

Australia 82% Renewable by 2030; You're Joking! Large Energy User Challenges.

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Australia 82% Renewable by 2030; You're Joking! Large Energy User Challenges.

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Australia has committed to 82% renewable electricity in the National Electricity Market (NEM) by 2030 and a 43% emissions reduction from 2005 levels. For large energy users in food, beverage, dairy, meat processing and cold storage, these targets create both opportunity and urgency: renewable energy and electrification projects can reduce operating costs and emissions, but grid constraints and connection delays mean planning must begin now. Our energy optimisation and carbon advisory services help large users assess feasibility, navigate regulatory pathways, and structure investment cases that account for network timelines and tariff implications.

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Australia has set ambitious 2030 climate goals: cutting emissions by 43% from 2005 levels and achieving 82% renewable electricity in the National Electricity Market (NEM). Northmore Gordon wholeheartedly welcomes this vision and the recent surge in renewable energy investment. However, the latest data, and Northmore Gordon's experience with large energy users, reveals a worrying gap between ambition and reality - progress on the ground is not keeping pace with Australia's targets.

After steady growth, the renewable share (~39% in 2023) has plateaued amid rising demand. (CER Quarterly Carbon Market Report December Quarter 2024)

Renewable energy provided roughly 39% of Australia's electricity in 2023 (up from just 17% in 2017). But in 2024 this momentum has stalled as electricity demand continues to climb. Simply put, the pace of renewable deployment is not yet on track to hit our targets, despite a strong investor appetite.

Renewables Investment: High Ambition, Slow Delivery

Significant investment is pouring into new generation. The Australian Energy Market Operator (AEMO) reported in the December 2024 quarter the energy pipeline continues momentum for large scale solar and wind projects:

Approvals: 20 projects (~4.9 GW) gained connection approval in Q4 2024

Grid-registered: 11 projects (~1.7 GW) were fully registered (ready to generate)

Operational: Only 4 projects (~0.6 GW) reached full output during the quarter

This "connections scorecard" underscores the bottleneck between projects being planned and projects actually delivering energy.

Furthermore, the Federal Government's Capacity Investment Scheme (CIS) is driving even more capacity (and a lower LGC price). In December 2024 under the first tender DCCEWW announced:

Tenders awarded: 19 new large-scale renewable projects (6.4 GW combined).

This is a tremendous boost - enough to power ~3 million homes - the pipeline of projects is clearly not the problem; the real issue is converting this pipeline into electrons on the grid .

Grid Bottlenecks: Large Energy Users Left Waiting

While utility-scale wind and solar farms grab headlines, large energy users attempting to deploy their own clean and electrification energy projects are hitting the same wall. Northmore Gordon works with dozens of large energy users - from meat processing plants and dairy factories to cold storage facilities, industrial laundries, and food & beverage manufacturers - and many are facing 12 - 36 month delays to connect new renewable generation or behind-the-meter electrification projects . Even when businesses are eager to invest in on-site solar, electrification, or bioenergy , they often wait 1 - 3 years for the network to catch up. These delays impose real costs and slow down emissions reduction in sectors ready to decarbonise.

In 2024, on behalf of our customers, Northmore Gordon undertook 20 electrification studies (converting fossil-fueled equipment to electric alternatives), and these exposed two systemic barriers:

Grid capacity constraints: Many industrial sites simply don't have the local grid capacity for significant new loads or generation. Businesses looking to electrify boilers, install large electric compressors, or add several megawatts of solar panels often discover the nearest substation or feeder is at its limit. Frustratingly, businesses are being told to wait 2-4 years for expensive network upgrades before they can fully transition to clean energy.

Misaligned tariffs: Current network tariff structures do little to encourage using electricity when it's cheapest and greenest. In today's market, solar power is abundant at midday - often causing negative prices, and grid stability issues - yet many large users see no substantial bill savings for shifting consumption to daytime hours. Demand charges and flat network tariffs mean there is limited incentive to tap into cheap daytime solar .

These two issues derail the business case for electrification and battery storage in many of our studies. The economic reward for using or storing midday renewable energy is weak under present tariffs and connections will take too long.

Rewiring the Nation: A Call to Action for DNSPs and Government

Australia's clean energy transition will not succeed without proactive support from the grid itself. Distributed Network Service Providers (DNSPs) - our power distribution companies - must become enablers of the transition for large energy users - some are - but most are not. These companies oversee the "poles and wires" in each region, and they need the right incentives and regulatory direction to act in the public interest. We urge DNSPs to work closely with industry and streamline the connection process for big customers. Fast-tracking assessments, investing in necessary local upgrades, and providing transparency on capacity constraints are ways DNSPs can directly help.

