

Data Centre Capital Upgrades – Fast Payback with Green Rebates and Tax Cuts

Canonical:

<https://northmoregordon.com/news/datacentre-upgrades-fast-payback-with-green-rebates-and-tax-cuts/>

Details:

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About this update

This dated news record has been reorganised for clear reading and connected to current guidance.

Publication date: October 28, 2020.

Status note: Present-tense statements, market figures, deadlines and program details in the archived record belong to its publication date. Check current official sources before making a decision.

What this article reported

Energy efficiency equipment payback drastically reduced.

The payback period for Data Centre capital upgrades can be drastically reduced from 3 years to 1 year. Be it Uninterruptible Power Supplies (UPS), Chillers, or Computer Room Airconditioning (CRAC)

The October 2020 Federal Budget introduced temporary full expensing for eligible capital purchases. That measure ended on 30 June 2023. At the time, businesses could combine tax treatment with state energy-savings incentives to improve project payback. Current tax and scheme eligibility must be checked before an investment decision.

Take for example the upgrade of a 250kW UPS with a cost of say \$90,000. The aging UPS is currently running at 232 kW input and 194 kW output (83.6% efficiency). New high-quality UPS run at 97% efficiency and hence 200kW input with 32kW saved.

The figures for the new UPS commissioned by June 2022 are as follows

New UPS installed purchase price \$90,000

Immediate tax writeoff 30% x \$90,000 = \$27,000

Compared with tax write off over 10 years = \$2,700 PA

Energy Saving Certificates = \$45,000

Capital Costs (after tax writeoff and certificates) \$90,000 - \$27,000 - 45,000 = \$18,000

Annual Electricity Savings of 365 x 24 x 32 kW x \$0.15 / kWh = \$42,000

Compare the three scenarios

Payback = Capital Costs (after rebates & tax cuts) / Annual Savings

No tax cuts & not claiming environmental certificates

Simple payback = \$90,000 / (\$42,000 + \$2,700) = 2.0 years

Using tax cuts & not claiming environmental certificates

Simple payback = $(\$90,000 - \$27,000) / \$42,000 = 1.5$ years

Using tax cuts & environmental certificates

Simple payback = $(\$90,000 - \$27,000 - \$45,000) / \$42,000 = 5$ months

Hence by performing the upgrade with the Federal Budget changes (extending the immediate tax write off from \$150,000 to unlimited) drastic shortens the payback period and provides a much higher ROI. Also, be aware that with the changes that allow companies to offset future losses against past profits for the financial years of 2020-2022 means that you can carry back losses (ie the capital cost) to reduce last year's tax bill as well. UPS are one asset type that uses a large amount of energy and has the potential to save substantial energy, but the same applies to many other equipment upgrades that will drive substantial energy savings. Consider these aging assets for replacement by using the immediate tax depreciation and NSW Energy Saving Scheme or Victorian Energy Upgrades to drive much short payback periods.

UPS and CRAC upgrades for Data Centres

Variable Speed Drives for large motors and fans (very fast payback)

Chillers and Condenser upgrades

Hot Isle / Cool Isle configurations

All these assets can claim energy savings certificates and funding towards the upgrade using the Measurement and Verification methods under the different state-based schemes (the Victorian Energy Upgrades and the NSW Energy Saving Scheme) as well as under the Australian ACCU Scheme (formerly the Carbon Farming Initiative) (Climate Solutions Fund).

How to use this information now

For current use, confirm the applicable scheme rules, regulator notices, market date and reporting period. Keep historical prices or forecasts separate from present quotes and verified outcomes.

Separate source-reported facts from forecasts, targets and commentary. For a current project, retain the official source, version, effective date, assumptions and decision record in the evidence file.

Related guidance

Environmental certificates

Government schemes

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Energy audits

Measurement and verification

Current articles and guidance

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How can data centre operators dramatically reduce equipment upgrade payback periods?

Data centre operators can reduce payback periods from 3 years to as little as 5 months by strategically combining three elements: the federal full expensing tax deduction for eligible equipment, state-based environmental certificate schemes, and operational energy savings. For example, a \$90,000 UPS upgrade delivering \$42,000 annual energy savings achieves a 2-year payback without incentives, but

drops to 5 months when both tax deductions and \$45,000 in Energy Saving Certificates are applied. The key is identifying which equipment qualifies under each program and sequencing the evidence collection to capture all eligible benefits. We can assess equipment eligibility, calculate realistic savings, and guide the pathway through tax and certificate schemes.

What federal tax incentive makes data centre equipment upgrades more affordable?

The federal JobMaker Plan's temporary full expensing measure allows businesses with turnover under \$5 billion to fully deduct capital equipment purchases immediately if the equipment is operational by the specified deadline. Rather than spreading the deduction over years through depreciation, businesses can claim the entire capital cost as an immediate tax expense. This creates an upfront cash benefit that materially reduces the net cost of the upgrade. For a \$90,000 UPS system, this deduction could be worth approximately \$27,000 in tax savings depending on the business's tax rate. Businesses should confirm current eligibility rules and implementation deadlines with their tax advisor before committing to purchase timelines.

Which data centre equipment types qualify for environmental certificate schemes?

