



Federal Ministry
for Economic Cooperation
and Development



Technical Session

Presentation of Key Messages
from Sectoral Study on TVET
for Renewable Energies

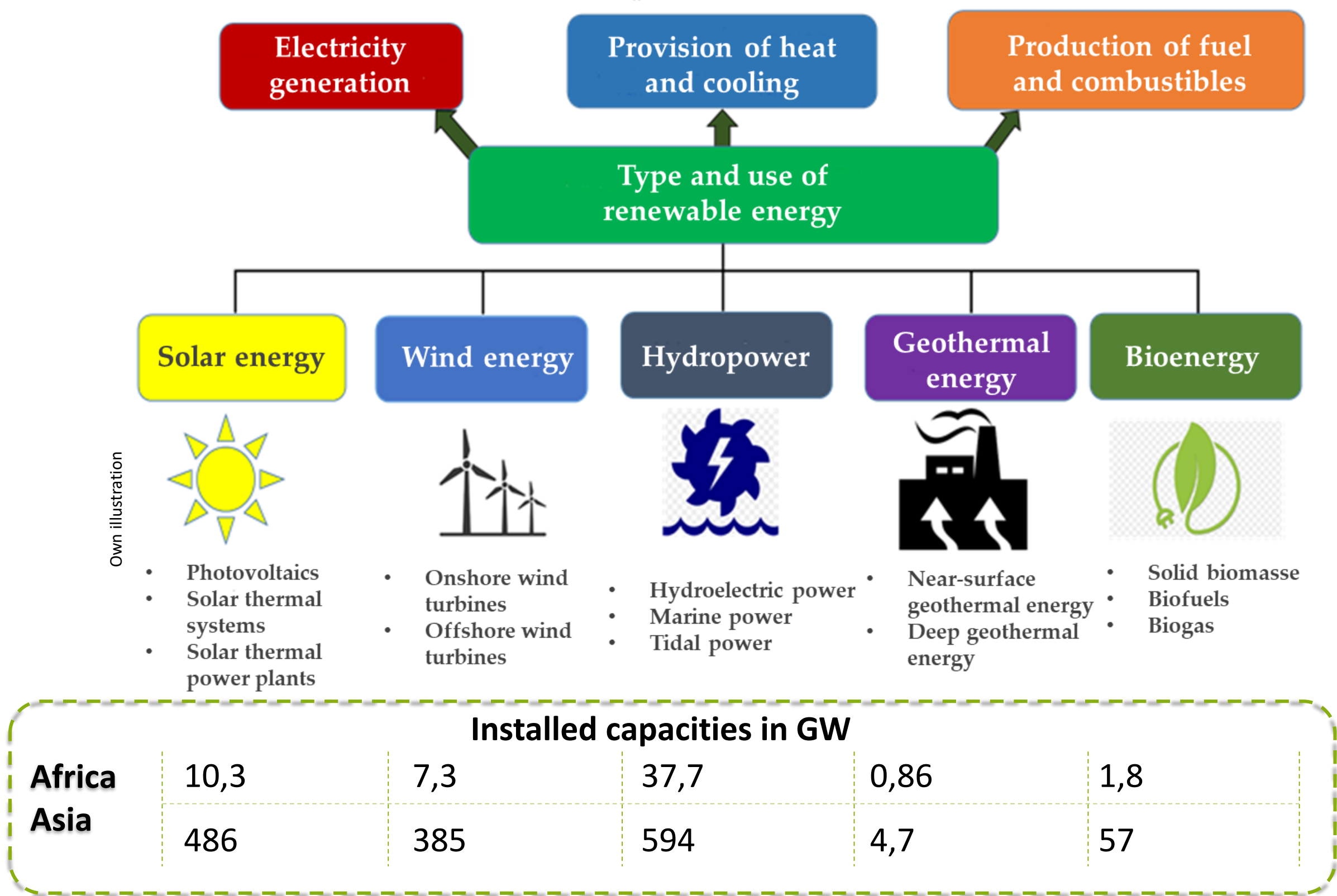


Skills for a Just Transition to a Green Future: Sectoral Study on Renewable Energies

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Renewable Energy Sector has potential for Africa and Asia



Greatest potential: wind and solar energy

Relevant potential: geothermal energy and modern biomass

...but there will be winners and losers



TVET needs to react to changing skills requirements



Development of concrete job profiles and curricula requires domain- and task-specific specification of green competences



Integration of green cross-cutting/ transversal skills in the curricula of all training types and occupations

Adapt existing occupations by integrating new work tasks and green skills

- Example: addition of competences for dealing with decentralised energy systems (e.g. PV systems) to conventional occupations such as electrician
- For already qualified professionals, offer upskilling programmes in the new fields (skills, technologies, tools, equipment, etc.)

