



Skills for a Green and Just Transition: *Unpacking the complexity*

October 18, 2024

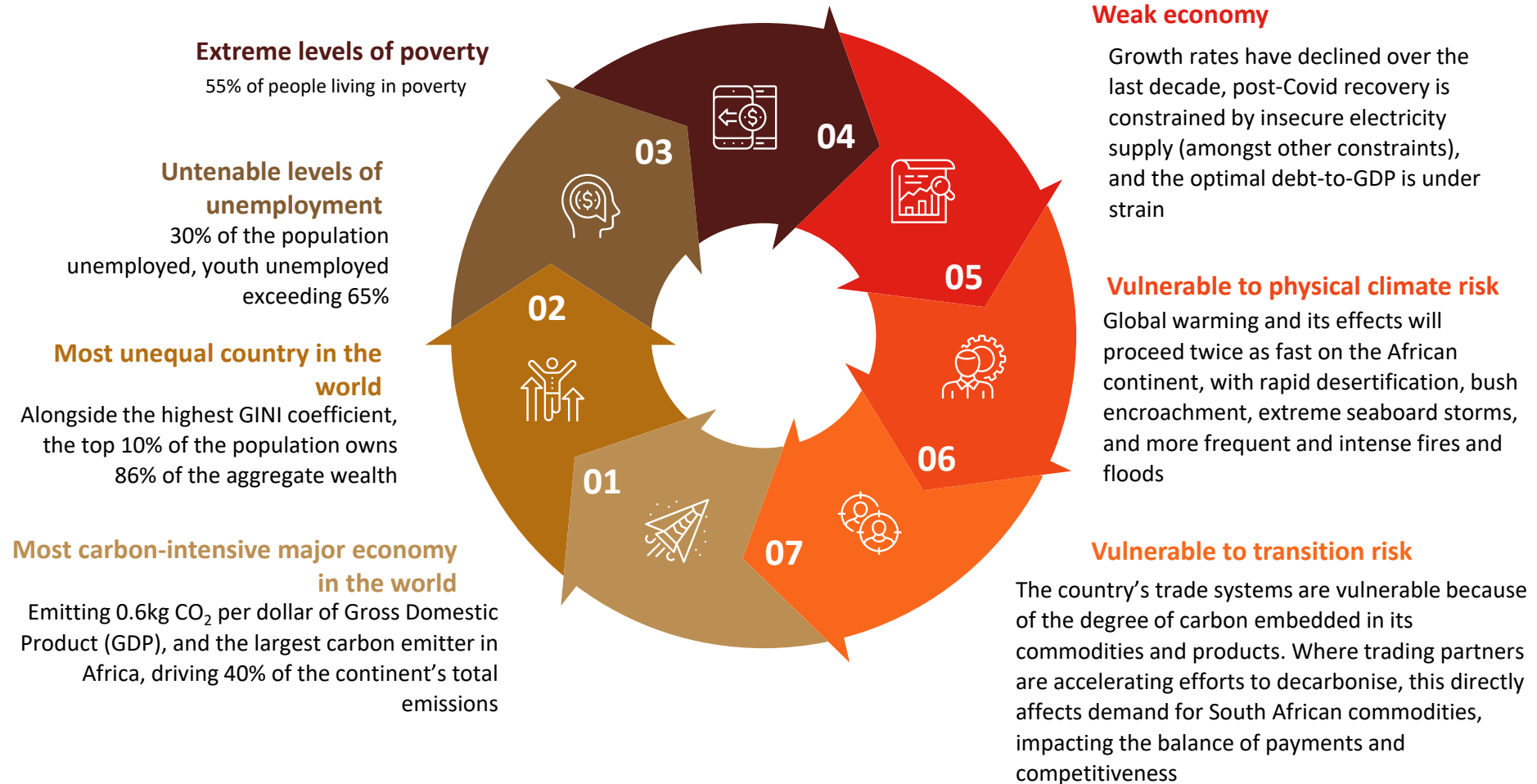
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Centre For Researching
Education and Labour
Skills For an equitable, just
and sustainable future

Energy Transition - Opportunity for a new growth path that addresses climate challenges in the context of SA's socioeconomic situation



Demand Projections

- **Renewables**: The sector is estimated to create **23 900 jobs** from **2023** to **83 700 jobs** by **2030** and **128 400 jobs** by **2050**

- Currently, the **vehicle manufacturing sector** employs **116 683 people** directly, with plans to double employment **to 224 000 by 2035**, coinciding with the global market halt on importation of IC

