NBI 30 Years
National Business Initiative

Building an Inclusive and Responsive Skills Ecosystem for a Just Energy Transition

ENDORSED BY

PRESIDENTIAL CLIMATE COMMISSION
TOWARDS A JUST TRANSITION

JUST ENERGY TRANSITION

BUSA
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Foreword

Why skills will make or break South Africa's Just Energy Transition

South Africa's Just Energy Transition (JET) presents both an imperative and an opportunity to reconfigure the national skills ecosystem so that it is more agile, coherent, and aligned with emerging economic realities. The transition is reshaping the structure of the economy, altering occupational profiles, and creating new areas of demand that require timely, coordinated responses across government, business, labour, and training institutions. Whether South Africa is able to realise the employment and industrial opportunities associated with the transition will depend largely on how effectively the skills system adapts.

Since 1994, significant progress has been made in expanding access to education and building the institutional architecture of the skills system, including the establishment of the Sector Education and Training Authority (SETAs), the development of the National Qualifications Framework (NQF), and the professionalisation of training provision. These reforms were vital for broadening participation and addressing historical exclusion. However, the current context is markedly different: the speed, complexity, and cross-cutting nature of the JET require a system that can anticipate demand, strengthen coordination, and enable clear learning and employment pathways across value chains.

Chapter 9 of the Just Energy Transition Implementation Plan (JET IP) recognises this shift. It outlines the need for a more coordinated, demand-led, and responsive skills ecosystem capable of supporting emerging industries while ensuring that the transition is fair and inclusive. The JET Skilling for Employment Programme (JET SEP) builds directly on this foundation by exploring pragmatic system adjustments that can support both near-term implementation and longer-term ecosystem reform.

This publication contributes to that agenda. It identifies the structural challenges that constrain system responsiveness, highlights areas where coordination must improve, and sets out practical interventions that can strengthen planning, funding, provision, and workplace-based learning. It further underscores that the transition will require clearer role definition and more collaborative action across all system stakeholders–including the private sector, organised labour, providers, funders, and government.

Taken together, these insights point to a pivotal moment for South Africa. The task ahead is not to redesign the system from scratch, but to connect existing strengths within a coherent national framework that can support a just, demand-led and future-fit skills ecosystem.

Private sector has a crucial role and responsibility

JET SEP has been formally endorsed to mobilise private sector in support of JET skills development

Private sector must be engaged because it

- Drives **JET-related industry growth** and stimulates green job demand
- **Increasingly requires green skills** and it is already starting to feel skills gaps acutely
- **Knows most practically** the types of skills needed
- Is **investing significant resources into skilling** with little coordination & returns
- Bears **a social responsibility** to upskill, reskill and newly skill its workers

Responding to the need for coordinated and accelerated private sector action, NBI supported by BCG launched the **JET Skilling for Employment Programme (JET SEP) in April 2024.**

…with the **formal endorsement of the JET PMU, BUSA and PCC** for NBI to formally lead private sector's contribution to JET Skilling.

Why this is a credible perspective

This publication draws on a substantial body of work undertaken through the Just Energy Transition Skilling for Employment Programme (JET SEP), which was established to support the implementation of the JET IP and to mobilise structured private sector participation in skills development for the transition. Since its launch in April 2024, the programme has served as a coordinated platform through which business, government, labour, training institutions, and other partners have engaged on the challenges and opportunities associated with building a more demand-led skills ecosystem.

Over the past 18 months, JET SEP has convened stakeholders across the full skilling value chain through sector-specific working groups, advisory structures, and leadership forums. More than 35 organisations have contributed to the working groups focused on priority JET value chains, providing detailed insight into occupational profiles, demand forecasting, training pathways, and implementation constraints. The programme's Advisory Board–comprising over 25 organisations–has supported strategic direction, while the CEO Champions platform has brought together senior leadership from major corporations to guide and reinforce the role of business in supporting JET-related skills development. In addition, the Steering Committee has met regularly to ensure continuity, governance, and alignment across programme components.

This sustained engagement has enabled the analysis presented in this publication to remain grounded in the practical realities faced by system stakeholders. Insights from working group deliberations, bilateral discussions with i private sector, industry associations,

and contributions from subject-matter experts have informed the diagnostic and shaped the recommended interventions. Public-facing dialogues have further provided opportunities to test emerging insights and strengthen collaboration across the ecosystem.

The approach adopted throughout this process has ensured that the findings are not abstract or theoretical but reflect the lived challenges of employers defining workforce needs, training providers navigating delivery constraints, funders operating within fragmented financing systems, and government institutions tasked with system oversight. The result is a perspective that is evidence-informed, contextually grounded, and aligned with the role of each stakeholder in strengthening South Africa's skills ecosystem.

Taken together, this work demonstrates that the foundations for a more coordinated, demand-led, and inclusive skills system already exist. The mandate is clear, the insights are available, and the partnerships required for system improvement are in place. The task ahead is to translate this shared understanding into coherent, sustained action capable of supporting a Just and future-fit energy transition.

Acknowledgements

About the Just Energy Transition Skilling For Employment Programme (JET SEP):

The Just Energy Transition Skilling for Employment Program (JET SEP) is a multi-stakeholder and collaborative initiative led by the National Business Initiative (NBI), endorsed by The JET Project Management Unit (JET PMU) as mandated by the Presidency, Presidential Climate Commission (PCC), Business Unity South Africa (BUSA), in partnership with WITS Wits Centre for Researching Education and Labour (REAL), supported by Boston Consulting Group (BCG), African Development Bank (AfDB), African Climate Foundation (ACF) and by South Africa's CEO. JET SEP coordinates private sector contribution to realising the skills chapter in the JET Implementation Plan, with a focus on inclusive workforce development and sustainable job creation.

IN PARTNERSHIP WITH

real
Centre For Researching Education and Labour

About Wits Centre for Researching Education and Labour (REAL):

Wits REAL is a research initiative at the University of the Witwatersrand focused on tackling climate change. Through interdisciplinary research, education, and community engagement, Wits REAL promotes sustainable practices and policies. By fostering collaboration between academia, industry, and government, it drives innovative solutions to support a just transition to a sustainable future.

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JUST ENERGY TRANSITION

About the JET Project Management Unit (JET PMU):

The PMU leads the execution of South Africa's Just Energy Transition (JET) Investment Plan, as mandated by The Presidency. It coordinates stakeholders, manages resources, and tracks progress to

ensure the transition to a low-carbon economy. The PMU drafted the JET Implementation Plan (JETIP) and plays a key role in driving the Skilling Chapter 9, which focuses on developing the workforce needed to support the JET through targeted education, training programmes, and capacitation.