Develop new green occupations for jobs with many new work tasks

- Typical examples: solar installer, wind turbine technician or energy consultant
- There may also be hybrid occupations where new occupational profiles can be created by combining existing occupations

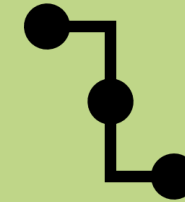
Recommendations for the project design I



Follow *Just Energy Transition* principles

JET - Guiding principle for BMZ for international cooperation in RE:

- Imperative to **provide access to electricity to marginalized groups & support “losers” of transition** through targeted labour market, social support and training interventions
- Project design must **develop corresponding target formulations and indicators**
- In partner countries, national and regional energy policies must be further developed in line with JET
- Requires **convincing communication** strategy



Link RE and TVET programmes in project design

Link promotion of RE with vocational training to ensure skilled labour force already in project design phase:

1. Use cross-sectoral and integrated approaches

- Include in RE projects components for vocational training or upskilling for relevant technologies
- In TVET system projects, develop structures and regulations with view to expanding RE technologies & need for skilled workers (i.e. promote organizational capacities of private sector to engage in TVET system)

2. Link standalone TVET and RE projects

- Institutionalise organizational and personnel linkages between projects

Recommendations for the project design II



Promote employment promotion and active labour market measures

TVET not sufficient – employment promotion and active labour market measures (ALLM) required to attract skilled workers for RE sector:

- Lack of data on RE sector causes insufficient link between ALLM measures and TVET offers
- Employment promotion and TVET projects should support:
 - introduction of systems for **skills forecasting** (e.g. **labour market information systems**)
 - **labour market research**
 - facilitate **systematic linkage to labour market measures** (job placement, career counselling, etc.)

Especially **relevant for countries with declining energy sectors** (e.g. coal sector) to ensure Just Transition



Involve private sector through sectoral committees

Involve private sector in design and management of TVET systems to promote quality of training and ease transition to work:

- Challenge for RE sector: sector hardly developed and organised
- Consider structures of the private sector in project design
- **Promote organisation of private sector** (e.g. sectoral associations) for quality assurance and steering of TVET system

Example: Promote establishment of **RE sector skill councils** to identify skill needs, develop quality and qualification standards and improve training provision



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for Sustainable Mobility



Skills for a Just Transition to a Green Future: Sectoral Study on Sustainable Mobility