Magical
thinking

To

HOW will we
get there

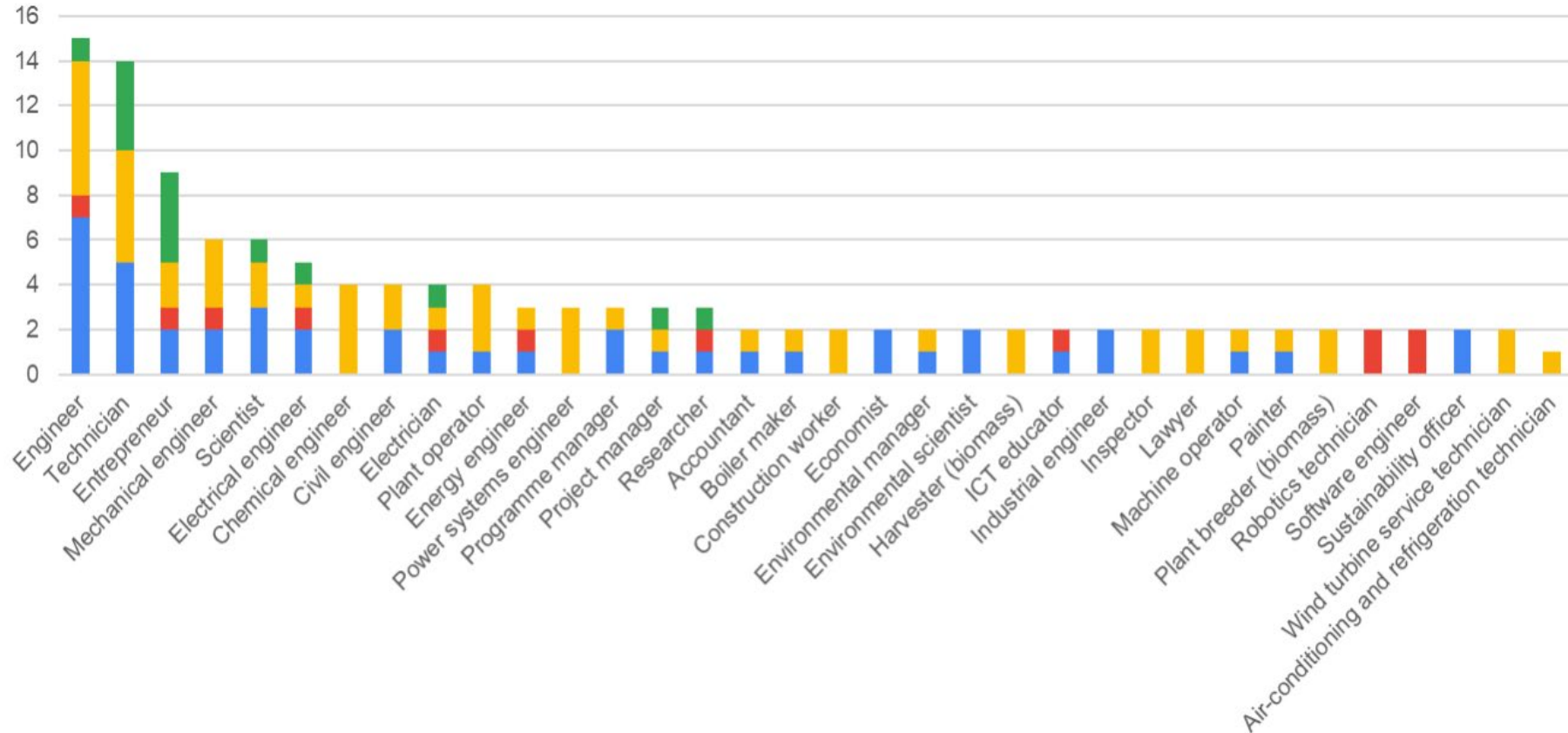
- Hydrogen - the sector is nascent and hence labour demand projections are based on various conditions such as the commercialisation of and investment in the technology.
 - ❖ It is estimated that **20 000** to **40 000 new jobs** will be created **by 2030 and 2040** respectively
 - ❖ An estimated total of **370 000** to **650 000** jobs across the green hydrogen value chain **by 2050**

Nature of demand information: complex terrain

Our research highlights that most of the current skills anticipation suffers from one or more of these problems:

- **Derived from Modelling and predictive kinds types of analysis;**
 - produces vague aggregate level information (not useful educational decision making)
 - Modelled from current value chains, current jobs, current notions of production and consumption, current notions of demand
 - Producing a stacking against technical occupations
 - Not producing nuanced occupational information