PRESIDENTIAL CLIMATE COMMISSION
TOWARDS A JUST TRANSITION

About the Presidential Climate Commission (PCC):

The PCC advises the South African government on climate policies and strategies. It ensures that the Just Energy Transition is inclusive, equitable, and aligned with the country's climate goals, fostering collaboration among various stakeholders.

BUSA
BUSINESS UNITY SOUTH AFRICA

About Business Unity South Africa (BUSA):

BUSA represents South African businesses and advocates for policies that support sustainable economic growth. In the Just Energy Transition, BUSA works with the government and stakeholders to ensure an inclusive shift towards renewable energy.

SUPPORTED BY

About African Development Bank (AfDB):

The African Development Bank is a leading pan-African institution driving the development of a future-ready workforce for the continent's Just Energy Transition. Through strategic investments, policy support, and partnerships with governments, the private sector, and civil society, the Bank aims to unlock the potential for inclusive economic growth, sustainable job creation, and climate resilience by supporting the skilling of over 600,000 workers across renewable energy, green hydrogen, electric mobility, and energy efficiency sectors by 2050. The Bank's efforts focus on scaling high-impact training programs, expanding access for marginalized groups, and ensuring that workers are equipped with the technical and soft skills needed to thrive in the green economy.

About Boston Consulting Group (BCG):

BCG is a global consulting firm that helps organizations tackle complex challenges. As a partner in the JET SEP, alongside NBI, BCG leverages its local expertise in climate and sustainability to provide strategic advice to support an inclusive and just energy transition.

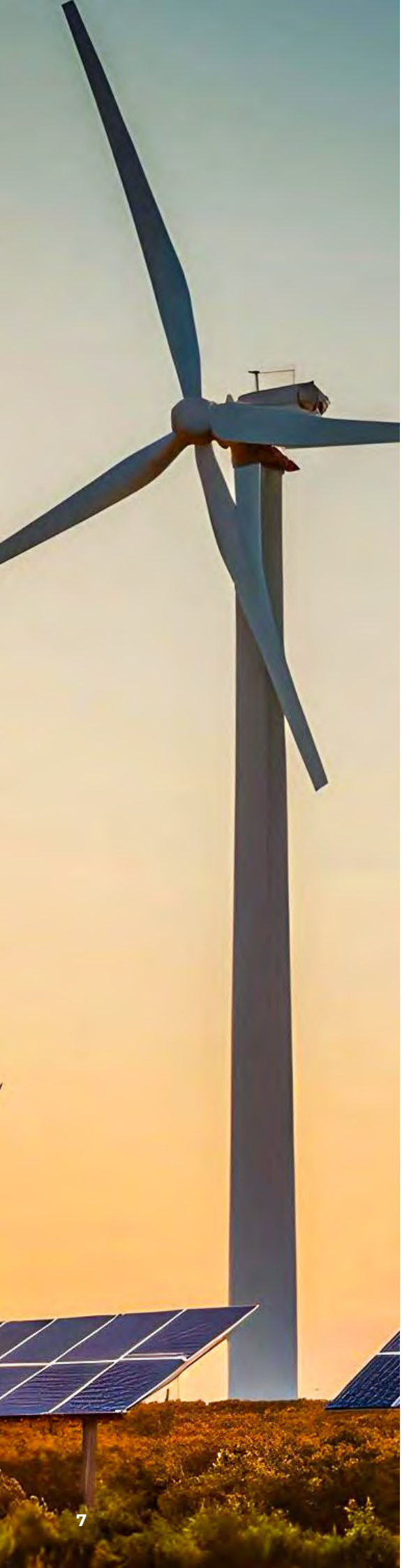
About African Climate Foundation (ACF):

The ACF is the first and only African-led and fully African-run strategic climate and development philanthropy organisation on the continent. Acting as a knowledge-based organisation and change agent, the ACF supports climate-resilient development pathways in Africa. The ACF works closely with local partners to design and implement climate solutions that address the continent's unique socio-economic contexts. Its focus includes energy transitions, sustainable development, and building long-term institutional capacity. The ACF provided seed funding to support the development of the Saldanha Bay Industrial Development Strategy and continues to support growth initiatives in the region.

IMPLEMENTED BY

About National Business Initiative (NBI):

NBI is a South African NGO and independent business movement focused on promoting sustainable economic and environmental practices. It collaborates with public and private sectors to advance environmental responsibility and inclusive economic growth, particularly through projects like the Climate Pathways and Just Transition project released in 2022 and now through the Just Energy Transition Skilling for Employment Programme.



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Confronting the legacy and limitations of the skills system

