

# Demand-oriented TVET for Renewable Energy and Energy Efficiency

## Findings from appraisal mission

10 October, Accra

Steffen Behrle  
Programme Manager, GIZ RE Programme



# Agenda

**1. BACKGROUND**

**2. MAJOR FINDINGS**

**3. JOINT PROJECT DESIGN**



## Background for appraisal & concept design mission

- Explicit willingness and intent of the Governments of Ghana and Germany to add a TVET intervention on Renewable Energy (RE) and Energy Efficiency (EE) to the existing portfolio of Technical Cooperation projects
- This TVET intervention:
  - being integral part of the Partnership to Promote Private Investment and Sustainable Economic Development within the Framework of the G20-Africa Partnership
  - to be closely linked and aligned with the project Market Entry in Renewable Energies and Energy Efficiency for the Productive Sector of Ghana (political partner: Ministry of Energy)



## Background for appraisal & concept design mission

- This TVET intervention expected to contribute to
  - achieving National objectives related to renewable energy and energy efficiency in Ghana, and at the same time,
  - support the implementation of the National Strategic Plan for TVET Transformation related to this sector.



**1. BACKGROUND**

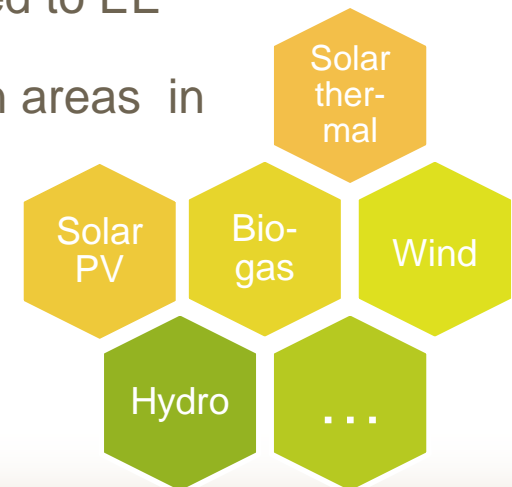
**2. MAJOR FINDINGS**

**3. JOINT PROJECT DESIGN**



## Major findings (I) – the RE / EE sector in Ghana

- Renewable energy and energy efficiency is a field of high relevance in Ghana
- Enhancing RE and EE solutions is of principal relevance for the entire value chain of energy generation & production, distribution and consumption
- There is a great degree of heterogeneity in terms of technologies and solutions related to RE, and even more, related to EE
- With regard to renewable energy, there are 4 main areas in Ghana:
  - Power generation by utilities
  - Distributed generation
  - Mini grids
  - Stand alone





## Major findings (II) – Jobs in RE / EE

- Typical jobs cover different functions along the value chain with a varying focus (e.g. business management, designing solutions, project management, installation, maintenance and repair), and with different levels of complexity and difficulty
- Private sector service providers in RE (e.g. photo-voltaic, bio-gas) with a focus on distributed generation, micro and mini-grids as well as stand-alone solutions are reportedly typically rather small in terms of number of permanent employees (between 3 up to 30 max)
- According to feedback from these service providers, permanent technical personnel in planning, installation and service need to be capable to cover a broader scope of duties and tasks.
- The ideally required set of occupational competence for the permanently employment core team is therefore rather broad and demanding.



## Major findings (III) – Occupational requirements RE / EE

- The current as well as the anticipated gap in terms of skilled labour for different categories and levels of job related to RE and EE solutions is more a qualitative than a quantitative one
- Qualitative wise occupational requirements are comprehensive covering a set of occupational competence comprising practical skills, knowledge (know-why), work attitude (e.g. reliability, quality mind-set, adherence to standards, especially safety, etc.) and business/entrepreneurial skills (e.g. dealing with clients etc.)





