



Environmental
Sustainability

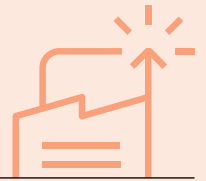
GPT's Energy Master Plan 2024 Update



Carbon Neutral Now,
Nature Positive Next



Climate
Response



GPT's Energy Master Plan was first released in 2018. This paper represents an update to the Plan which has evolved over the past 6 years in response to the learning from its application and the changing energy landscape.

Energy is inherently the largest source of emissions for an operating real estate asset. As part of our long-term climate response, we have been largely successful in disaggregating our energy from emissions through efficiencies and switching to renewables. Nonetheless, there are still some residual emissions to address and the transition to a low carbon grid requires leaders to support an orderly change.

GPT has developed and implemented an Energy Master Plan in order to achieve our decarbonization aspirations as well as support an orderly transition while creating partnerships with like-minded stakeholders.

The GPT Energy Master Plan has 3 pillars – decarbonization strategy, resilient transition strategy and partnerships strategy.

3 pillars

- [Decarbonization](#)
- [Resilient Transition](#)
- [Partnerships](#)

Decarbonisation

Directly supporting the decarbonisation goals of our climate response, the Energy Master Plan maps out strategies to have efficient buildings run on renewable electricity.

There are 5 key strategies to achieve decarbonization associated with energy:



Energy efficiency



On-site solar photovoltaics (PV)



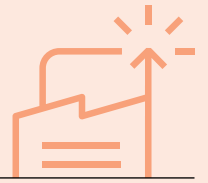
Off-site renewable electricity



Electrification



Low global warming potential (GWP) refrigerant



#1 tool



Improving energy efficiency is, and will remain, the number one tool in managing our impacts on the environment from energy consumption and the financial cost to assets with energy being one of the highest operational expense.

Energy efficiency

GPT has reduced the energy intensity of its portfolio by over 50% when compared to our energy intensity in our Paris Agreement aligned baseline year of 2005. In the 2023 calendar year this resulted in \$32 million in lower energy costs with an accumulated saving of over \$340 million between 2005 and 2023. (See [GPT Sustainability Data Dashboard](#) for full details.)

The Energy Master Plan includes the following processes to drive energy efficiency:

- **Monitoring:** Improving visibility of key energy loads as well as the variables impacting energy consumption, to identify and rectify energy wastage
- **Optimisation:** tuning of building systems to maximise efficiency while maintaining occupant comfort
- **Monthly reviews:** Engagement with operations teams on sustainability data, incorporating systematic reviews for completeness and accuracy, and documenting variances against target
- **Quarterly reviews:** In-depth investigation into long-term performance trends, identification and quantification of projects impacting sustainability performance, and the planning and progression of sustainability initiatives
- **Annual target setting:** Development of site-specific energy targets utilising information distilled from monthly and quarterly reviews as well as data-driven impacts from independent variables affecting energy use
- **Life cycle upgrades:** Continuous improvement of sustainability performance through capital works targeting efficiency improvements, enabling operational excellence and the ability to maximise returns across the asset lifecycle
- **Developments:** Forward-thinking design, consultation and engagement to deliver leading sustainability performance in operations
- Creating and managing energy efficiency certificates in different jurisdictions to maximise the business case for efficiency upgrades.



On-site solar PV

Generating renewable electricity on-site from solar photovoltaic arrays eliminates emissions and reduces exposure to volatile energy markets with project returns creating operational savings. GPT has solar PV implementation plans for managed retail and office assets, as well as solar PV options for our logistics tenants.

The Energy Master Plan includes the following plans for on-site solar photovoltaics:

- **Retail solar:** Large rooftops and day time loads make retail assets ideal targets for solar PV installations. Continued assessment of retail assets for solar array installation and/or expansion viability is underway. This includes review of infrastructure capacity and roof conditions in conjunction with the energy profile. Currently (as at June 2024) 4.25MW of solar PV systems are installed across 7 of the retail assets that GPT has an ownership interest in. A number of assets are awaiting lifecycle assessments, feasibility studies and other CAPEX project completions to proceed with Solar.
- **Office solar:** Limited roof space is available in comparison to typical daytime energy profile. Nevertheless, a program to assess and install solar PV systems for maximum possible onsite renewable energy contribution has been completed and solar PV installed where viable. We currently have 705kW of solar PV systems installed across 9 assets.
- **Logistics solar:** Logistics assets present a large rooftop area, with solar installation capacity typically beyond the tenant's daytime energy profile. To maximise on this opportunity, a specific program has been established to install solar on logistics asset roofs while offering tenants solar energy at a lower cost. Additionally, 100% of all new logistics developments include solar arrays pre-installed in consultation with tenants. We currently have 4.38MW of solar PV systems installed across 25 assets.
- **LGC management:** Generating and managing renewable energy certificates (Large-scale Generation Certificates or LGCs) to assist with project viability and/or retire at assets for net zero energy market-based carbon accounting processes.