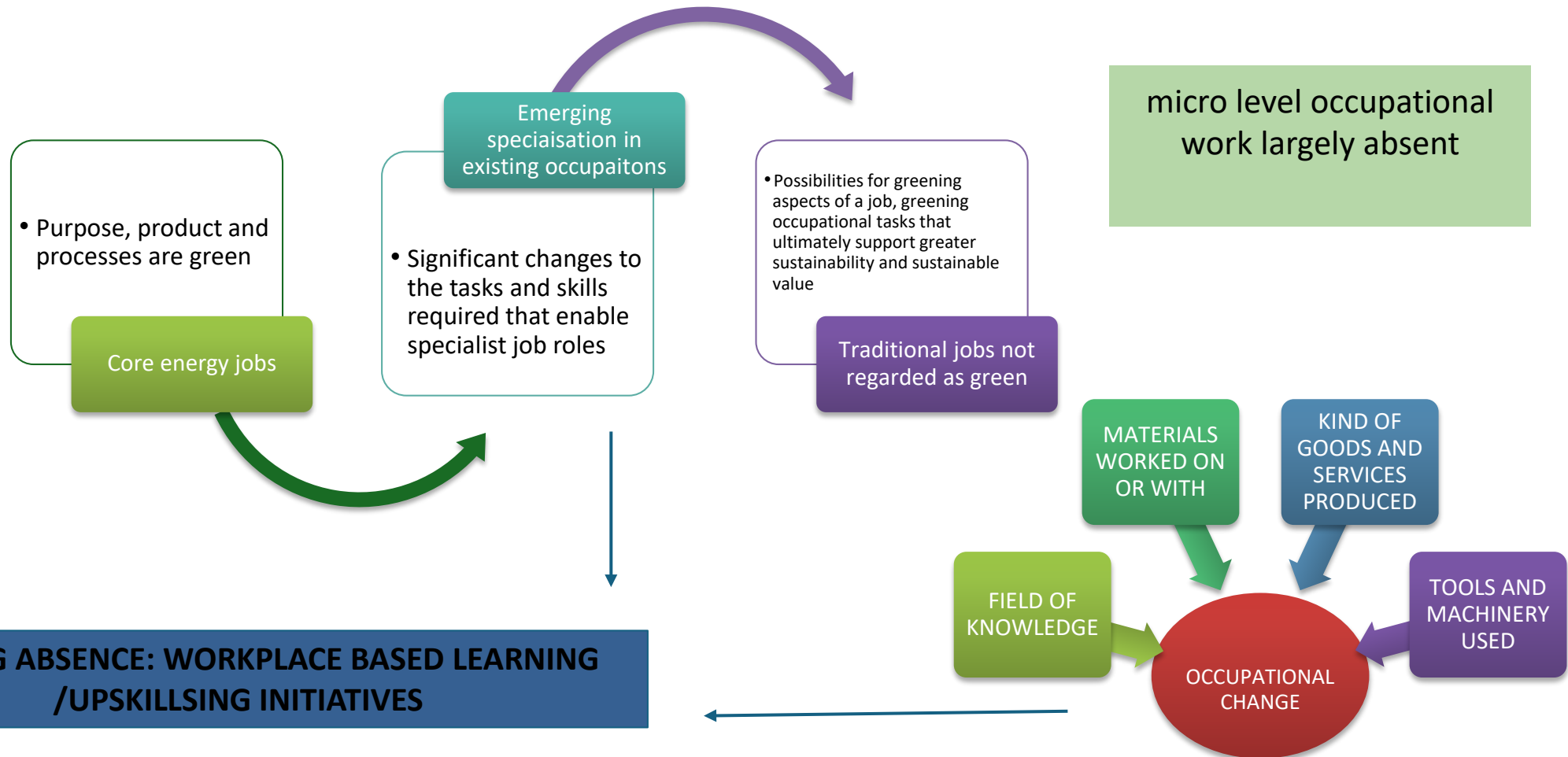
Nature of occupational demand



Occupational stacking??

Think Beyond Demand Lists: understanding greening of jobs , occupations and work is complex

- Occupational change NOT homogenous concept - tendency to see identified these jobs as a 'one size fits all' encompassing notion
- More differentiated and nuanced information to understand educational needs

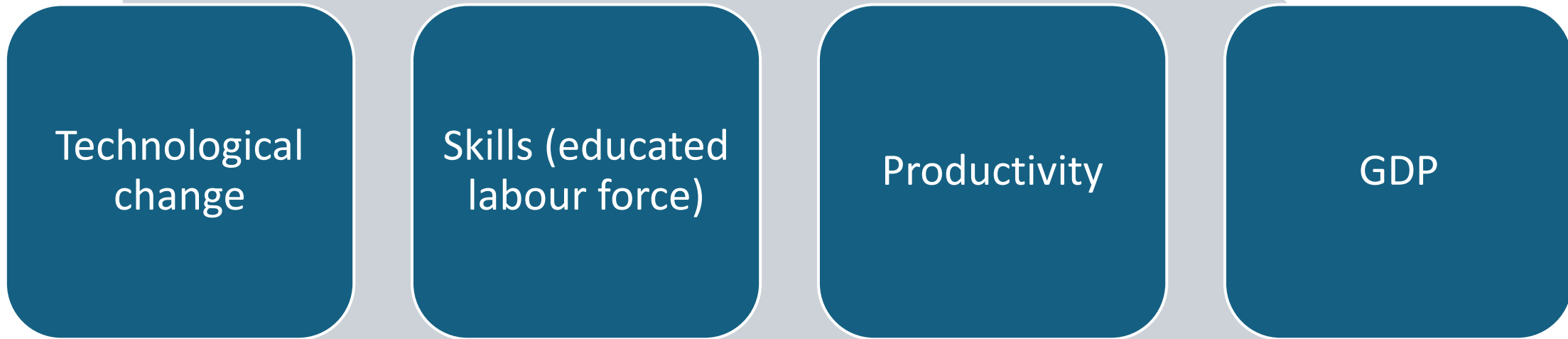


Nature of demand information: complex terrain

Our research highlights that most of the current skills anticipation suffers from one or more of these problems:

- Modelling and future predictive kinds of work – aggregate level information
- **Technology driven demand planning is premised on the homogenous treatment of production processes–**
 - Assumption that transition is a technical one
 - Assumption that localised technical processes occurs on the same technological trajectory as in North

Skill biased technological change



Nature of demand information

Our research highlights that most of the current skills anticipation suffers from one or more of these problems:

- Modelling and future predictive kinds of work – aggregate level information
- Homogenous treatment of production processes-assumption that localised technical processes occurs on the same technological trajectory as in North
- **Employer dominated skills planning :**
 - **Conflation of immediate skills needs and medium to long term skills planning**

We can't plan for future with current conceptions of production and consumption

- Our skills planning tools and methods rely on employer driven information
- Although valuable for many things – there are numerous challenges with data gathered from employers:
 - *Move from job to occupation mapping problematic for employers*
 - *Current modes of production and consumption, usefulness to understand future skills is contested*
 - *Employers tend to specify their current skills needs, but this data is then used for planning immediate and medium to long term interventions. **Conflation of time horizons.** In other words—the system is using the wrong data for the wrong decision points.*
 - *The ways in which employers can get funding back from the SETAs (skills authorities) compromises the quality of data submitted:*
 - *They specify skills as scarce if they want them to be funded—this is because SETAs allocate funding windows for skills designated as scarce or in high demand.*

Thinking beyond demand lists: Medium to long term planning

- **Medium to long term planning** – planning for trajectories of change - slow, long-term process (direction and speed of the change) .You cannot get this information from labor force data, not from employers, but from studies of value chains, from high-level consultation with employers.
- **Focus on endpoint is narrowly driven by supply – demand narratives** eg. Hydrogen fuel technician
- **Actual skills to transition is neglected:**
 - skills to transition - these jobs are often in the **enabling processes that support the hydrogen value chains** (eg. Construction, procurement, marketing, regulatory functions)
 - Who does the hydrogen fuel technician work with (environmental competencies are distributed in workplaces)

Nature of demand information

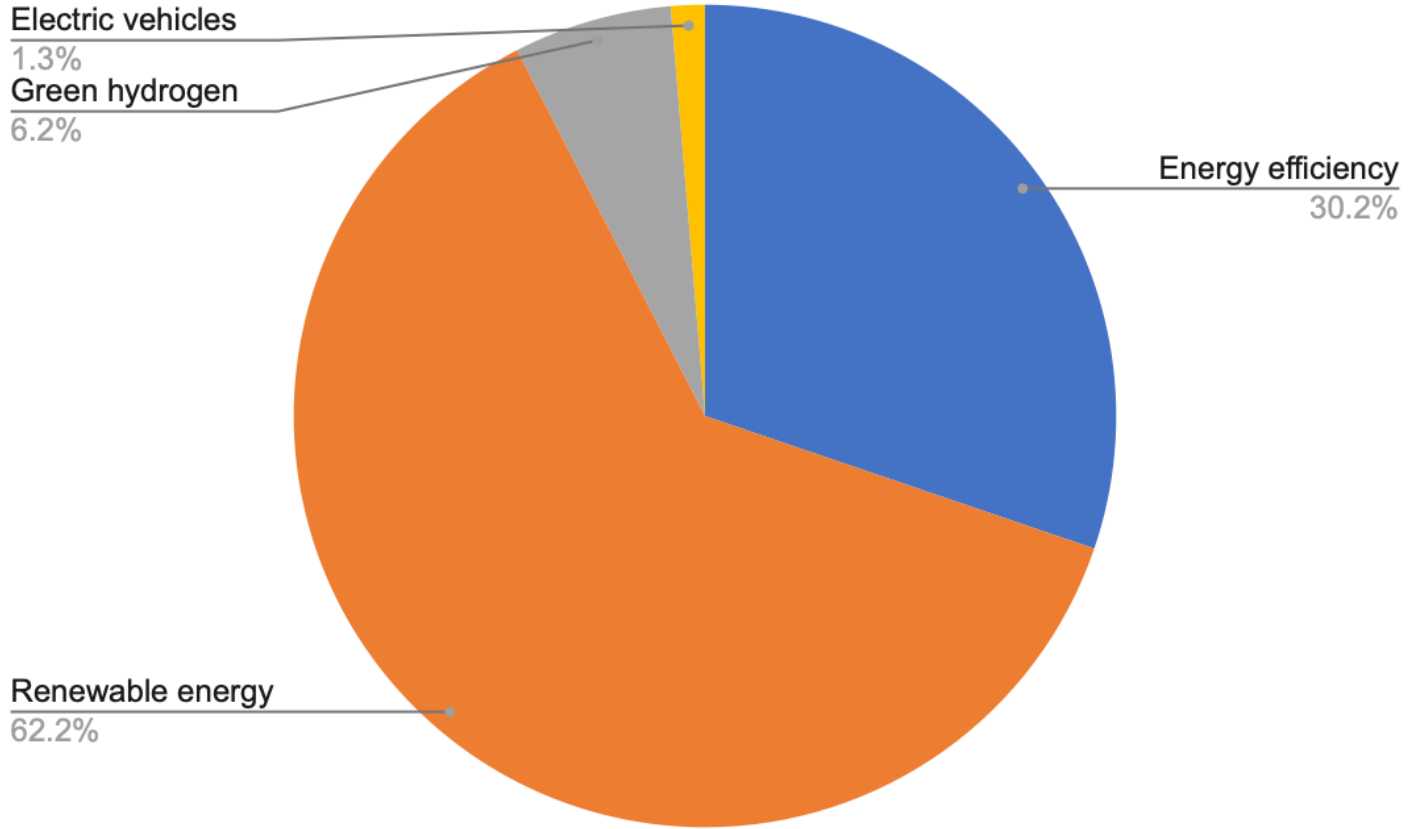
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- Employer dominated skills planning
- Conflation of immediate skills needs and medium to long term skills planning
- **Over-individualising narrative of skills planning**