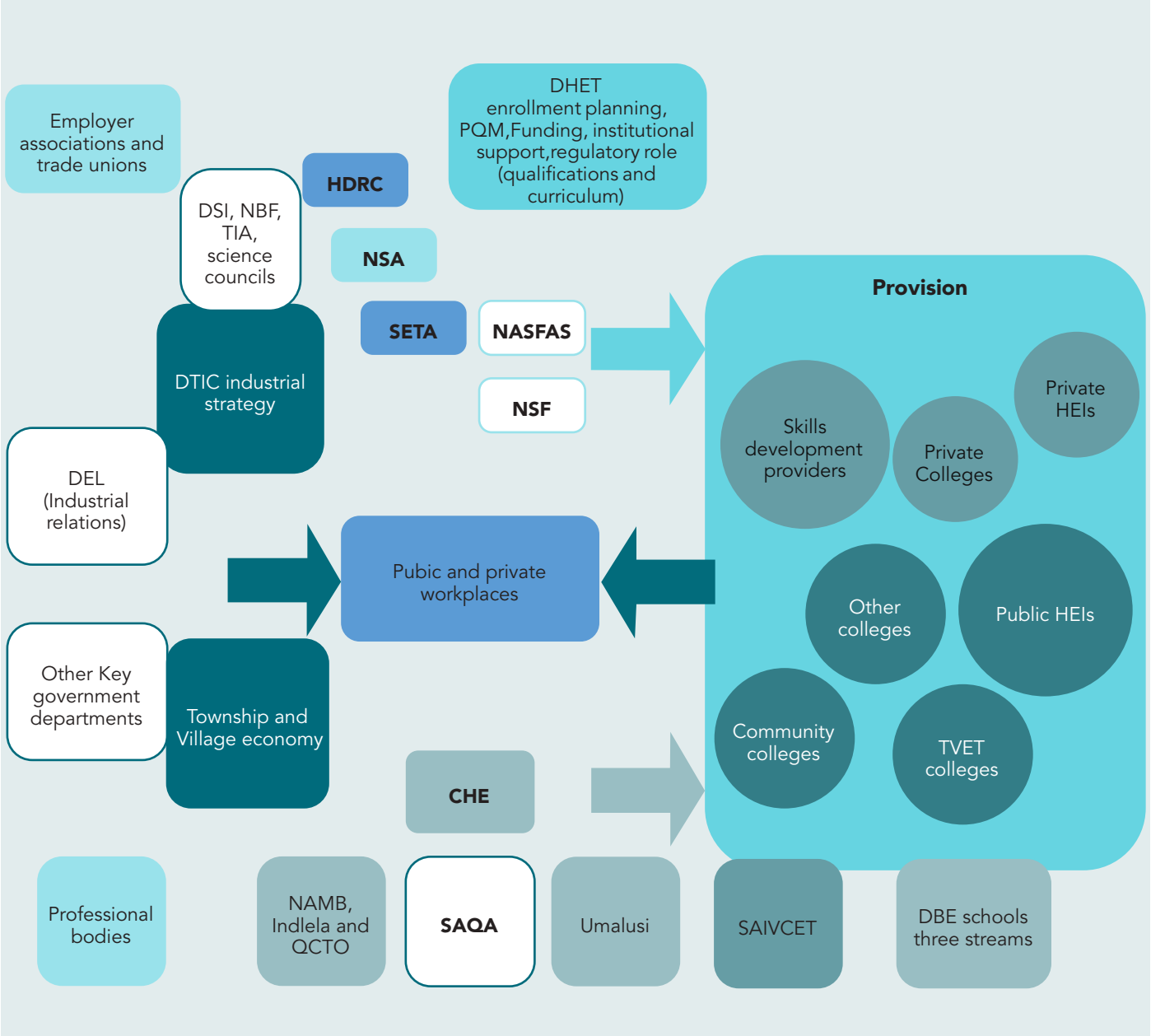
South Africa's Just Energy Transition (JET) requires a skills ecosystem that is agile, responsive, and closely aligned with emerging industry and community needs. Despite significant investment in renewable energy, storage, transmission, and new green industries, the current education and training system remains too slow, fragmented, and poorly coordinated to meet these demands. These weaknesses reflect both present-day inefficiencies and the historical legacy of the country's skills architecture.

Under apartheid, the economy was driven by the Minerals-Energy Complex (MEC), which depended on a racially exclusive system and a deliberately under-skilled, low-wage Black workforce. This created a long-standing "low-skills regime," limited access to quality education and training, and entrenched structural inequality. Post-1994 interventions–such as the National Skills Development Strategy and the establishment of SETAs–expanded access, diversified provision, and built crucial institutional foundations appropriate for that period.

However, today's context is far more complex and fast evolving. Rapid technological change, global competitive pressures, and the imperatives of the JET now demand a far more adaptive and future-oriented skills system. Persistent fragmentation, limited responsiveness, and misalignment between skills supply and emerging green and digital needs pose significant risks. Without greater systemic agility, South Africa could deepen unemployment and miss opportunities for inclusive, future-ready economic growth.

The figure below illustrates the structure of South Africa's skills development ecosystem, spanning governance bodies such as the Department of Higher Education and Training (DHET) and the Department of Basic Education (DBE), quality assurance institutions like the South African Qualifications Authority (SAQA), Quality Council for Trades & Occupations (QCTO), and Sector Education and Training Authorities (SETAs), and a diverse network of training providers including Technical and Vocational Education and Training (TVET) colleges, universities, and private providers. It highlights the multiple funding and labour market actors–such as the National Skills Fund (NSF), SETA levies, National Student Financial Aid Scheme (NSFAS), Unemployment Insurance Fund (UIF), and employers–that shape who accesses training and how programmes are prioritised. Together, these nodes reveal a system with significant institutional depth but persistent fragmentation, weak coordination, and uneven agility in responding to emerging green and digital skills demands. Understanding this architecture is essential for identifying where bottlenecks lie and why the Just Energy Transition requires a coordinated, system-wide intervention.

Figure 1 | The broader skills development ecosystem



The challenges in the skills development system are elaborated in the Just Energy Transition (JET) Implementation Plan (IP)1, launched by the JET Programme Management Unit (PMU) in the Office of the Presidency in 2023, which highlights the concern that the education and training system in South Africa is unable to adapt promptly to the rapidly changing landscape brought about by the energy transition. It underscores the need for the skills system to become more responsive to the needs of both industry and affected communities. The central concern that needs to be addressed is that, while JET is a key priority in South Africa and there are considerable resources being deployed into growing opportunities in this space, it is currently being treated as just one part of the broader skills system, without sufficient regard to the speed and responsiveness required or its cross-cutting nature.

These imperatives led the NBI to establish the JET SEP in April 2024 and convene a series of stakeholder driven processes, aimed at identifying the scope for employment and associated skills needs, and generating pragmatic solutions on how the skills ecosystem can be strengthened to better support the JET. Given the complexity and high levels of inefficiency in the skills ecosystem, JET SEP seeks to identify urgent, practical actions that can realign the system in the short to medium term; and ensure that the country is able to realise the employment and economic opportunities that can be realised through the transition to a low-carbon economy.

[1] https://justenergytransition.co.za/wp-content/uploads/2024/10/JET-Implementation-Plan-2023-2027-1.pdf

Private sector coordination through the JET SEP

The JET SEP recognises the critical role of the private sector in driving the implementation of the skilling plan as laid out in the country's JET IP. The private sector is central to driving the JET because it is the primary source of investment, technology adoption, and demand for green skills. Without structured private sector participation, the skills system cannot respond at the pace required by the transition

The key challenge that JET SEP seeks to solve is how to ensure the private sector's contribution is as inclusive and transformative as possible. The JET SEP provides a platform for the private sector to engage collectively to address barriers in the skilling ecosystem that contribute to inefficiencies and undermine access, quality and relevance.

Since April 2024, private sector representatives from across the JET value chain have met in seven working groups focused on solar, wind, transmission, battery storage, energy efficiency, green hydrogen, and new energy vehicles. These working groups – facilitated by the NBI - seek to formalise the business sector's contribution to the implementation of the national JET Skilling Programme. They focus on skills planning (current and projected demand for green skills) and ensuring that the relevant skills training programmes are in place; the development of Skills Development Zones (SDZ); and identification of quick-win opportunities for scaling impact. These working groups form the core mechanism through which sector-specific skills needs, constraints, and workforce pathways are identified and aligned with national planning processes. The intention is that these deliberations feed into the national JET Skills Desk, located in the DHET and officially launched on 29 August 2025 as part of national coordinating structures.

