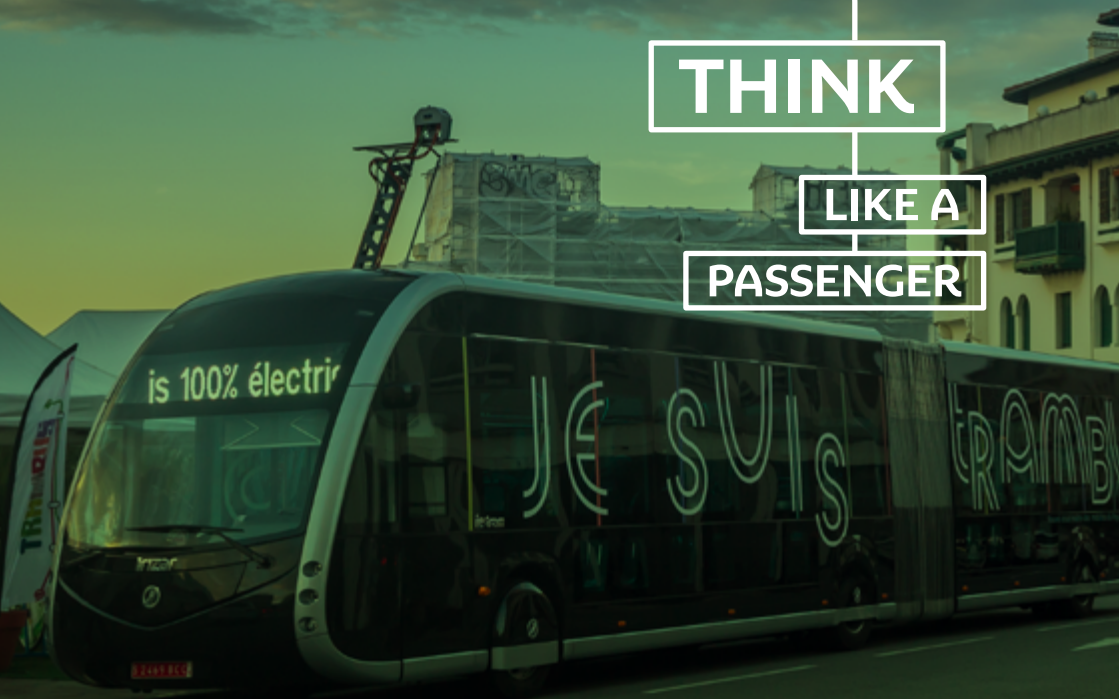


Energy Transition Centre of Excellence

THINK

LIKE A

PASSENGER



Keolis Downer aims to be the partner of choice for public transport authorities in Australia.

As such, our aim is to design and deliver services that are safe, efficient, reliable, sustainable and innovative, with a constant focus on the customer.

Think Like a Passenger is at the centre of our culture and what we do every day.

With the world moving to greener public transport solutions, Keolis Downer has embarked on an exciting journey to become the largest operator of zero emission public transport services in Australia, cementing Keolis Downer's commitment to support PTAs and accelerate the energy transition with large-scale deployments.

With a pipeline of 200+ electric buses to implement in the coming years, Keolis Downer has established the Energy Transition Centre of Excellence (ETCoE) to accelerate the energy transition, encourage information sharing locally and internationally, be ahead of technology evolutions and market trends, with an approach based on continuous improvement.

"Our Centre of Excellence cements Keolis Downer's commitment to accelerate the energy transition with large-scale deployments in public transport."

David Franks
CEO, Keolis Downer

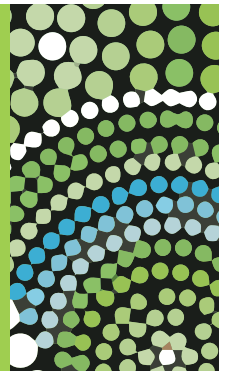


Keolis Downer recognises Aboriginal and Torres Strait Islander peoples as the traditional custodians of the lands on which our services operate.

We acknowledge their spiritual and cultural bonds linking them to their lands.

We honour the presence of their ancestors who reside in the imagination of the land and whose irrepressible spirituality flows through all creation.

We further recognise their continued custodianship, wisdom and knowledge forever embedded in their lands and pay reverence to their Elders past, present and emerging.





"Our objective is to showcase our local and international experience to our clients providing leading examples in the energy transition, while sharing our experience among the 16 countries where we operate."

Marie-Ange Debon

Keolis Chairwoman and Group Chief Executive Officer

What is the Energy Transition Centre of Excellence (ETCoE)?

The Energy Transition Centre of Excellence (ETCoE) is a team of experts that are specialised in the energy transition, focusing on electric and hydrogen solutions for the transport sector.

Keolis Downer established the ETCoE in 2021 to support Public Transport Authorities (PTAs) in their ambitions to transition existing fossil fuel-powered vehicle fleets to zero-emissions alternatives.

The ETCoE works closely with the international Keolis Group CoE based in France, which supports all subsidiaries around the world and provides unique insights on latest technologies, market trends and key players across the globe.



What is the ETCoE's ambition?