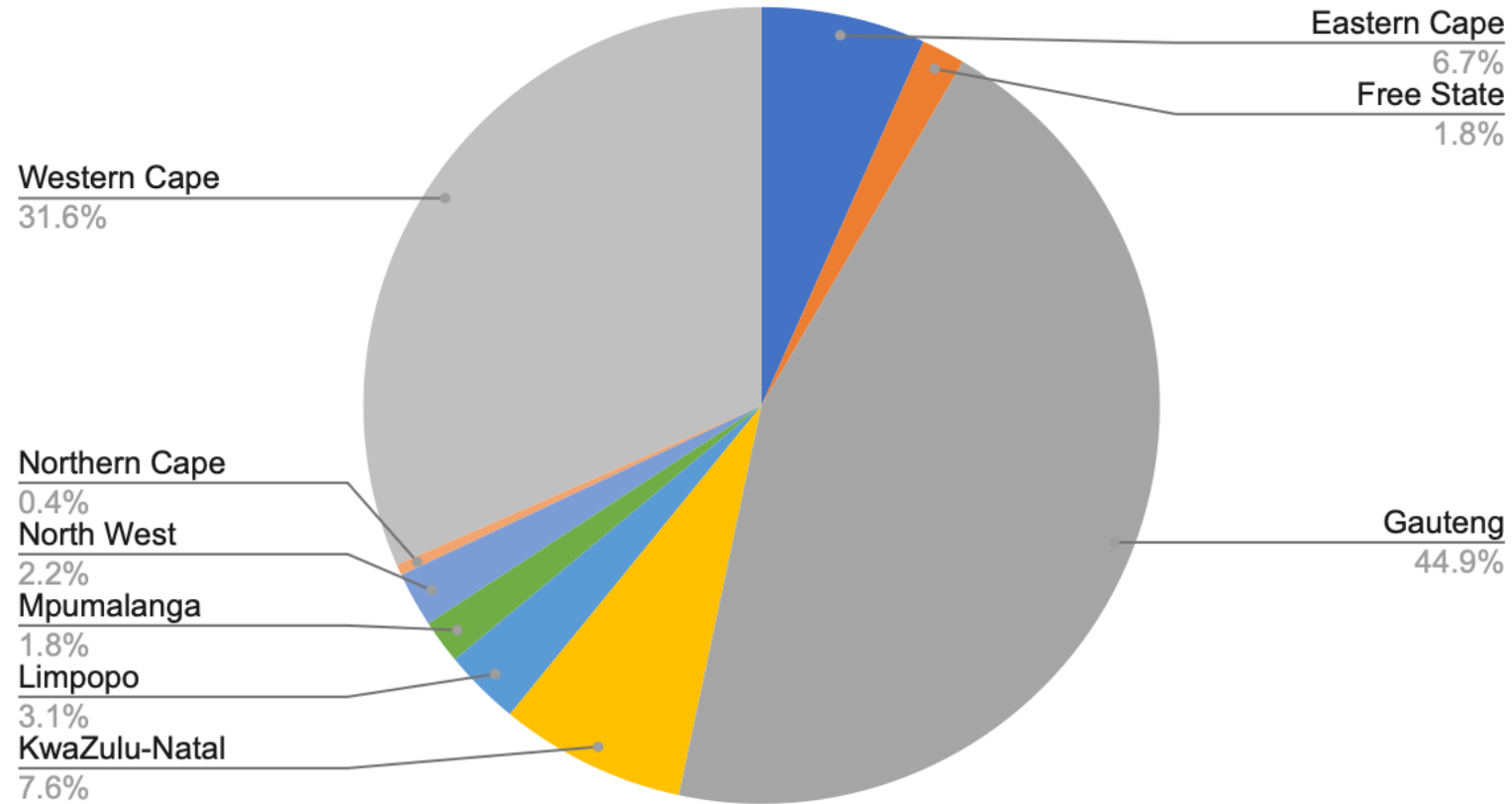
Nature of demand information

- Over-individualising narrative of skills planning
 - Transition is being coaxed into a discourse of how many will benefit, eg. How many jobs are created, it will address poverty , it will assist the poor.
 - However, no indication of HOW ;
 - WHO is benefiting exactly; how are gains being distributed
 - What is this narrative hiding?