The JET SEP is particularly crucial as the country increases its investment in renewable technologies and related sectors. The programme brings together business leadership and technical expertise to develop a coordinated and urgent response to realise JET priorities. In addition to the working groups, the governance framework includes a Steering Committee, 31 CEO Champions from across economic sectors, and an Advisory Board, all supported by a Core Project Team, alongside engagement with knowledge partners and thought leaders in the skills and labour market ecosystem.

Steering committee

CEO champions board

Advisory board

Core project team

JUST ENERGY TRANSITION

NBI 30 Years National Business Initiative

real Centre For Researching Education and Labour

SALDRU Southern Africa Labour and Development Research Unit

Working groups

- Solar PV
- Transmission
- Green hydrogen
- Energy efficiency
- Wind
- Battery storage
- Electric vehicles

JET SEP CEO Champions

Lead CEO Champions

Nolitha Fakude, **Anglo American**
Dan Marokane, **Eskom**
Simon Baloyi, **Sasol**
Lungisa Fuzile, **Standard Bank**

Charles Russon, **ABSA**

Holger Reimensperger, **AECI**

Theo Boshoff, **Agbiz**

Nkululeko Magadla, **Air Liquide**

Brian Dames, **AREP**

Stuart Kent, **Aurex Constructors**

Zanele Mavuso Mbatha, **Bambili Energy**

Taelo Mojapelo, **BP South Africa**

Khulekani Mathe, **BUSA**

Deidré Penfold, **CAIA**

Hennie Heymans, **DHL Express**

Mohammed Akoojee, **DP World**

Konehali Gugushe, **FirstRand Foundation**

Phuti Mahanyele Dabengwa, **Naspers**

Shameela Soobramoney, **NBI**

Cas Coovadia, **NBI Board Member**

Brent Botha, **Norton Rose Fulbright**

Iain Williamson, **Old Mutual**

Dorah Modise, **PCC**

Ggi Raoleka, **Pele Green Energy**

Shirley Machaba, **PwC**

Paul Hanratty, **Sanlam**

Graeme Wild, **Sappi**

Mike Teke, **Seriti**

Peter Venn, **Seriti Green**

Aluwani Museisi, **Shell**

Gavin Dalgleish, **Tongaat Hulett**

Michelle Phillips, **Transnet**

JET Skilling for Employment Programme (JET SEP): Steering Committee

Joanne Yawitch
Head of JET PMU

Shameela Soobramoney
CEO: NBI

Devin Pillay
Head of Employment Strategy: PCC

Khulekani Mathe
CEO: BUSA

Tbc
Representitive from JET Desk

Nolitha Fakude
Chair: Anglo American South Africa

Lungisa Fuzile
CEO: Standard Bank South Africa

Dan Marokane
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Simon Baloyi
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Siphokuhle Mkancu
IRM Engagement & Communication Manager: Economic Inclusion

Nqobile Ngcobo
Project Coordinator: JET Skilling Economic Inclusion

Osman Cassim
Administation: JET Skilling Economic Inclusion

Through this structure, JET SEP acts as a key interface between industry insights and public-sector coordination mechanisms such as the JET Skills Desk. Taken together, these elements position JET SEP as a catalytic platform for accelerating demand-led skills development and ensuring that South Africa's workforce is prepared for the scale and speed of the JET.

Key levers for system change

The JET SEP engagement with its various stakeholder has foregrounded four key areas of system change which could enable the country to gain quicker traction in responding to the JET imperatives.

Figure 2 | Key levers for systems change

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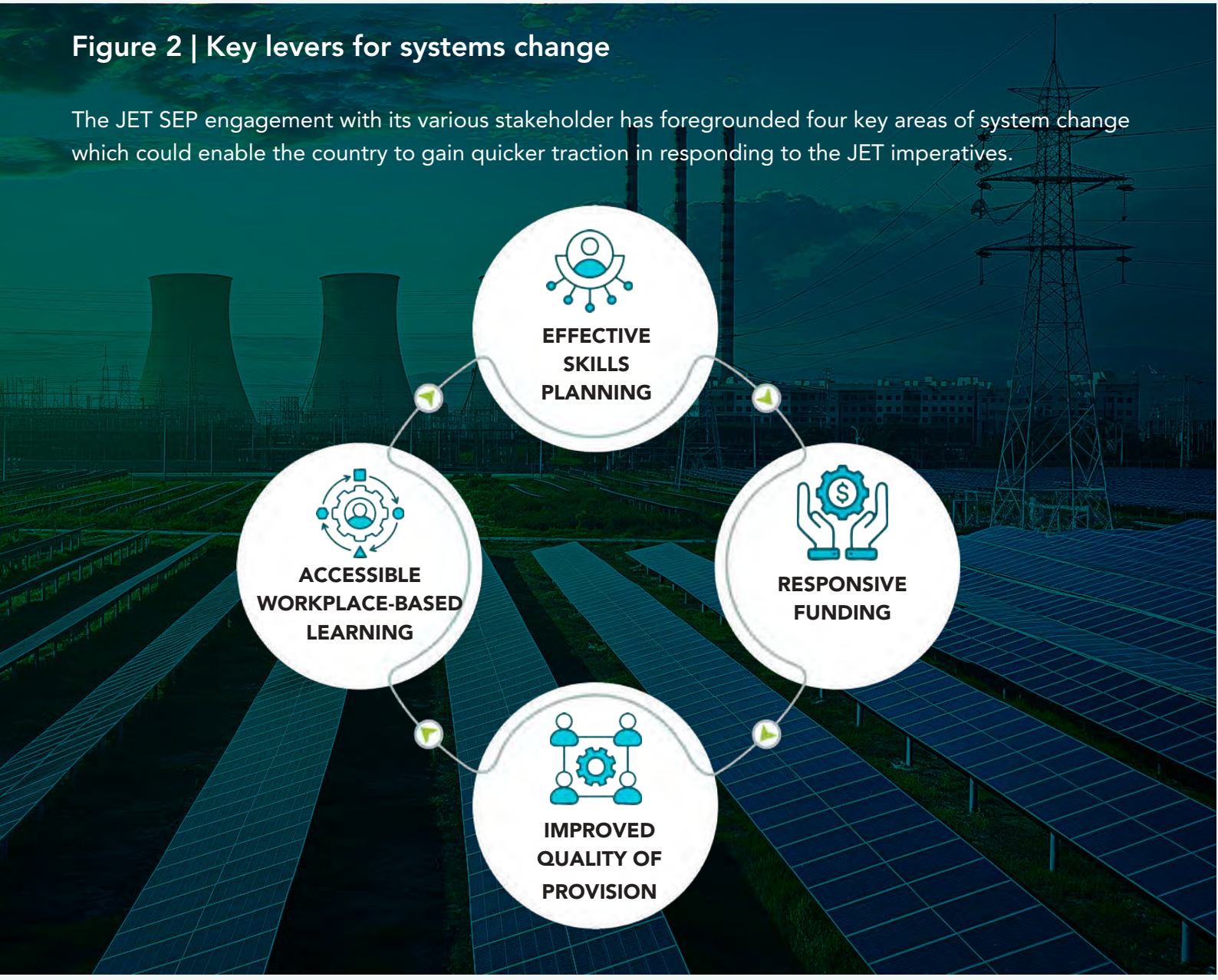

