

Solar PV Industry & TVET Training Landscape in Ghana

Population

33 million



Energy Access and Solar PV Sector

Electricity Access



89% of the population has access to electricity. One of the highest in Africa

Energy Mix

Ghana's installed electricity capacity

4,500 MW

68% from thermal

29% from hydropower

3% from solar PV

Renewable Energy Target

10% of total energy mix by largely from solar



TVET System Overview

Three TVET Streams

Formal TVET

- Institutionalized
- Regulated

Including universities and research centers like

- Don Bosco Vocational Institute
- Kwame Nkrumah University of Science and Technology.

Non-formal TVET

Community or workplace-based training programs



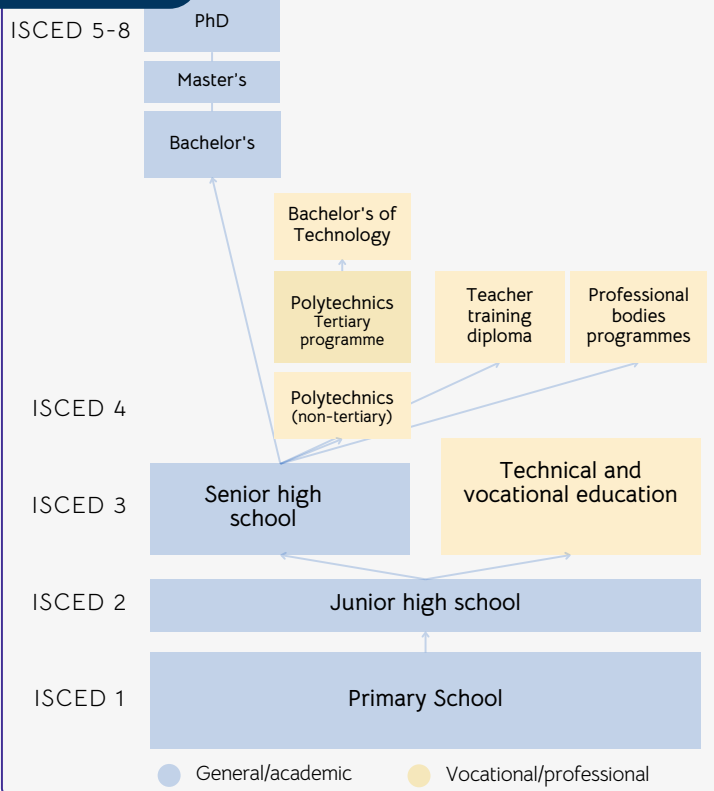
Eg., Green Solar Academy

Informal TVET

Provided by solar system designers/installers



Unstructured on-the-job training



Key Institutions for Solar TVET

Commission for TVET (CTVET)

- Promotes TVET
- Administers TVET
- Regulates TVET

TVET Service

- Manages program implementation, including solar training.

Sector Skills Committee

- Oversees skills alignment with market needs.

Drivers of Solar Adoption

Cost Reduction

Solar viewed as a means to lower energy costs.

Government Investment

Solar mini-grids being deployed in isolated communities, necessitating skilled solar technicians.

TVET Enrolment

Free education policies and TVET reforms have driven higher student interest in solar training.

Curriculum Development



Solar system installation and maintenance incorporated in electrical installation courses, following CBT (Competency-Based Training) model.

Challenges for Solar TVET



Skills Gap

Insufficient training for both students and teachers in solar technologies.



Financial Constraints

Limited funding for solar projects and high upfront costs for solar infrastructure.



Infrastructure Deficit

Lack of adequate facilities for solar training in many institutions.

Best Practices in Solar Training

Universities and Research Institutes

Specialized postgraduates programs and short courses are offered by some universities in, as KNUST and Brew-Hammond Energy Centre supporting research and expertise in energy management and policy for professionals.

TVET Institutions

Top cases VET institutions, as Accra Technical Training Centre and Don Bosco Training Institute offer solar training in electrical installation and maintenance programs, as well as short courses and framework to upskill trainees for the solar industry.

Non-formal Training

Good examples like Green Solar Academy aim to create Africa's largest network of solar installers by providing essential training and upskilling before placing trainees in companies.