## Major findings (IV) – Status quo TVET for RE / EE

- Service providers complain about difficulties in finding people who meet core occupational requirements
- There are currently various approaches to educate and train people related to RE and EE:
  - training by employers (mostly on the job)
  - efforts of training providers to establish short and/or long-term courses in this field
- Existing approaches are fragmented, largely uncoordinated and insufficiently aligned with the demand of the labor market
- They seem mostly not being designed in accordance with the coherent CBT-based framework for TVET under the coordination of COTVET
- Higher education institutions also address this field with academic programs and short courses



## Major findings (IV) – Status quo TVET for RE / EE (cont.)

- In terms of TVET for renewable energy and energy efficiency there is therefore a need for:
  - demand-oriented initial TVET programs to equip graduates with a solid basis of broad occupational competence related to renewable energy and energy efficiency solutions, and for
  - a modular further training system with a focus on upgrading and specialization training for different categories and levels of jobs in this field.
  - Facilitation of occupational and educational pathways
- A conducive framework for demand-oriented TVET (CBT approach) being coordinated by COTVET is in place



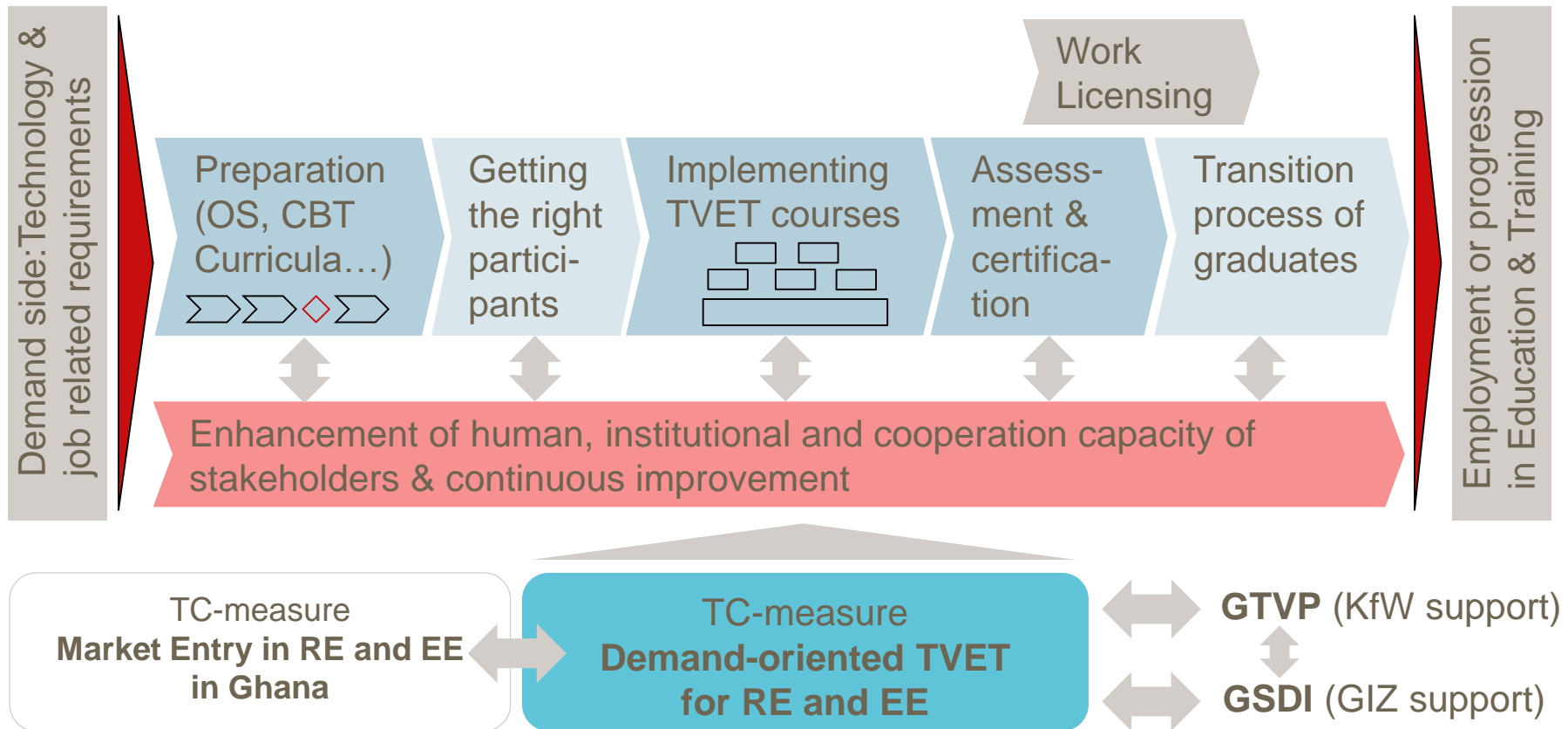
**1. BACKGROUND**

**2. MAJOR FINDINGS**

**3. JOINT PROJECT DESIGN**

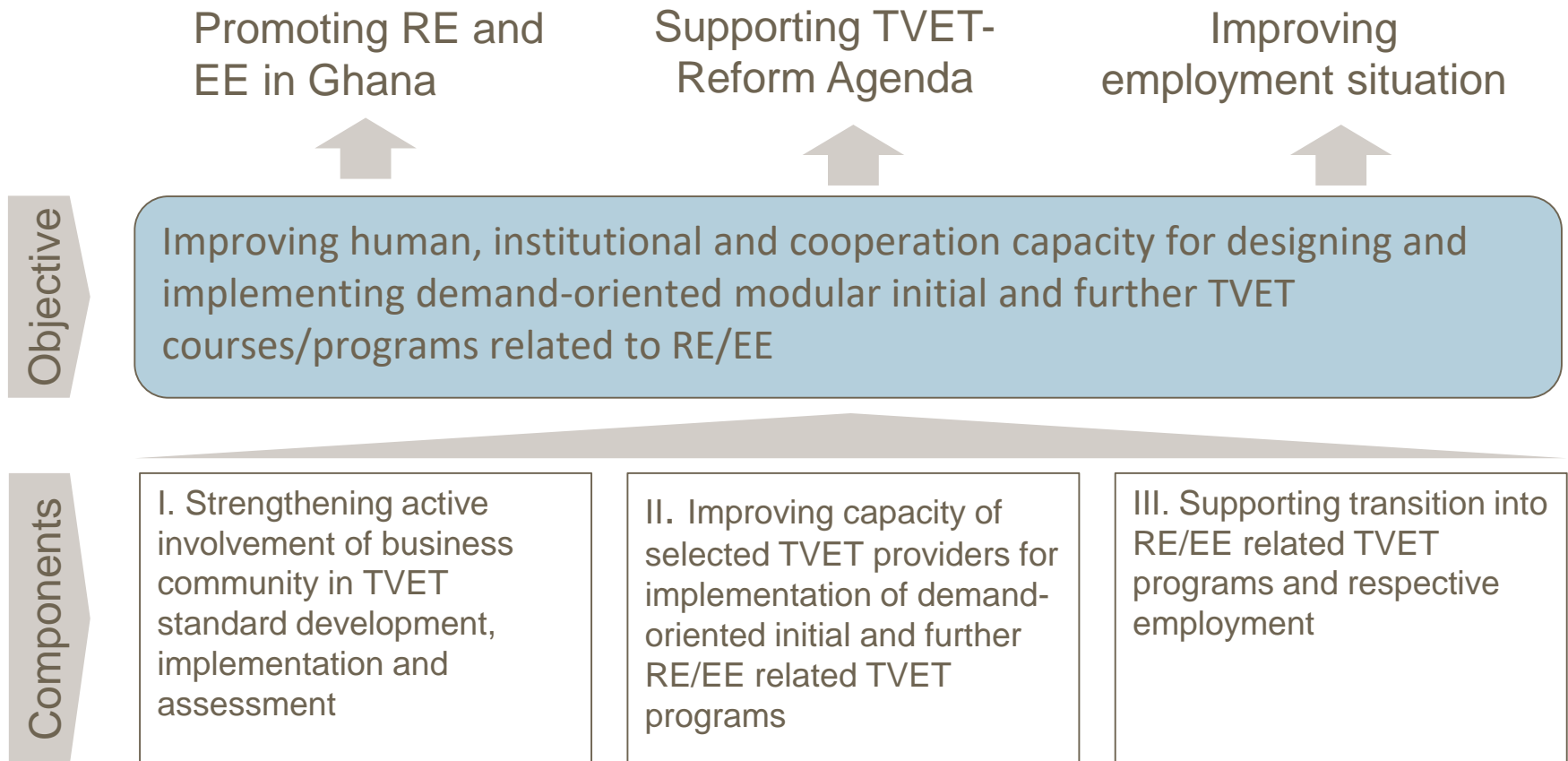


## Towards TVET for RE and EE - Process model





## Proposed project objective and components





## Components & examples of related activities

### Components

I. Strengthening active involvement of business community in TVET standard development, implementation and assessment

II. Improving capacity of selected TVET providers for implementation of demand-oriented initial and further RE/EE related TVET programs