These four are further combined into two integrated levers, being:

- Effective skills planning and responsive funding; and
- Improved quality of provision and workplace-based learning

The table below summarises the proposed practical interventions outlined in this report. The rationale and detail for each of these practical interventions is discussed below.

Table 1 | Practical interventions mapped to key stakeholders across two integrated levers

Key levers	Practical interventions	Key stakeholder
1. Effective skills planning and responsive funding	Introduce value chain-based planning and funding by facilitating cross-SETA collaboration and public–private partnerships.	SETA CEO Forum DHET NBI/BUSA
	Explore how to encourage SETAs to work together on overlapping sectors.	SETA CEO FORUM DHET
	Strengthen existing data platforms to enable more coordinated planning. Improve interoperability across skills data systems to enable structured, periodic sharing of employer needs and occupational-level WSP insights while maintaining confidentiality, without creating new platforms.	DHET HRDC SETA Presidency (PYEI) NPMN
	Revise Workplace Skills Plan (WSP) templates to more accurately capture actual and projected demand at occupational level.	SETAs DHET Employers
	Establish regular sector–subsector planning forums where SETAs, employers, and partners jointly analyse WSP data and feed into sectoral dashboards to inform grant allocations.	SETAs Industry associations DHET BUSA/NBI
	Mapping end-to-end learning pathways across priority value chains to guide curriculum alignment, workplace-based learning requirements, and targeted funding along the progression route.	QCTO Academic institutions
2. Improved quality of provision and accessible Workplace-based learning	An industry-TVET college partnership to co-design curricula, update qualifications faster (where required) and ensure lecturers receive industry exposure – by ensuring that TVET colleges engage with the SETAs to facilitate lecturer development.	DHET SETAs QCTO TVETs BUSA/NBI Organised labour
	Incentivising small and medium-sized companies to host learners through procurement-linked incentives and preferential treatment in bids.	SETA BUSA/NBI DTIC Presidency
	The development of shared Workplace-based Learning (WBL) infrastructure such as regional training clusters or rotational placement systems.	SETAs BUSA/NBI TVETs Organised labour
	The introduction of bootcamps, mentorships, and simulation-based training.	YES NPMN NBI TVET Organised labour
	Integrating soft skills and work-readiness modules into all qualifications with the National Pathway Management Network (NPMN) playing a critical role to track learners post training.	Harambee YES NPMN
	Review and adapt the Recognition of Prior Learning (RPL) system to better recognise non-tradition learning pathways.	SAQA DHET QCTO SETAs

Lever one: Effective skills planning and responsive funding

The rapidly evolving labour market raises persistent challenges for effective skills planning. In several sub-sectors of the economy, identifying exact training needs is complicated by continuously changing job descriptions and little or limited clarity around future workforce needs. Existing systems, such as Workplace Skills Plans (WSPs) submitted to the SETAs, may not always provide the flexibility or responsiveness needed to capture real-time shifts in demand. WSPs tend to focus more on planned training activities than on emerging skills dynamics.

A key component of strengthening planning is the mapping of end-to-end learning pathways for priority value chains, to clarify entry points, progression and exit routes, required workplace exposure, and the types of training and support interventions needed at each stage.

In the context of weak data, skills forecasting and anticipation will not provide a reliable base for skills planning. There is a growing need for more detailed, up-to-date data on specific occupational and skills requirements on an ongoing basis, particularly where such planning is linked to project life cycles associated with the deployment of green energy technologies.

Under "normal" circumstances, putting in place skills anticipation systems can be challenging, much more so when thinking about the green transition when so much remains unclear. The absence of a centralised and reliable source of information on projects, local skill gaps, and available labour pools is a critical barrier to skilling for the JET. Effective skills planning and anticipation efforts could be strengthened through improved coordination, more accessible and timely data on emerging and evolving demand - including demand that could manifest through the JET project pipelines - and enhanced collaboration among key stakeholders, including government, industry bodies, companies, TVET institutions, and local communities.

Whilst local companies could prepare to meet the anticipated demand from Eskom's Transmission Daevelopment Plan (TDP), uncertainty exists around the timing of this demand.

These challenges are amplified within local economies where JET projects are being implemented. The absence of reliable skills data perpetuates funding decisions for skills interventions which will most likely not be optimal for realising inclusive economic benefits.

As companies come under increasing pressure to localise their investment in labour markets surrounding their projects and operations, it is critical that investment decisions are guided by a clear understanding of where the demand for skills is manifesting.

Poor decisions on investment in local skilling can also contribute to increasing levels of instability, where affected communities will have expectations of localised benefits from project implementation. At the same time, the high levels of uncertainty that characterise the JET environment, particularly where project lifecycles cannot be accurately and reliably predicted, requires some flexibility in how training is funded and delivered. A conducive skills planning system must take cognisance of the dynamic nature of the energy transition and allow for the flexible allocation of resources that respond to emerging demand for skills in an equally dynamic manner. The current inflexibility of the skill planning and funding system limits the scope of skilling that SETAs will support and the speed at which skills in demand can be provided, and risks further leaving behind those communities that most need it.

Key guiding questions

What is practically possible to ensure skills planning is improved so that the right skills are in place for emerging demand?

How do we ensure that there is more synergy between skills planning at national to local levels?

How to ensure that funding is sufficiently flexible and responsive to the unfolding needs of the JET?

Key challenges

In terms of **funding**, the following challenges have emerged through stakeholder engagements:

1. Reduced availability of grant funding:

There is a notable decline in SETA funding, which may be linked to broader economic conditions. Funding processes can be fragmented, with numerous players duplicating efforts. Funding approaches are also often centralised, whereas skills needs are diverse and local.