Meanwhile, the Federal Government has a powerful lever in its \$20 billion Rewiring the Nation fund. This initiative needs to further align policy and investment with the needs of large energy users and renewable developers alike. We call on government to deploy Rewiring the Nation capital and policy support toward four critical priorities:

Grid capacity upgrades: Accelerate upgrades of network capacity in renewable-rich regions and industrial zones, so both new solar/wind farms and electrified factories can connect without multi-year delays.

Faster connections: Streamline grid connection approvals and technical studies for large energy users' projects. Set clear timelines and accountability for DNSPs to deliver connections, shrinking the 2-4 year wait times to months instead.

Tariff reform: Overhaul network tariffs to reward consumers for using power when it is cheapest and cleanest. By incentivising use of daytime solar, businesses will shift loads to soak up excess solar generation - cutting emissions and power costs and helping grid utilization simultaneously.

Support for behind-the-meter projects: Provide targeted funding or incentives for on-site generation and storage at commercial and industrial sites. Behind the meter electrification, renewable and storage, with the right tariffs, will reduce strain on the grid and accelerate emissions cuts in hard-to-abate sectors.

Australia's 2030 targets are bold and achievable, but only if we match ambition with action

Large energy users are ready to invest in clean energy and be part of the solution. It's now up to our network providers and governments to clear the path - by rewiring the nation's grid, reforming tariffs, and removing bottlenecks - so that 82% renewables (and beyond) can become a reality. The time for bold, collaborative action is now, to ensure Australia's energy transition stays on track and delivers benefits for all.

Contact us today to continue the conversation.

Disclaimer: The information in this article is general only and has been prepared without considering your business' particular circumstances and needs. You should assess or seek advice from Northmore Gordon Environmental (AFSL 533927) on whether it is appropriate for your business's objectives.

Scheme and certificate context

Before using a certificate or grant figure, confirm the current scheme method, eligible activity, effective date, evidence requirements, price date and registration or application process.

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What are Australia's 2030 renewable electricity and emissions-reduction targets, and why do they matter for large energy users?

Australia has committed to 82% renewable electricity in the National Electricity Market (NEM) by 2030 and a 43% emissions reduction from 2005 levels. For large energy users in food, beverage, dairy, meat processing and cold storage, these targets create both opportunity and urgency: renewable energy and electrification projects can reduce operating costs and emissions, but grid constraints and connection delays mean planning must begin now. Our energy optimisation and carbon advisory services help large users assess feasibility, navigate regulatory pathways, and structure investment cases that account for network timelines and tariff implications.

Why is the gap between renewable projects approved and those actually delivering power a problem for energy users?

AEMO reported in Q4 2024 that while 20 projects (~4.9 GW) gained connection approval and 11 (~1.7 GW) were grid-ready, only 4 (~0.6 GW) reached full output. This bottleneck means approved capacity sits idle, delaying supply to industrial and commercial customers seeking renewable energy. For large energy users planning behind-the-meter generation or grid-connected electrification, this signals that

project timelines must assume 12–36 month connection delays beyond equipment procurement. Our feasibility assessments and measurement-and-verification services help users model realistic timelines and identify interim efficiency opportunities while waiting for grid access.

What are the two systemic barriers Northmore Gordon identified in its 2024 electrification studies, and how do they affect project returns?

Our 20 electrification studies in 2024 exposed grid capacity constraints and misaligned tariffs. Many industrial sites lack local grid capacity for new loads or generation, with 2–4 year waits for network upgrades. Current tariff structures—including demand charges and flat network rates—do little to incentivize daytime solar use when power is cheapest. These barriers increase capital costs, extend payback periods, and may eliminate viability for marginal projects. Users must conduct detailed electrical constraint assessments and procurement analysis through tools like moreData to model tariff scenarios and compare behind-the-meter storage or demand-shifting solutions against grid-connected alternatives.

How should large energy users approach renewable energy and electrification projects given current network delays?

Given 12–36 month connection delays, large energy users should adopt a staged approach: start with energy audits and efficiency opportunities that deliver savings without network upgrades; commission measurement systems early to establish baselines for future M&V; claims; engage Distributed Network Service Providers (DNSPs) immediately to confirm capacity constraints and timelines; and structure investment cases showing both with-and-without conditional grid access. Our project brief template and energy optimisation capability help users document constraints, clarify decision ownership, and prepare proportionate scopes that preserve funding eligibility while work is underway. Renewable heat assessments and electrification feasibility studies should explicitly model network upgrade timelines.