III. Supporting access to RE/EE related TVET programs and transition into respective employment

### Activities

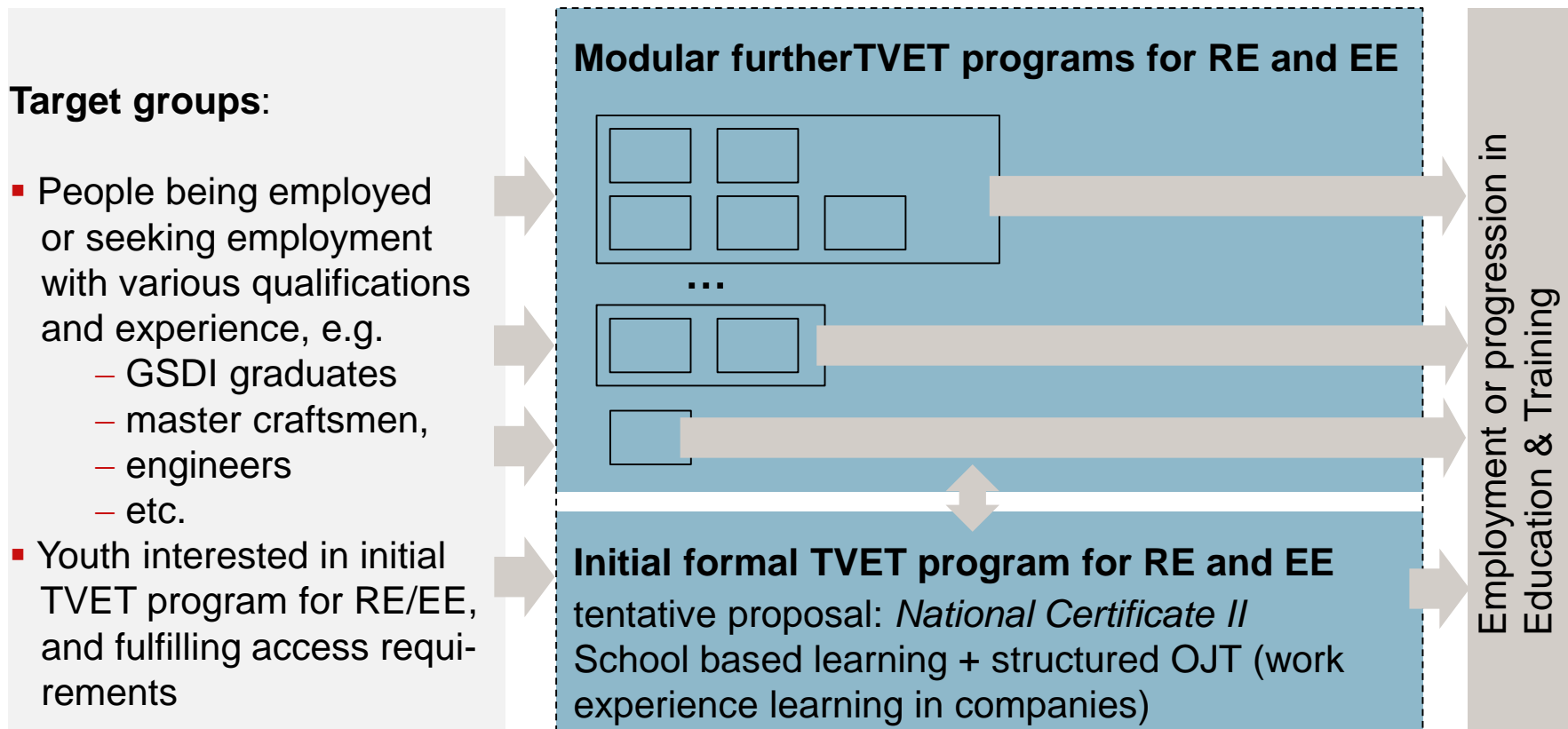
- Technical and OD advice and further training on establishing sector skills body RE/EE
- Support establishing exemplary cooperative TVET model (based on success factors of Dual System)
- Advise on competence assessment related to RE/EE TVET programs

- Training of teachers and trainers
- Strengthening application of learner centered teaching
- Enhancement of conducive learning environment (e.g. equipment; limited financial volume in Technical Cooperation measure)

- Supporting feasible approaches to getting the 'right' participants
- Supporting facilitation of successful transition into (self-) employment
- Supporting the marketing of good practice examples to improve the image of TVET