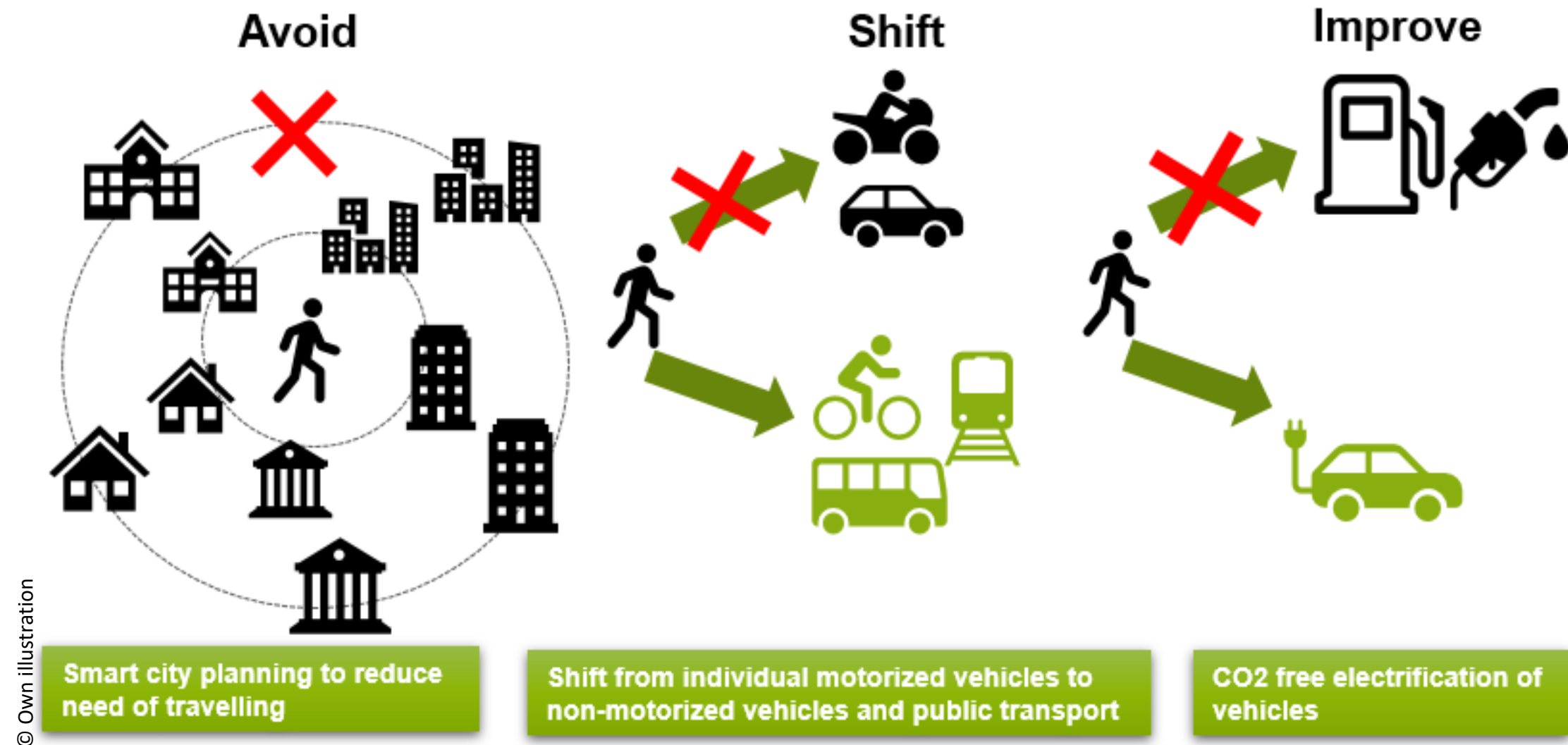
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What is sustainable mobility?

Sustainable Mobility

- **Systemic approach** linking previously separate subsystems of vehicle, traffic & energy
- Encompasses measures to **avoid traffic** (reduce traffic demand), **shift to non-motorized and public transport**, and to **improve the energy efficiency** of vehicles
- Essential to couple new **drive technologies** with **innovative usage models** and to link private and public, individual and shared forms of mobility



Employment effects of transition to sustainable mobility



Positive employment effects are **counterbalanced by negative effects**

- Vehicle electrification & public transport expansion: On global level, only **few net direct employment effects** by 2030
- Incl. indirect jobs in related value chains: net employment effects estimated to be 18 million jobs

Potential for local value chains and employment growth through production of e-vehicles and mobility services

- Trend towards **micro e-mobility offers economic opportunities** to countries without vehicle industry
- **Local adaptation of low-tech** vehicle concepts & **integration of mobility services** most promising
- **National support strategy important**

- **Just Transition:** Requires **employment-oriented retraining of workers in declining industries** at risk to lose their job; this will need to be complemented by labour market measures

Implications for TVET

Qualified workers are a precondition for sustainable mobility

- **Transition depends on availability of wide range of low to highly skilled workers** to plan, develop, produce, introduce, operate and maintain technologies and systems
- **Quality of infrastructure maintenance impacts introduction** of new technologies
- New mobility concepts, technologies and ambitious government regulations provide **emerging business opportunities** – **Start-Ups need skilled personnel** to grow

Highly skilled occupations:

- Skills requirements for highly qualified workers will **change most** and **demand will increase overall**
- **New occupations** are more likely to emerge at **higher skill levels**

Medium-skilled occupations:

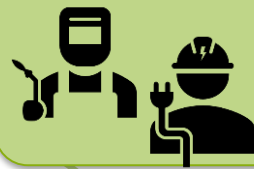
- Skill requirements are **not expected to change fundamentally**, but number of affected workers are higher as with highly skilled
- Workers will need to **learn how to use new or adapted technologies** and **learn new work processes**

