative Energy Ecosystem

Energy Sectors



Oil



Gas



Refining &
Petrochemicals



Power,
Renewables



Hydrogen



Carbon

Governmental Entities and Energy Ecosystem



Industrial Entities



Education & Training Entities



Strategical Focus

Workforce Planning &
Orchestrating

Capability Building

Attraction & Retention

Female
Empowerment

To Enable a Collaborative Energy Ecosystem, K.A.CARE has worked on defining a clear governance for Human Capital Development Across All Energy Pillars

Oversight Committee

Chaired by the Ministry of Energy and leaders of government, private sector, higher education & R&D, TVET, training institutes

Providing guidance and feedback as well as directions

Technical Advisory committee

Ensuring synergy with industry on the skills sets and identifying workforce gaps

Oil & Gas and Petrochemicals

Clean Hydrogen and Carbon Capture

Power, Renewables and Nuclear

Each team will be working across the below tracks



Higher education & R&D

1. Expanding programs with universities & R&D to meet the energy transition
2. Linking KSA's infrastructure with international networks to enhance educational delivery



Technical Vocational (TVET)

1. Expanding technical training programs to include professional certifications
2. Linking training to employment



Professionals & technical training

1. Upskilling and reskilling of professional employees
2. Supporting entrepreneurship in energy
3. Expansion to cover Information and computer technologies for the energy sector

Key capacity building tracks aimed at ensuring the operational readiness and support filling the workforce gaps

The Human Capital Development initiatives will Support the Energy in Transition of Saudi Arabia

Strategic theme	Initiative	Description
A	Holistic Workforce Planning	Forecasting and planning of the workforce requirements until 2040 and ensuring synergy and alignment across the energy ecosystem
B	Capability Building	<p>2. Enhancing and developing vocational education</p> <p>3. Enhancing and developing higher education programs</p> <p>4. Enhancing and developing professionals in energy</p> <p>5. Improving woman participation in the Energy Sector</p> <p>6. Supporting skills development in the area of ICT in the energy sector</p> <p>7. Enabling Future high caliber STEM / STEAM programs for youth</p> <p>Ensuring operational readiness through:</p> <ul style="list-style-type: none"> • Linking the Saudi energy ecosystem to international networks • Development of students and faculty through programs enhancements covering curriculum development • Supporting internships, industry placement and educational visits to leading facilities locally and globally • Infrastructure support covering labs, equipment, etc. • Increasing female access across all human capital initiatives <p>Cyber security, Data science, IoT, AI, computing and Quantum computing and big Data are all important aspects affecting the energy sector</p> <p>Aimed at increasing the sector attractiveness and students' preparedness for the energy sector</p>
C	Awareness & Attraction	8. Support and development of awareness and attraction programs to meet the job requirements gabs Expand energy sector awareness and attraction programs


2030

2028

2026

2024

A Jobs creation


 Additional jobs +150,000

 Additional jobs +100,000


 Additional jobs +80,000

Additional jobs +10,000 

B Saudization

 Saudization for high value jobs 75%

 Saudization for high value jobs 73%

 Saudization for high value jobs 64%

 Saudization for high value jobs 54%

5


C

Human Capital Development Initiatives
(To meet job requirements gaps to support the energy in transition)

 Students and employees benefitting from Human Capital Development Initiatives +9,200

 Students and employees benefitting from Human Capital Development Initiatives +6,500

 Students and employees benefitting from Human Capital Development Initiatives +3,900

 Students and employees benefitting from Human Capital Development Initiatives +1,300

D

Female enablement

 Female Leadership in energy

 Secondments of potential employees, including faculty and trainers to international industry leading companies

 Development of higher education & TVET including faculty and staff through programs enhancements

Applying Meritocracy to overcome the challenge of creating job opportunities for women in the energy sector 