## Towards TVET for RE and EE – Scope of TVET offers





## Indicators for measuring the success

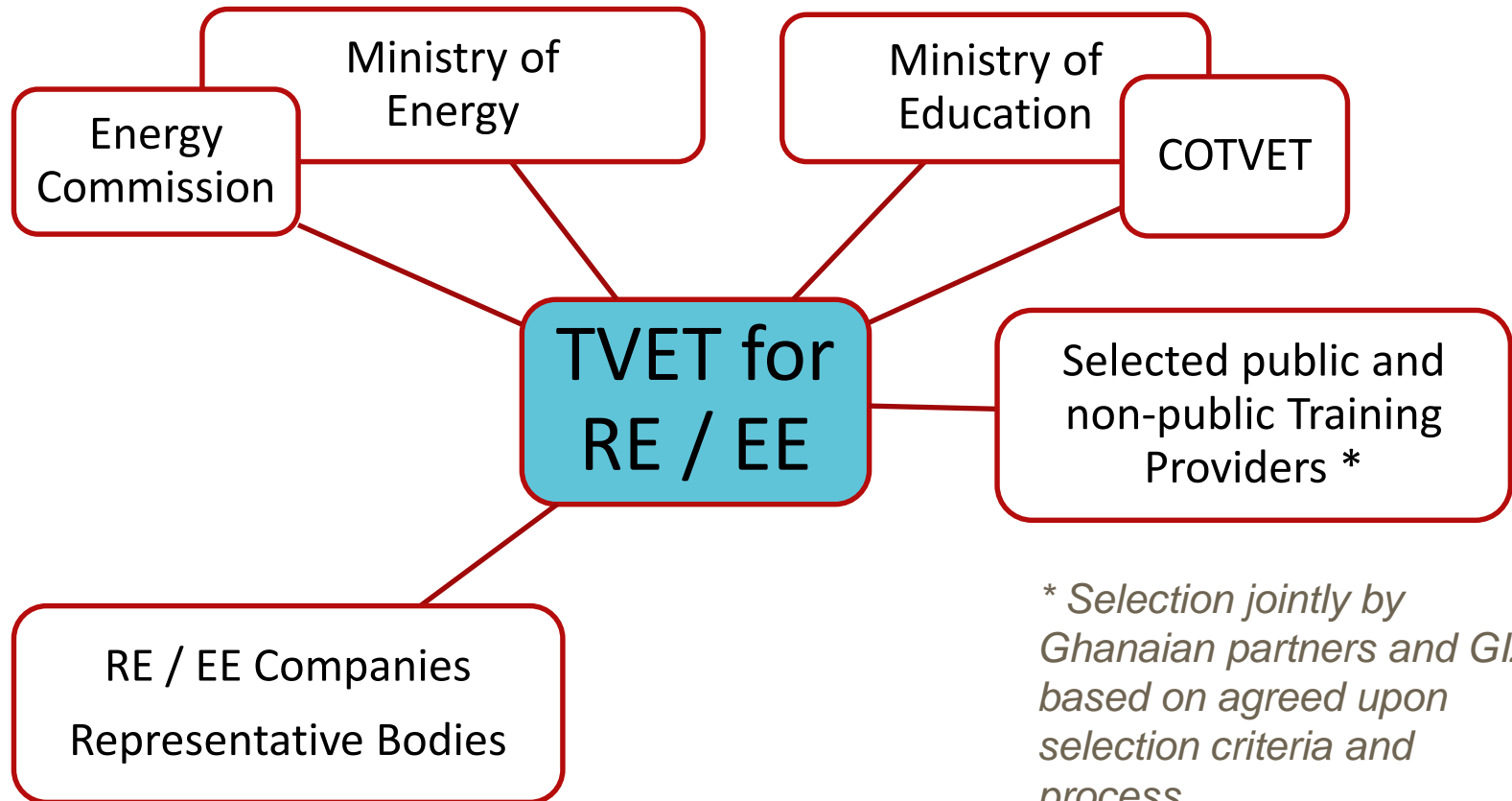
### Examples:

- ✓ Sector skills body mechanism for RE / EE established
- ✓ Modular RE / EE related TVET courses / programs developed in accordance with Ghanaian CBT-based TVET framework, and agreed upon by TVET stakeholders
- ✓ Number of technical and managerial staff from TVET stakeholders further trained
- ✓ Number of people trained





## Key project stakeholders





Thank You