Data centre equipment eligible for environmental certificate schemes includes UPS upgrades, Computer Room Air Conditioning (CRAC) units, variable speed drives for large motors and fans, chillers and condenser upgrades, and hot aisle/cool aisle configuration improvements. Each piece of equipment must meet specific activity and technical requirements defined by the relevant state scheme—typically NSW Energy Savings Scheme or Victorian Energy Upgrades. Variable speed drives are noted as particularly attractive due to very fast payback periods. Equipment must be new, installed by qualified practitioners, and documented with baseline energy data and post-installation verification. We can conduct eligibility screening and prepare the evidence needed to claim certificates under the applicable scheme.

Why is planning the evidence collection critical before starting a data centre upgrade?

Environmental certificate schemes require approved baseline measurement procedures and post-installation verification to establish energy savings—these cannot be created retrospectively if the project has already been installed. Establishing the correct boundary and measurement approach before installation allows the baseline to be properly documented while conditions are unchanged. If a project proceeds without planning, it may lose access to certificate revenue worth tens of thousands of dollars. The NSW Energy Savings Scheme specifically requires baseline measurement procedures to be deemed appropriate by an M&V professional before the implementation date. We recommend submitting a project brief early to define the measurement boundary, baseline approach and certificate eligibility before equipment procurement.

How do tax loss carry-back rules create additional financial benefit for upgrade projects?

Businesses can offset the capital cost of equipment upgrades against past profits for the 2020–2022 financial years, allowing them to carry losses backward and reduce their tax bill from the previous year. This means a business can claim the equipment cost as a current-year expense, and if it generates an overall loss, apply that loss to reduce tax owed on prior profitable years. This accelerates cash recovery and improves the project's financial case. For example, a business that took a loss from an upgrade could recover tax paid on previous years' profits, converting the deduction into immediate cash benefit rather than waiting for future profits. The specific years and conditions for loss carry-back should be confirmed with a tax advisor, as rules have changed.

How should businesses compare payback scenarios when multiple incentives are available?

Our investment case guidance recommends presenting the project under multiple scenarios: no incentives, tax cuts only, certificates only, and both combined. This approach ensures management understands which benefits are confirmed and which are conditional. Keep energy savings, tax

deductions, certificate revenue and operating cost reductions as separate line items so each contribution is transparent. For the UPS example, payback ranges from 2.0 years (no incentives) to 1.5 years (tax only) to 5 months (tax plus certificates). Do not assume all incentives can be combined until scheme rules confirm compatibility. We can model realistic scenarios and identify the conditions that must be met before relying on each benefit in the business case.

What happens if equipment is installed before the measurement baseline is documented?

If equipment is installed before the baseline measurement procedures are established and approved, the project typically loses eligibility for environmental certificates under state schemes. The baseline represents the energy consumption that would have occurred without the upgrade and must be established using documented pre-project conditions. Retrospective estimates or hypothetical baselines are generally not accepted because they cannot be verified. This is why the NSW Energy Savings Scheme requires the baseline approach to be deemed appropriate before the implementation date. Businesses should initiate the assessment phase—including energy audits, metering planning and baseline establishment—before any installation begins. We can help identify whether a project that has already been installed might still qualify under any available pathways by reviewing the actual chronology and available evidence.

What should businesses confirm about current eligibility before relying on tax or certificate benefits?

Businesses should confirm three elements before committing to an upgrade: the current federal tax deduction rules and applicable deadlines (since temporary measures expire or change); the specific state-based certificate scheme requirements and any recent rule changes; and whether their equipment and installation timeline meet all eligibility criteria. The NSW Energy Savings Scheme and Victorian Energy Upgrades have specific activity requirements, equipment specifications and measurement methodologies that change periodically. A brochure or past case study cannot establish today's eligibility. We recommend documenting the actual project stage, equipment specifications, timeline and prior arrangements in a project brief, then requesting an eligibility assessment against current scheme rules. This clarifies which benefits can be reliably included in the investment case before procurement begins.

How can data centre operators quantify realistic energy savings from equipment upgrades?

Energy savings should be calculated by comparing the known consumption of existing equipment with the specified efficiency of the proposed replacement under representative operating conditions. For the UPS example, the existing 250kW UPS operates at 83.6% efficiency (232 kW input, 194 kW output), while a new high-efficiency UPS operates at 97% efficiency, saving 32 kW per hour the UPS is running. Multiplied by annual operating hours, this produces realistic annual kWh savings and energy cost reduction. This calculation should be supported by nameplate data, manufacturer specifications or site measurements of existing loads. Do not use only bill comparisons, as weather, occupancy and other factors can change independently of equipment performance. Our energy audits and measurement and verification services establish the boundary, baseline operating conditions and savings calculation to support both investment decisions and certificate claims.

Why should businesses treat energy savings, tax benefits and certificate proceeds as separate line items in the business case?

Separating these benefits reveals which ones are certain and which are conditional, enabling management to make resilient investment decisions. Energy savings depend on the equipment operating as specified and the baseline assumptions being correct. Tax deductions depend on the business's tax position, profit history and current law—temporary measures may expire. Certificate revenue depends on scheme eligibility, measurement verification, certificate creation and sale price, which involve multiple external approvals. If all three are added together without distinction, a delay or loss of one benefit could make the entire case collapse. Our investment case framework recommends

presenting the project with and without conditional contributions so management can see the minimum viable return. This also satisfies audit requirements because it distinguishes operating outcomes from financial incentives and policy-dependent benefits.