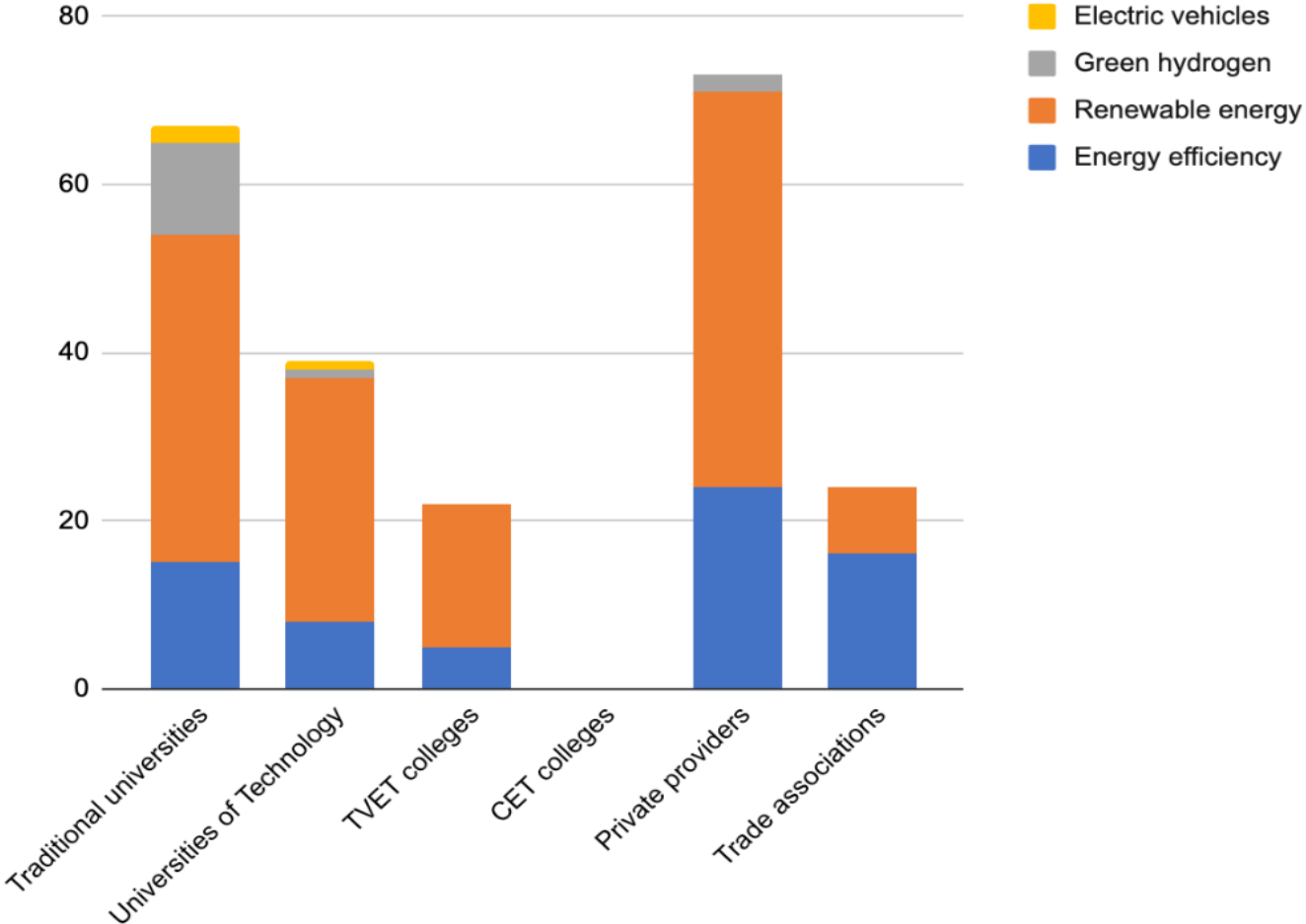
Provision geared to JET: Total Courses Offered by Topic



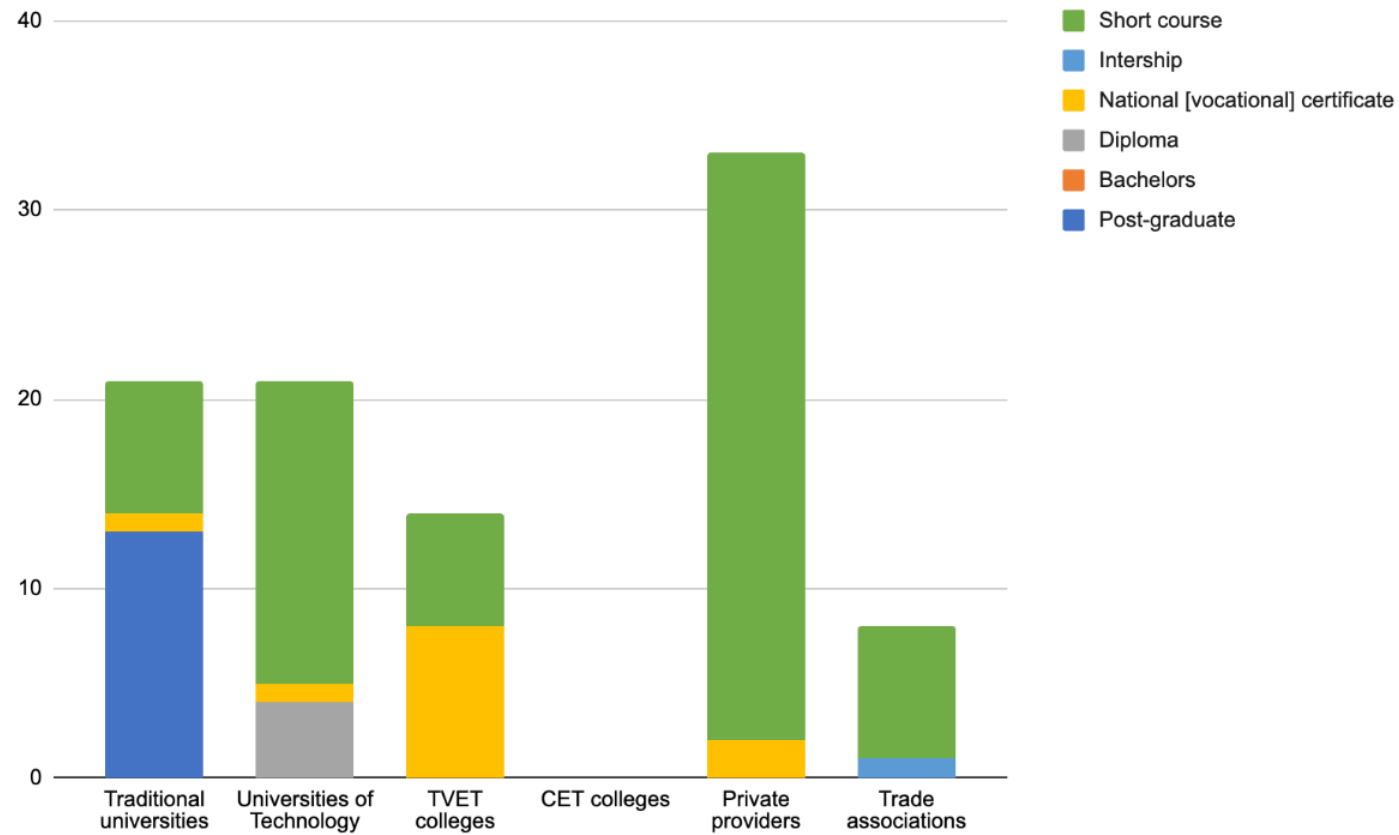
Geographical Distribution of Total Courses Identified