Off-site renewable electricity

GPT's base building electricity contracts are 100% renewable, and we have long term renewable energy contracts out to 2030 to meet the modelled needs for GPT owned-managed assets. Our contracts also deliver significant cost reductions compared to market renewable energy certificate prices.

We are long term supporters of the transition to a renewable electricity grid. In 2007, GPT was one of the first major property companies to implement a program of purchasing voluntary renewable electricity and has grown this to 100% renewable electricity at all GPT operating assets.

In GPT's Sustainability Data Dashboard, we provide a full breakdown to asset level of the energy sourced by GPT including the voluntary and mandatory renewable electricity, as well as the fossil fuel derived non-renewable electricity, gas and diesel.

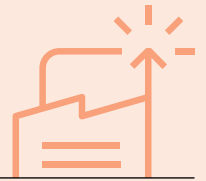
GPT manages its own renewable energy certificate registry with the Clean Energy Regulator. In alignment with the Greenhouse Gas Protocol market-based carbon accounting practice, for every MWh of renewable energy reported, 1 LGC is retired against the asset that used the energy.



Electrification

GPT's electrification strategy aims to eliminate the use of fossil fuels in our buildings by upgrading to electrical heating systems (run on renewable electricity) at lifecycle and development triggers. We will also work with our tenants to assist them to electrify. There are 3 key ways we are electrifying our assets:

- **Building heating:** Switching building heating from gas heating systems to electric heating systems run on renewable electricity will mostly be done by replacing gas boilers with heat pump systems. These are efficient and can potentially add additional cooling capacity to the building in warmer months. However, heat pump systems do require additional space, ventilation and sometimes a modified heat distribution system to cater for lower temperatures which can create challenges in the phase out of gas. New developments at GPT are now designed with full electric building heating systems and, for existing buildings, over the course of the next lifecycle of building heating GPT intends to electrify these assets.



Cooksafe Coalition

GPT is working with our tenants at kitchen design as well as being a founding member of the Cooksafe Coalition to support the transition to electric cooking.



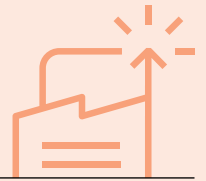
- **Domestic hot water:** Hot water for amenities, kitchens, cleaning and end of trip facilities operates year round (unlike building heating) and is distributed across the entire building. There are two approaches to electrifying these assets – localised or centralised systems. Depending on the efficiency of each solution and the space availability, GPT is exploring and implementing these solutions to switch from gas to electric hot water at lifecycle upgrade points.
- **Tenant gas use:** The majority of gas consumption amongst our tenants is for food and beverage businesses – cooking. Beyond overcoming the challenges of entrenched preferences by the small businesses, it is also important to upgrade building electrical capacity to cater for this direction. In planning for future food and beverage precincts and lifecycle upgrades for electrical boards and infrastructure, GPT is planning for a transition of its tenants’ cooking equipment from gas to electric.

Low/No GWP Refrigerants

GPT’s policy is to shift to low and no global warming potential refrigerants at lifecycle and development opportunities to eliminate potential emissions from our HVAC systems. We will implement systems to monitor and rectify refrigerant leaks to reduce emissions where possible until their ultimate replacement.

The Energy Master Plan includes the following processes to manage refrigerant emissions risk:

- Contracts established and management practices in place to ensure adherence to GPT’s ‘Scope of Services’. This includes specific key performance metrics and reporting on refrigerant capture and storage, loss of refrigerant to the atmosphere and associated management processes;
- Regular maintenance of equipment to review refrigerant levels and identify possible areas of risk;
- Systems in place to enable monitoring and detection of any refrigerant leak;
- **Life cycle upgrades:** Ensure the lowest Global Warming Potential equivalent is selected at the same time ensuring operational and safety risks are suitably mitigated; and
- **Developments:** Forward-thinking design, consultation and engagement to ensure selection of ‘fit for purpose’ equipment.



Resilient Transition

GPT aims to move beyond delivering carbon neutral milestones to also delivering this in a manner that ensures a resilient and orderly transition to a low carbon future.