2. Use of discretionary grants:

Discretionary grants are sometimes not fully aligned with broader sector or value chain priorities. SETAs may, at times, be forced to respond to employer-specific requests rather than having the discretion to support a more coordinated and impact-driven strategy. There is limited publicly available data on how SETA grants are allocated and the extent of impact on the sector concerned. Internal capacity to undertake effective research, monitoring and evaluation is limited in many SETAs, restricting their ability to identify and respond to demand signals which can enhance employment creation.

3. Collaboration across SETAs:

Collaboration across SETAs could be strengthened, particularly in sectors with overlapping skills needs (such as energy and water). Moving towards more enhanced coordination could support more integrated cross-sectoral skills planning.

In relation to skills planning, the following challenges have emerged through stakeholder engagements:

1. Limited availability of detailed and accessible data on skills supply and demand: The availability of data that can support effective skills planning is hampered by a number of issues:

- There is general consensus that Workplace Skills Plans (WSPs) are not a reliable representation of demand for skills but rather indicate where larger levy payers will be spending their skills development funds.
- South Africa's skills data ecosystem is dispersed across multiple platforms; including SETA skills planning systems, the Higher Education Management Information System (HEMIS), the Technical and Vocational Education and Training Management Information System (TVETMIS), the Employment Services of South Africa (ESSA) system managed by the Department of Employment and Labour, NSFAS data, and various institutional databases. These datasets are not integrated, vary in quality, and are seldom analysed together. The lack of interoperability prevents a consolidated picture of skills supply, learner progression, workplace-based learning demand, and employment outcomes, which in turn limits effective planning for JET-related occupations.
- The resulting effect is that training provision may not fully align with emerging labour market opportunities, resulting in gaps between skills development and actual employment demand.

2. Limited value chain analysis:

Skills planning tends to occur at a broad sectoral level rather than focusing on sub-sectors or value chains, which may then miss the inter-sectoral connections and cross-cutting skills requirements, and creates duplication and inefficiency. In the absence of mapping learning pathways within these value chains, data systems cannot easily connect qualifications, workplace exposure requirements, and occupational progression. The progression routes provide visibility on entry points and highlights training needs and workplace exposure at each stage.

3. Disconnect between national and local planning:

National-level strategies may not always reflect local community or industrial priorities or conditions (for example, differing local economic conditions across regions and differentiated effect of the energy transition). This undermines any meaningful and responsive alignment of skills provision to emerging local demand as industrial activity evolves. Informal or community-based skills (such as 'hustle' skills) are not always captured in current planning tools or frameworks, which are primarily designed for formal sector analysis, limiting the focus on development of the township economy for inclusive local economic participation.

4. Uncertainty related to large-scale projects:

Stakeholders note that delays or cancellations of major infrastructure or energy projects make it difficult for employers and training providers to plan for future skills needs with confidence. Planning and implementing skills interventions appropriately in line with project pipelines is complicated even where projects are delivered timeously, the high level of uncertainty further complicates any interventions.

5. Monitoring, evaluation, and feedback mechanisms:

Lessons from past skills interventions are not always properly captured or integrated into future planning. It is also noted that data from WSP submissions is not meaningfully used to inform policy or long-term monitoring of training outcomes and impacts.

Proposed practical interventions

In terms of funding, the following interventions are proposed:

1. Introduce value chain-based funding:

Develop coordinated funding strategy frameworks around value chain challenges, complementing rather than replacing sectoral silos and leveraging discretionary grants, public employment programmes funding, and public-private partnerships to support value chain wide interventions. These interventions should be informed by industry and SETAs planning forums.

2. Encourage cross-SETA collaboration:

Explore how to encourage SETAs to work together on overlapping sectors (e.g., energy, water and manufacturing). This level of coordination can support integrated planning and joint funding mechanisms.

In relation to **skills planning**, the interventions emerged included amongst others:

1. **Introduce value chain-based planning:** Shift from generic sector-level planning to value chain-based analysis to understand interdependencies between sectors and design skills responses accordingly.
2. **Map end-to-end learning pathways:** Map progression routes across priority value chains to clarify entry points, required competencies, workplace-based learning requirements, and the types of training and support needed at each stage. This provides visibility on learner pathways and helps align curriculum, project timelines, and funding decisions.
3. **Strengthen data platforms to enable more coordinated planning:** Strengthen and connect existing data platforms to generate consolidated insights on employer skills needs (current and projected). By improving interoperability between existing data systems, enabling structured and periodic sharing of employer needs and WSP insights at occupational level while maintaining confidentiality. The approach avoids creating a new platform and instead strengthens the current ecosystem through shared standards, consolidated analysis and integration of priority datasets. This approach could align with broader government efforts to improve coordination across employment and training platforms for example, through initiatives like the National Pathway Management Network (NPMN) without requiring new structures or shifting institutional roles.
4. **Revise WSP templates to signal actual and projected demand:** The WSPs should be refined to allow for companies to report more accurately on current and anticipated demand for skills rather than only focusing on training needs. Currently, WSPs are compliance-driven and often backward-looking, highly aggregated and too generic to guide planning or investment decisions at various levels. While the refinement of the WSP template is not a complete solution, this incremental adjustment within the existing SETA system can strengthen planning, support localised investment decisions, and complement wider efforts to improve data quality, analysis, and demand tracking.
5. **Establish sector-subsector planning forums:** Ensure there is on-going and regular collaborative engagements between SETAs, employers, and other key stakeholders to co-analyse WSP data so that they can feed into the development of a sectoral skills dashboard and that these forums would support granular planning and inform discretionary grant allocations.

Lever two: Improving quality of provision and accessible workplace-based learning

Stakeholder engagement consistently highlights the low level of readiness of graduates to enter workplaces. This issue emanates partly from the quality of provision, and particularly applied learning, but more explicitly from the limited opportunities for workplace-based learning.

Industry stakeholders do not necessarily express concern with a shortage or quality of graduates from higher education institutions. Rather, their concern is about the lack of exposure of graduates to the workplace contexts into which they are entering, and the specific technologies being deployed in these workplaces. While higher education institutions may provide academic foundations, there must be opportunities to further strengthen 'real world' exposure and more specialised training which can only take place in an authentic workplace environment.

For example, industry stakeholders indicate that, while engineering graduates from higher education institutions are often academically well-prepared, there is scope to better support their work readiness through practical exposure and 'soft skills' such as communication, teamwork, client engagement, adaptability, digital literacy, and problem-solving. Workplace-based learning is widely recognised as being essential for supporting initial labour market entry. However, workplace-based learning opportunities are restrictive for young people, in part due to ineffective incentives for employers, particularly small and medium-sized companies, and in part due to the onerous requirements from the skilling system for such workplace-based learning to be credible and recognised.