Low-skilled occupations:

- Less skilled workers will likely need **greater environmental awareness** and **simple adaptations** to changing work tasks

General recommendations for TVET interventions

Covers the entire spectrum of qualification levels and forms of vocational education



Develop (on-the-job, non-formal) **upskilling programmes** to meet the urgent needs of the private sector with view to later integration into national framework



As much of initially required labour is highly skilled, **develop higher vocational programmes** (diploma level) or **linkages to higher education**



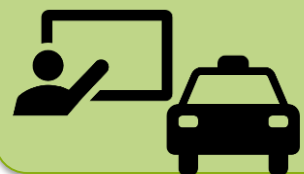
Develop and adapt employment oriented qualifications and **initial TVET programmes** for future workforce in cooperation with the private sector (e.g. e-vehicle mechanics)



Develop curricular elements (e.g. cross-cutting modules) for **generic environmental skills** to be included in all curricula and training programmes at all skill levels



Provide **business start-up and entrepreneurship training** for new technologies



Just Transition: Develop **employment-oriented retaining programmes** for workers in declining industries; **link to complementary labour market measures**

TVET needs to provide existing and future work force with the required skills



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Technical Session

**Presentation of Key Messages
from Sectoral Study on TVET
for Sustainable Construction**



Skills for a Just Transition to a Green Future: Sectoral Study on Sustainable Construction

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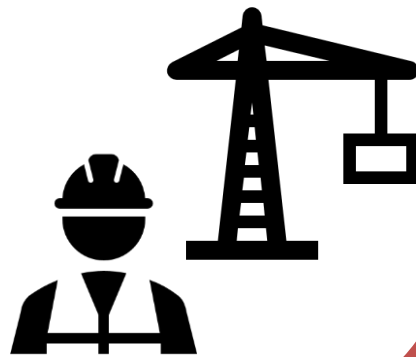
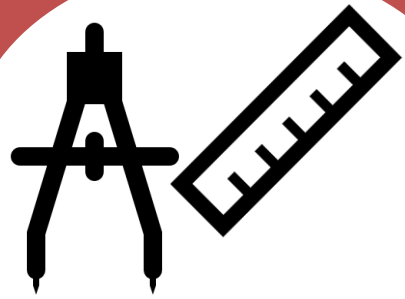
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Construction industry is complex and interconnected, involving various sectors and supply chains