Courses Offered by Provider Type and Topic

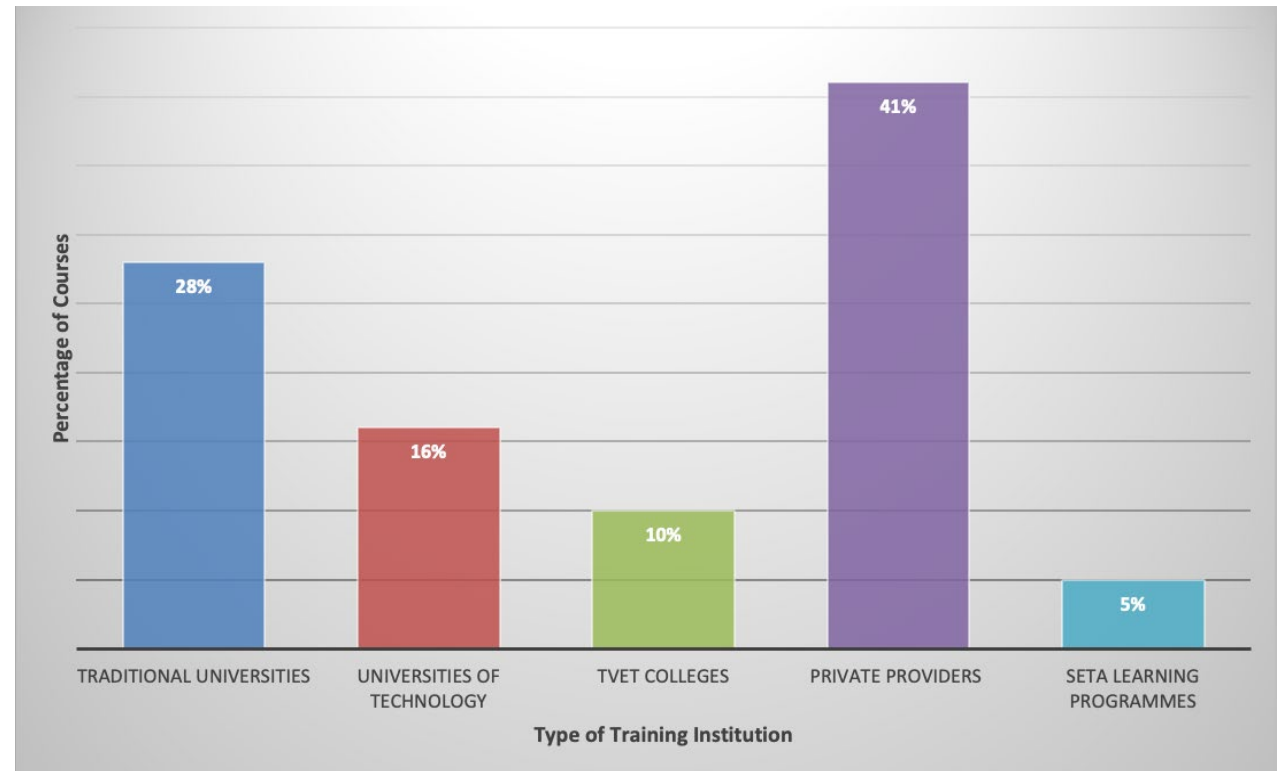


Levels of qualifications and numbers of courses



Current Status

- South Africa has a total of 50 TVET colleges, and only 37% offer some form of course or module linked to green energy.
- We identified over 230 courses being offered linked to green energy (e.g. renewable energy, green hydrogen, energy efficiency and electric vehicles), only 10% were being offered by TVET colleges.