In the case of the public TVET college system however, the issue of the quality becomes more pronounced due to outdated curricula that do not reflect evolving technologies, resulting in a misalignment of the preparedness of the graduate with workplace needs. The quality of graduate output was linked to concerns that curricula are not responsive enough; lecturers lack real industry experience; qualification development processes are not adequately industry-informed and there is a lack of clarity on where responsibility lies for closing this gap – is it the education and training institutions or employers who must retain learners at a high cost? The shift in TVET colleges towards occupational qualifications amplifies the requirement for closer alignment between the colleges and employers for the purposes of the mandatory workplace-based learning.

Key guiding questions

What needs to happen to ensure more workplace learning opportunities exist to effectively enable youth to transition into the labour market?

What would it take to make this happen, bearing in mind that providing workplace learning opportunities places significant responsibilities on large companies and makes it virtually impossible for smaller companies to manage?

In terms of improving formal provision, what interventions are required to build and strengthen relations between providers and industry to ensure providers are aligned to industry requirements, including promoting active industry engagement in curriculum design?

Key challenges

1. Limited value chain analysis:

A key cross-cutting concern is the oversupply of graduates in low-demand areas whilst funding mechanisms and university intakes do not reflect real demand. This relates to the issue of data and planning as national labour market planning has yet to catch up with the reality of the JET. Accurate data and proactive preparation for the Integrated Resource Plan (IRP) are key if the country is to secure the skills needed for a rapidly changing energy landscape.

2. Preparation of students for workplace entry:

Integrating university and TVET college graduates into workplaces present challenges for companies that are forced to invest significant spend on retraining, because the institution has not prepared them well enough. TVET college lecturers lack sufficient understanding and insight into the changing nature of work and the impact on skills. While lecturers cannot be expected to change curricula on an ongoing basis, the lack of understanding of shifts in industry and their implications for the skills development, impacts their ability to be creative and innovative in how the curriculum is delivered to optimally prepare young people for the realities of the workplace.

3. Transparency and data on learner pathways:

Whilst there are several platforms, a centralised learner tracking system is non-existent. Limited adoption and utilisation of existing platforms such as SAYouth.mobi, managed by Harambee Youth Employment Accelerator, and the ESSA in the Department of Labour, restricts the ability of these platforms to optimally match young people to viable economic opportunities and track their journeys through the labour market. Learner destinations are uneven due to tracer studies being siloed within individual SETAs and not aggregated nationally.

4. Access to workplace learning:

Companies often cite graduates' lack of workplace experience, yet many cannot offer workplace learning. Internship and apprenticeship opportunities remain limited, especially for small businesses. The skills system restricts which workplaces can meet approval requirements, and funding largely favours larger companies. Small firms, with limited capacity and inconsistent work, cannot host learners without reliable funding. B-BBEE incentives also prioritise procurement compliance rather than national skills development goals.

5. Lack of agility of the skills system:

More broadly, a key limitation is the ability of the skills system as a whole to respond timeously and appropriately to the evolving demand of the labour market. The slow process for development and registration of new qualifications is a persistent frustration for industry and training institutions. As a result of this and other system inefficiencies, training programmes often occur too early or too late relative to project rollouts, leading to missed opportunities.

6. Aligning provision and workplace-based learning with project timelines:

A challenge is the timing of skills training and workplace-based learning during project construction phases. Once construction begins, tight timelines make it difficult to integrate structured learning. Training needs to occur well before project start, but must be carefully timed to avoid delays that create unmet community expectations or frustration. Effective planning is only possible when project pipelines are consistent and reliable.

Proposed practical interventions

In terms of improving quality of provision and enabling access to workplace learning, the following interventions are proposed:

1. **TVET Lecturer Development Industry-TVET partnership:** There is a growing need to strengthen professional development for TVET lecturers as training shifts toward demand-led, responsive programmes. While some progress has been made, lecturer development must be expanded urgently. Lecturers need support to improve practical training and gain industry exposure to ensure teaching aligns with workplace expectations. SETAs should mobilise companies to provide this exposure, allocate budgets effectively, and co-design lecturer workplace exposure programmes with industry for consistent, high-quality impact.

2. **Expand workplace learning opportunities:** Smaller companies should be incentivised to host learners by granting them preferential procurement treatment for offering placements linked to the sector skills needs. In addition, consideration should be given to developing shared infrastructure for WBL such as regional centres/ clusters where learners can rotate across companies as well as utilising "bootcamps" or mentorship programmes during or after training.

Soft skills and work readiness: Universities and TVET colleges should be supported to strengthen work readiness interventions and embed these into the delivery of programmes and qualifications. The work readiness programmes should be tailored to specific types of workplaces into which graduates will be entering rather than being generic. Partnerships with non-government organisations that offer bespoke work readiness interventions, could be an easier mechanism to scale this up.

3. **Promote and support RPL:** As part of a reorientation of the system to focus more on skills rather than certificates, there should be a review of the way in which the NQF is being applied for example, to make it easier accommodate non-traditional learning pathways and recognise skills in a more dynamic and inclusive manner.

02

Building the collective capability to deliver a Just Energy Transition

South Africa's ability to deliver on the promise of a Just Energy Transition ultimately depends on the collective capability of the skills eco-system. While the system has strong institutional foundations, stakeholders still operate in silos, with limited coordination and thus prevents the strengths from translating into meaningful outcomes. The analysis across the two integrated levers highlights that although the system is rich in mandates, actors, and resources, it remains fragmented, slow to adapt, and insufficiently aligned with real labour market demand.

What is required is not the creation of new institutions or a fundamental restructuring of mandates, but a shift in how existing stakeholders work together. The opportunity lies in connecting the system's existing assets data platforms, qualification and quality assurance bodies, SETAs, public and private training providers, employers, labour structures through a more coherent and demand-led national framework.

In this context, each institutional stakeholder brings distinct strengths but must also evolve in response to the needs of the JET. Government must shift from dispersed oversight to stronger system stewardship, coordinating demand signals, aligning SETA functions, and support more integrated planning. The private sector must step into a more active role as a co-designer of curricula, contributor to workplace-based learning, and partner in building predictable talent pipelines.

Industry associations have the potential to serve as aggregators of demand and convenors of sector-wide commitments. SETAs must move beyond compliance-focused planning to enabling coherent learner pathways, responsive funding, collaborative planning with other SETAs and more agile qualification updates.