Conceiving, planning,
designing & advising
occupations

Controlling occupations

Manufacturing and
distribution occupations



Construction, installation,
maintenance occupations

Enabling occupations

Green building clients

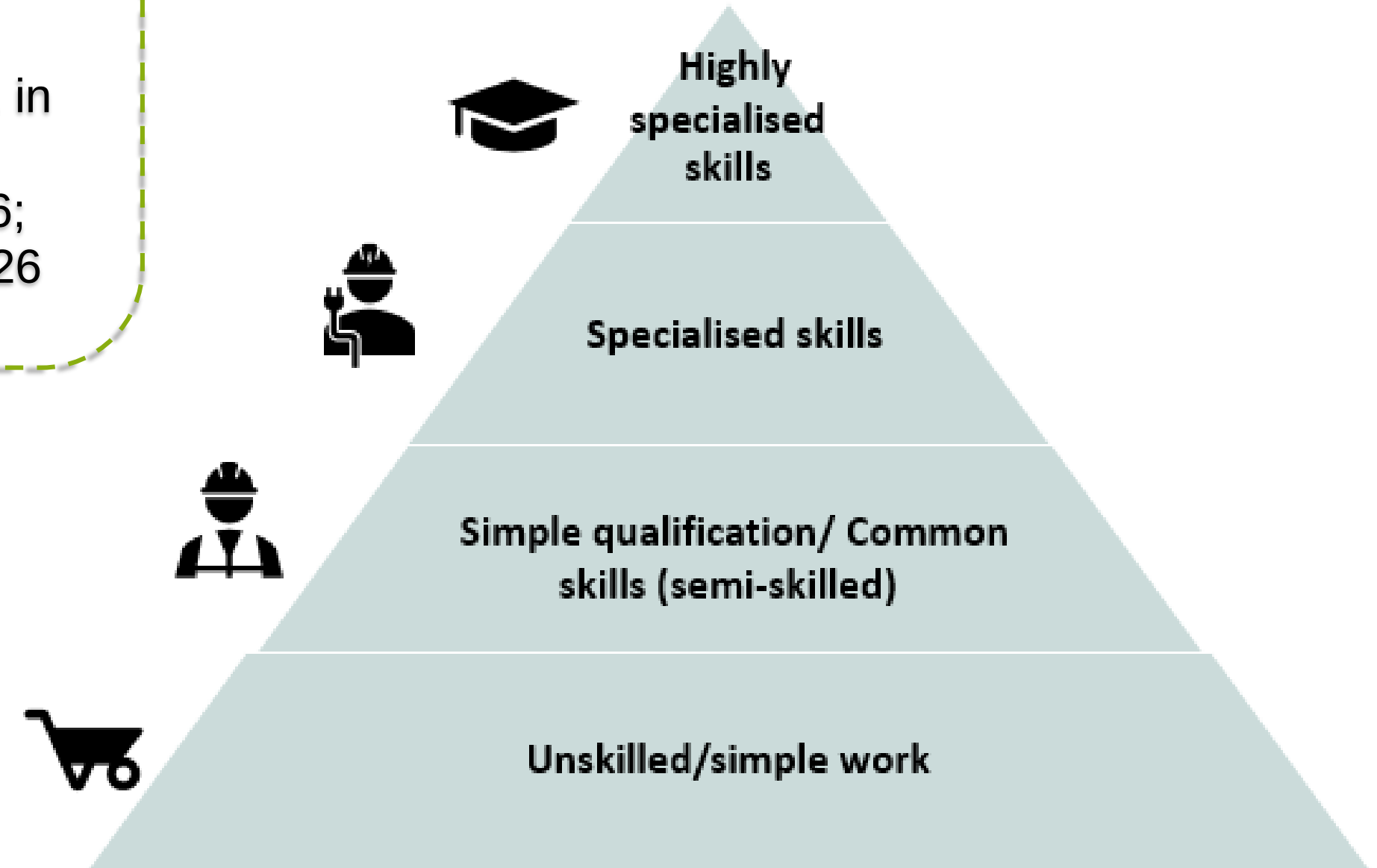
Employment effects of Sustainable Construction



Construction sector is traditionally a large employment provider...

- Estimation: **7.7% of global employment** prior to COVID (ILO, 2021)
- Due to population growth & urbanisation trends, **construction sector likely to continue growing**, esp. in Asia & Africa:
 - Expected annual growth rate Asia: 7.4% until 2026;
 - Expected annual growth rate Africa: 5.7% until 2026

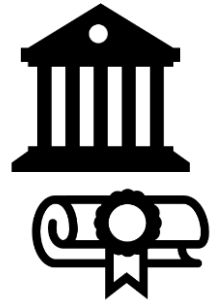
... esp. for unskilled workers



Skill pyramid for construction projects

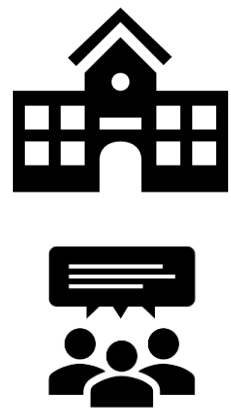
General recommendations for the design of TVET interventions

TVET needs to provide existing and future work force with the required skills



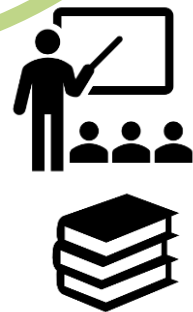
Macro-level

- Develop / adapt occupational profiles and curricula of relevant occupations along the entire value chain (including TVET at tertiary level)
- Promote recognition of prior learning to ensure mobility of workers
- Support development and implementation of policies & regulations promoting green skills



Meso-level

- Promote and **equip TVET institutions to become model centers with demonstration character**
- Training of school management on sustainable school management
- Training of teachers and trainers in the latest green building concepts and practices
- Strengthening **cooperation capacities** for the development of demonstration projects



Micro-level

- Strengthen teachers' skills to integrate green building concepts and practices into curricula
- Support the development of specific training programmes for marginalised groups
- **Support the establishment of communities of practice with local communities, educational institutions & private sector**

Thank you for your attention!



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