Why is this picture less than complete?

- And what can we do to change it?

Provision—the final frontier?

In all supply and demand planning, this is the most neglected component.

The assumptions seems to be that all we have to do is figure out which skills are needed, and it will be relatively straight forward for education institutions to provide them. Maybe they will need a bit of funding, sometimes some capacity building.

We don't distinguish between education programmes for immediate needs, and longer term.

We are not always using the right information to make decisions.

The problems? (really?)

The discourse

- Institutions are unresponsive
- Curricula are irrelevant
- The qualification system doesn't recognize 'micro-credentials'

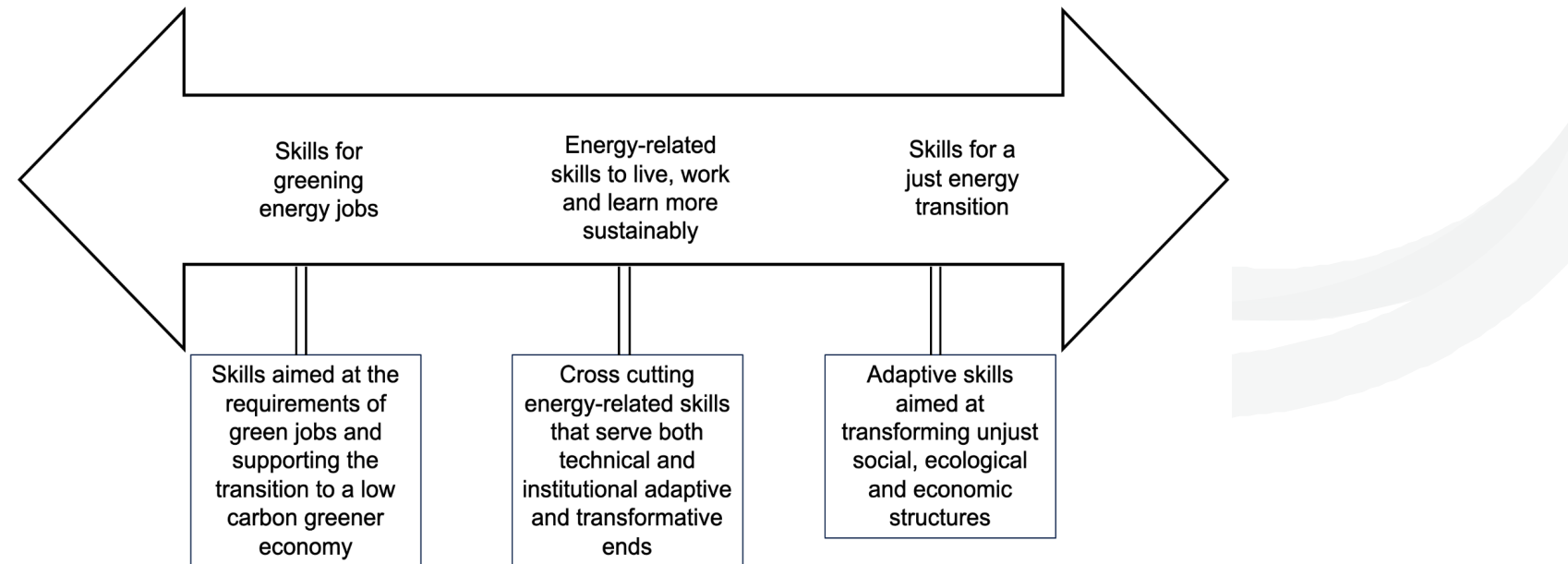
Our research

- Incoherence in time frames—insufficient differentiation in funding mechanisms. This can make it difficult to get funding for just-in-time responses, and limits steering of long-term capacity building.
- Underestimating what it takes to support educational responses—many employers and education institutions struggle to respond even when funding is made simpler
- Expecting education to do things that it can't
- Underestimating the need for broad occupational capacity development—for meaningful learning pathways

What are some ways we currently try to shape education provision?

- Curriculum: we try to get employers to specify skills needs, and build curricula around them
- We do qualifications reform—and think educational provision will change
- We develop standards—and think it will improve education provision
- We make funding available on an annual basis for designated programmes (based on flawed data)

Beyond supply and demand: SKILLS for the transition as a continuum



Energy transition driven by a JOBS narrative – thus remains dislocated from a strong sustainability foundation and imperative

And so ...

- Sustainability transitions are **complex change processes when established rules, norms, physical infrastructure and other aspects of current socio-technical systems shift towards more sustainable and just practices**. What is clear from this analysis is that there is an **enormous possibility in the green transition**, many good policies and plans, and a huge number of dynamic projects.
- However, little coordination has created a **landscape of ad hoc, fragmented implementation at national level and local levels**. Importantly, if South Africa does not engage with the **deeper systemic issues and address the silo implementation and weak coordination infrastructure, countries are in danger of heralding a technological transition that leaves its people behind**.
- What makes skills planning difficult in this fragmented landscape is a lack of clarity into **which changes are actually happening or going to happen in the short or medium term** and which remain **aspirational**.

THANK YOU

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