PSET institutions, must be more innovative, agile and responsive in curricula delivery and strengthen work readiness. Public, private and philanthropic funders should coordinate investments around national priorities rather than supporting fragmented pilot initiatives. Importantly, organised labour which has had a muted presence in current JET skills processes must be centrally involved in informing curricula, workplace-based learning frameworks, and worker support mechanisms to ensure fairness, inclusion, and legitimacy.

Organised labour is central to ensuring that the transition is just and that workers have access to reskilling, decent work, and meaningful participation in decision-making. Their active participation is not only necessary for legitimacy but essential for ensuring that workers navigate new job pathways without being left behind.

The table below summarises the current strengths, the evolving roles, and the opportunities ahead for each stakeholder. Together, these shifts provide a foundation for a more integrated, coordinated, and demand-responsive skills ecosystem capable of supporting the scale and pace required by the Just Energy Transition.

Table 2 | Current roles, envisaged roles and opportunities for key ecosystem stakeholders

Stakeholder	Current role	Envisaged role in the ecosystem	Opportunity ahead
Government: DHET and JET Skills Desk	Vision, policy and strategic frameworks through JET IP and Skills Masterplan	Use convening power to develop informed policies and strategies for effective skills planning and responsive funding and alignment to Skills Master Plan. JET Skills Desk to coordinate the ecosystem: leading inter-departmental engagement in skills, employment and entrepreneurship; consolidating demand; aligning SETAs; coordinating providers, SDZ, and funders; and ensuring accountability.	Move from fragmented oversight to system-level leadership with clear accountability for outcomes guided by strong and joint data platforms and value-chain based funding informed by industry and coordinated SETA planning forums.
Private Sector: Employers and Industry Associations	Employers: Consumers of trained graduates; Industry Associations: Convenors and advocates for members	Employers generate reliable demand data, co-design curricula, co-invest in training, and co-develop structured workplace-based learning, host learners and provide feedback to policy makers and providers; Industry associations aggregate data convene sector-wide compacts and ensure development of and adherence to industry standards.	Secure long-term competitiveness by turning advocacy into coordinated employer action on hiring, internships, and training, with credible pipelines of job-ready talent.
SETAs	Levy management and workplace skills planning	Active enablers of learner pathways, anchored in pipeline demand; support disadvantaged learners with stipends, transport, and workplace readiness.	Enhance reach by through collaborative skills planning guided by valid and reliable data, subsidising priority programmes, and supporting learners into real jobs.
Training Providers: Public TVET colleges	Delivery of curricula and qualifications	Enabled through adequate funding and resourcing to provide agile hubs delivering adaptive, modular, employer-validated programmes; blended delivery; entrepreneurship education, acceleration and incubation strong Recognition of Prior Learning and bridging programmes.	Produce graduates who are certified, job-ready, and aligned to evolving industry demand.
QCTO, Professional Bodies	Quality Assurance, Skills Recognition, Programme and Qualification development	Respond to emerging demand signals from key value chains to develop and support rapid implementation of skills interventions through public TVET and HE institutions to support critical skills needs for the JET.	Creating a more agile system for qualification and programme development, skills recognition and quality assurance that responds to rapidly evolving workplace roles.
Non-Governmental Organisations	Opportunity aggregations and matching; entrepreneurship; psycho-social support	Innovative and Agile solutions for matching young people to labour market opportunities in key growth sectors; placement support for TVET and HE students, partnering with public PSET institutions to offer soft skills, entrepreneurship support, and non-formal skills training.	Play intermediary role in building conducive skills and entrepreneurial ecosystems through multi-stakeholder partnerships.
Funders: Government, donors	Significant but fragmented contributions	Pooled, aligned investments targeted to JET priorities via a JET Funding Platform, tied to outcomes and transparency.	Ensure sustainable, scalable financing for high-priority occupations and geographies, while moving beyond pilots to systemic interventions.

Collectively, these evolving roles reflect a system-wide shift from fragmented, institution-specific responsibilities to a coordinated, value chain–driven model. This is essential to ensure that the ecosystem can respond with the speed, coherence, and accountability demanded by the transition. When stakeholders work in mutually reinforcing ways sharing responsibility, aligning planning, and coordinating implementation, the ecosystem becomes far greater than the sum of its parts.

03

A collective pathway towards a responsive and inclusive JET skills ecosystem

South Africa's skills ecosystem is complex and institutionally rich, shaped by a long historical trajectory and evolving policy reforms. Yet its ability to support the JET depends on its capacity to operate as a coordinated, demand-led system rather than as a collection of isolated actors. The JET requires agility, collaboration, transparent demand signalling, and the integration of learning pathways that traverse multiple value chains and sectors.

The interventions proposed throughout the report demonstrate how South Africa can move from broad commitments to tangible system shifts: value chain-based planning, collaborative SETA mechanisms, strengthened data integration, refined WSPs, improved lecturer exposure, expanded workplace learning, and demand-led curriculum reform. The JET SEP platform and the JET Skills Desk together offer the institutional channels through which these reforms can be coordinated and operationalised.

Delivering on this agenda will require every stakeholder to evolve. Government must lead alignment and accountability; employers must provide demand signals and workplace learning opportunities; SETAs must enable clear pathways and agile funding; training providers must modernise provision; funders must coordinate investments; and organised labour must actively shape fair, worker-centred transitions. Without this collective shift, the system risks continuing to train for the past rather than for the future—missing economic opportunities, deepening inequities, and reducing South Africa's competitiveness.

In strengthening the system, several additional priorities require focused attention in future phases of JET skills planning and implementation. These include developing more robust approaches to recognising informal and community-based skills, particularly in areas where livelihoods sit outside the formal economy. Addressing the challenge of advancing Recognition of Prior Learning (RPL) as part of a broader shift toward valuing skills, competencies, and experience rather than certificates alone especially considering upskilling and reskilling. The system must also move toward a clearer national strategy for upskilling and reskilling, which remains difficult to operationalise given unclear institutional roles and delivery mandates. Addressing these gaps will be essential for enabling workers—especially those in vulnerable or transitioning sectors—to move into emerging opportunities. Additionally, the current limited engagement of organised labour represents a structural risk, given its critical role in shaping fair, worker-centred transitions. Strengthening labour's role within governance and planning processes will be important for ensuring that the JET does not leave affected workers behind.

However, with coordinated action, shared responsibility, and commitment to the practical interventions proposed, South Africa can build a skills system that is inclusive, future-fit, and capable of enabling real pathways into decent work. The JET offers a generational opportunity to align the country's skills system with its economic transition. Seizing this opportunity requires urgency, collaboration, and a shared national resolve. If stakeholders act collectively, the system can become a powerful engine for equitable growth. If not, the transition will falter and communities most affected by change will carry the cost.

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