What role do tariff structures play in renewable and electrification investment decisions, and how can users assess their impact?

Current network tariffs often include fixed demand charges and flat rates that do not reward shifting load to cheap daytime solar periods. This misalignment can eliminate the financial case for on-site generation or storage. Users should model investment cases showing tariff sensitivity: comparing base costs under existing rates, incumbent tariff changes, and hypothetical cost-reflective pricing. Our moreData platform includes procurement analysis with tariff library functionality to support multiple scenarios. The investment case guidance recommends showing how returns change with operating hours, energy prices and tariff assumptions; tariff reform is therefore a material uncertainty that must be disclosed separately from engineering savings.

What is Rewiring the Nation, and what policy directions does Northmore Gordon recommend it fund?

Rewiring the Nation is the Federal Government's \$20 billion clean energy transition fund. We call for this capital and policy support to address four priorities: (1) grid capacity upgrades in renewable-rich regions and industrial zones, (2) faster connections with clear timelines and DNSP accountability to shrink 2–4 year waits to months, (3) tariff reform rewarding use of cheap daytime solar, and (4) behind-the-meter project support through targeted funding or incentives for on-site generation and storage. Large energy users should engage in policy consultation and supply their DNSP and government representatives with feasibility studies documenting connection delays and cost impacts to build evidence for accelerated funding.

How can large energy users prepare project evidence now to reduce delays when grid capacity or tariff conditions improve?

Users should begin project timing and evidence collection immediately, even if network constraints currently block investment. Our project brief template and measurement planning guidance help users document site conditions, equipment options, baseline energy use, and operating constraints before changes occur. Early metering and data collection establish representative baselines necessary for measurement-and-verification claims under NSW ESS, VEU, or ACCU pathways. Building evidence files now—including energy audits, feasibility studies, and DNSP capacity confirmations—preserves regulatory eligibility and accelerates implementation once grid or tariff conditions shift. Carbon advisory services can parallel-path emissions inventories and opportunity assessments to prepare for transition planning.

What specific support does Northmore Gordon offer large energy users facing renewable and electrification delays?

Our integrated service offer addresses the full challenge: energy audits and optimisation assessments identify interim efficiency opportunities delivering savings without network upgrades; renewable heat and electrification feasibility studies model complete project options, electrical constraints, and realistic timelines; investment case guidance structures decisions that account for conditional network access and tariff uncertainty; measurement-and-verification planning preserves evidence for funding schemes like NSW ESS and VEU; and moREnewable100 procurement services help users secure renewable energy certificates independently of physical grid connections. The moreData platform tracks performance and opportunity analysis across portfolios, supporting both interim actions and pipeline readiness for larger infrastructure investments.

Which government schemes can large energy users access while waiting for network capacity or tariff reform?

Large energy users can pursue NSW Energy Savings Scheme (ESS), Victorian Energy Upgrades (VEU), and ACCU projects for eligible efficiency and renewable measures that do not require network upgrades or that can proceed behind-the-meter. NSW ESS and VEU support energy-efficiency improvements, cogeneration, and specified renewable activities through measurement-and-verification pathways; eligibility depends on activity, timing, and proper evidence collection. ACCU projects support eligible abatement including renewable heat and electrification where method and newness requirements are met. Our environmental certificate services assess scheme eligibility, prepare project briefs, and manage registration and evidence documentation. The key is starting the timeline now: newness and project-timing rules mean delaying assessment until grid conditions change can lose funding eligibility.

Why should large energy users engage with DNSPs early, and what information should they request?

Distributed Network Service Providers control local grid capacity and connection timelines. Early engagement reveals whether proposed renewable generation or electrification projects face constraints, what upgrade work is required, and realistic connection dates—critical inputs for feasibility and investment decisions. Users should request: available local capacity for new loads and generation, estimated timeframes for network assessments and upgrades, planned infrastructure investments in their area, and transparency on other projects in the queue. Our feasibility assessment and electrical-constraint evaluation help users interpret DNSP responses and model scenario planning around different connection timelines. Some DNSPs are streamlining processes; most are not. Direct engagement combined with documented feasibility studies creates accountability and helps prioritise upgrades that serve multiple users.