

CESA YP Sustainability Imbizo 2025

Organisational transformation and leadership for the Net- Zero Era

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THE CATALYST MOMENT

“Unfortunately you want sushi, and this Company is Spur. People Don’t Come To Spur for Sushi.”” – **Senior Exec (Former Company)**



WHY THIS CONVERSATION MATTERS

From “**Not Smart Enough for Engineering**” to
Leading Organisational Transformation Research

Arguably: The Net-Zero Transition Is Stalling —
and It’s Not Because of a Lack of Engineers

- SA’s energy sector has no shortage of technical expertise.
- It suffers from toxic cultures, instability at leadership levels, and eroded trust in institutions.
- Technical solutions alone are not enough to deliver transformation

MSc. Managerial Psychology, exploring:

- Leadership styles
- Impact of trust in leadership
- Organisational adaptability

all within the context of the changing landscape of
the energy sector

The research approach looked into:

- Mixed-methods study:
 - 80+ structured survey responses
 - 30 in-depth qualitative interviews

ATL Model – Adaptability, Trust, Leadership

- A three-layer framework that maps the psychological conditions for leading institutional change.
- Enables engineers to move beyond technical roles and lead cultural transformation.
- Empirically grounded and field-tested through South African energy sector data.

ESI Index – Energy Sector Institutional

Adaptability Index

- A scoring system derived from multi-variable analysis, measuring:
 - Leadership trustworthiness
 - Organisational responsiveness
 - Cultural adaptability

Problem 1: Technical Reductionism

- Engineering is still primarily defined by tools, specs, and outputs.
- Leadership, trust, and organisational culture are seen as “soft” or secondary.

Problem 2: Conformity Culture

- Innovation is penalised when it doesn't fit established moulds.
- Aspiring leaders are often told they are “too ambitious” or “not smart enough” when they deviate from traditional norms.

Problem 3: Disconnected Leadership Pipelines

- Engineers are promoted for technical excellence, not people leadership.
- Result: Emotionally unintelligent, resistant-to-change leaders in key roles.

Problem 4: Misaligned with Net-Zero Realities

- The energy transition is as much about human systems as it is about infrastructure.
- Yet engineers are under-prepared to lead transformation in this complexity.

REFRAMING THE ENGINEER - BEYOND SYSTEMS, TOWARD STEWARDSHIP



The Old Paradigm: Engineer as System Builder

- Measured by technical output, not leadership outcomes
- Sees people as inputs, not collaborators
- Trained to fix systems, not transform organisations

The Emerging Paradigm: Engineer as System Steward

- Navigates complexity beyond models and diagrams
- Balances ethics, emotion, and execution
- Leads with trust, adaptability, and purpose — not just skill

From...	To...
Control	Empowerment
Instruction	Inspiration
Position	Influence
Technical Dominance	Emotional Intelligence
Compliance Culture	Change Culture

To a grounded model for change rooted in Adaptability, Trust, and Leadership.

The ATL Model: A Three-Layer Framework

Leadership Style (L)

- Foundation of direction, influence, and decision-making
- But not enough alone to drive change

Trust in Leadership (T)

- The invisible currency that enables alignment and innovation
- Built through transparency, fairness, and consistency

Organisational Adaptability (A)

- The outcome: institutions capable of evolving, not collapsing
- Trust mediates how leadership translates to adaptability

Why Measure Adaptability?

“You cannot transform what you cannot measure.”

Organisational transformation in the energy sector often fails due to blind spots in culture, trust, and leadership alignment.

Application:

- Assesses institutional readiness for the energy transition
- Flags hidden dysfunctions before they stall reform
- Equips leaders with diagnostic insights to inform interventions

Interlink with ATL Model:

- ESI is the quantitative pulse;
- ATL is the developmental prescription.

Dimension	What It Measures	Derived From
Leadership Integrity	Consistency and fairness in decision-making	MLQ and qualitative data
Trust Density	Degree of trust across vertical and horizontal levels	TLS & interview coding
Cultural Flexibility	Willingness to evolve norms, values and practices	OCAI + thematic analysis
Change Responsiveness	Agility in response to internal/external shifts	Regression findings & interviews

KEY EMPIRICAL RESULTS

Quantitative Findings (n=80 Survey Responses)

Variable Relationship	Statistical Significance	Correlation (r)	Interpretation
Leadership Style → Trust in Leadership	$p < 0.01$	0.61	Strong, positive linear relationship
Trust in Leadership → Organisational Adaptability	$p < 0.01$	0.58	Trust predicts adaptive behaviours
Leadership Style → Organisational Adaptability	$p < 0.01$	0.45	Partial mediation through trust confirmed

Qualitative Themes (30 Semi-Structured Interviews)

Theme	Description
Leadership Instability	High turnover & unclear mandates eroded trust
Cultural Resistance	Legacy norms inhibited transformation and openness to change
Trust Erosion	Perceived unfairness and poor communication fractured organisational trust
Desire for Purposeful Leadership	Respondents demanded ethical, values-driven leadership

Reliability Scores:

- MLQ (Leadership): $\alpha = 0.91$
- TLS (Trust): $\alpha = 0.89$
- OCAI (Adaptability): $\alpha = 0.84$

Regression Model ($R^2 = 0.67$):

Leadership and trust account for **67% of the variance** in adaptability—evidence of the ATL Model’s robustness.

THE “SO WHAT” OUT OF THIS

Key Takeaways

- Ambition is not arrogance when it seeks ethical, inclusive, and human-centred transformation.
- Institutions don't fail because of a lack of technical skills — they fail because of poor leadership, low trust, and cultural inertia.
- The ATL Model offers a tested pathway:

Adaptability → Trust → Leadership — to reimagine how we lead in complexity.

Implications for the Future

- Engineering leadership must evolve from builders of things to builders of systems, trust, and purpose.
- For South Africa and other transitioning economies, the energy transition is not just about grids and gigawatts, it's about transforming people, culture, and leadership.

If the system wasn't built for sushi, maybe it's time we redesigned the menu.



Thank you

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