With a constant focus on passengers, our ambition is to combine our global experience and local expertise to design and implement solutions which accelerate the energy transition in the transport sector, and to foster an ecosystem of partners to maximise local content, job creation and economic benefits unlocked by new energy technologies.

What is the ETCoE's role?

The ETCoE's role is to accelerate the delivery of zero emission public transport by designing energy transition projects in partnerships with PTAs, encourage thought leadership by engaging with government and industry, monitor market trends, share international best practice to and develop local skills including graduates.

The ETCoE brings together all skills necessary to support the energy transition in Australia from initial project concept and design to delivery.

Our experts are a perfect blend of engineers, project managers, commercial and operational experts and thought leaders.

The team has a thorough understanding of operations, maintenance, vehicles and subsystems, infrastructure, modeling and costing. It has also established a strong ecosystem of partners with a focus on local players to develop skills and deliver value to the Australian market.

The team includes experts and engineers who have a thorough understanding of the transitions from diesel to all other energy modes, including:

- Hybrid vehicles
- Battery-electric vehicles (slow or fast charge)
- Hydrogen fuel-cell vehicles.

The overall safety, economic balance of the system and the quality of service are at the heart of what the ETCoE delivers. The team's focus is on:

- Operational robustness (reliability of equipment, performance in degraded mode, etc.)
- The efficient deployment and operation of the necessary infrastructures (depots, chargers, etc.)
- The develop of skills and staff training.

Topics which the ETCoE is equipped and enthusiastic to assist with include:

- Battery-electric and hydrogen fuel-cell vehicles and powertrains
- BEV charging infrastructure at depot and on route
- FCEV refuelling infrastructure and hydrogen supply chains
- Holistic design of zero emissions fleet and supporting infrastructure to meet local needs and conditions
- Reconfiguration of depots for zero emissions or mixed fleet to balance capital costs of upgrades, operating costs, operational changes and flexibility, charging demand management and grid services, vehicle reliability and readiness for service
- Energy considerations for siting of new depots, routes and opportunity charging
- Opportunities to reduce operating costs by exploiting new ways to add value to energy sector (e.g. demand response, frequency control services, self-generation and energy storage)
- Exploring different ways to procure green energy for transport (e.g. renewable energy certificates, direct contracts with renewable generators, green hydrogen)
- Skills required for operating and maintaining zero emissions vehicle fleets

How does the ETCoE deliver value for PTAs in Australia?

The ETCoE has a unique value proposition to support PTAs throughout the lifecycle of their projects:

- Support across the project lifecycle from project creation and inception, to concept development and options assessment, through to design and business case development, procurement, delivery, operation and maintenance, and ultimately decommissioning, redeployment, and circular economy principles for end-of-life assets.
- Access to international knowledge and to a pool of experts around the world through the Keolis Group CoE

The diagram represents Keolis Group commitments.

By 2030, Keolis aims to:

- Reduce carbon intensity per km linked to traction by -30% in 2030 compared to 2019
- Grow share of km travelled with alternative energies (bus & coach) x2 in 2025 / x3 in 2030
- Grow ISO 14001 certified revenue generated from 44% in 2020 to 80% in 2030

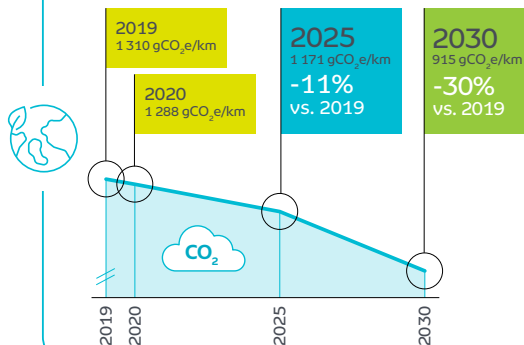
and through the ETCoE we are ensuring that Keolis Downer contributes to these commitments.

**Ecosystem
of partners**



Carbon

Reduction of CO₂ intensity (traction)



- Practical experience from a global operator, independent of technology, manufacturer and energy suppliers: our focus is on bringing the best solution to achieve the PTAs vision and solve local challenges
- A clear understanding of what PTAs want to achieve and a constructive / solutions-driven approach
- A proven track record working collaboratively with all levels of government, industry and local partners to achieve a positive outcome and deliver benefits to local communities

Energy Transition Centre of Excellence



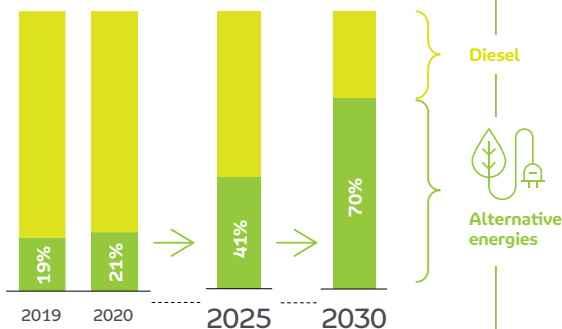
Design Proposition



Operational Delivery

Energy Transition

x 3 in the use of alternatives energies



> Percentage of km traveled with alternative energies to diesel and gasoline (bus and coach)



Keolis Downer

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