We have 4 key strategies of decarbonising our energy in a manner that supports both our business and enables further shift to a low carbon grid:



Energy cost management



Demand management and response



On-site storage



Back-up generation

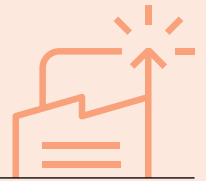


Energy cost management

To date, the transition to a low carbon grid has resulted in less reliable and aging coal fired power stations, insufficient transmission infrastructure for distributed renewables and a greater dependency on gas which is linked to international market prices.

GPT is focused on minimising exposure to energy market price volatility that often results in high energy prices. Our energy procurement strategies address the risk of large cost increases through a progressive approach to contracting that spreads the risk over a series of market hedges. We increase our hedging when there is value in the market and decrease when energy costs are high.

With the average GPT asset tracking at half the energy intensity of their 2005 baseline intensities, the biggest energy cost management opportunities is still associated with efficiencies. However with the unit cost of energy becoming more volatile during the transition to a low carbon grid, our energy procurement is a close second when it comes to energy cost management.



Renewable electricity commitment

GPT has entered into a long term contract until 2030

GPT seeks to manage energy price exposure through the following processes:

- **Risk management:** Energy procurement decisions are guided by an overarching and rigorous risk-management framework specifically designed for the volatile energy markets;
- **Expert industry advice:** GPT energy management professionals and external industry advisors regularly assess energy market conditions to guide procurement with an up-to-date understanding of market dynamics;
- **Progressive procurement:** Regular engagement with the market over a fixed forward time horizon seeks to limit exposure to price volatility that is common to energy commodity markets;
- **Volume risk:** GPT has negotiated contract clauses that eliminate load variance and take-or-pay penalty risks from our major electricity contracts and tightly monitors risks exposure on smaller contracts to implement early mitigation plans; and
- **Environmental certificate procurement:** The largest environmental certificate requirement are procured to meet GPT's 100% renewable electricity commitment. GPT has entered into a long term contract until 2030 to meet these needs at a fraction of the current market price. Efficiency certificate requirements are managed in a similar manner our progressive procurement framework.

Read more [here](#)

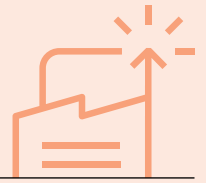


Demand management and response

As the grid transitions to renewables, generation becomes more dependent on the factors such as wind and sunshine, and as the coal-fired generators age they become less reliable. These factors combine to increase the risk of supply shortfalls that drive up costs.

GPT is implementing demand management and demand response programs to manage when we use electricity. This reduces our exposure to current and future demand-related electricity charges and also contributes to a more stable grid.

Actively participating in demand management and response programs where we flexibly adjust our loads in response to market events can help to keep a power grid stable by balancing its supply and demand of electricity. Demand response and LoadFlex are



Demand management

Each program plays a role in ensuring grid stability, reliability in supply and energy expense management.



quick and cost-effective ways to reduce the demand for electricity from the grid during peak periods where there is either a supply or grid constraint. This provides a local solution to these constraints and generates a financial return to GPT.

For GPT demand management falls under the following areas:

- Demand charge management;
- HVAC Loadflex; and
- Demand response.

Each program plays a role in ensuring grid stability, reliability in supply and energy expense management. We have a number of assets in our Office and Retail portfolios successfully participating in these programs.

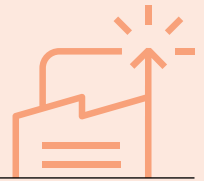
Read about [Shell Energy](#)

On-site storage

To provide even greater ability to respond to supply constraints in the grid, GPT is installing large scale on-site battery energy storage systems. These batteries are charged when there is abundant energy on the grid and discharge during supply constraint periods.

GPT currently has 4 large batteries installed with a combine storage capacity of 7MWh. These batteries have been installed as part of our Smart Energy Hubs which also include on-site solar generation and Loadflex processes to adjust our demand profile in response to market events. The large scale batteries provide significant additional capacity to reduce our loads on the grid during times of supply constraint and this capacity can generate returns for the assets. (See [Smart Energy Hub case study](#) for example projects.)

We are also trialing smaller scale batteries in logistics assets to better understand how we can utilize batteries in combination with roof-top solar to capture excess energy production in the day and utilize it at night. These programs are in their infancy but we see it as another way that we can assist our tenants with their energy costs and transition to a low carbon economy.



Back-up generation

Back-up generators have been installed in many of GPT's assets to provide safe operations in the event of blackouts. GPT has reviewed this infrastructure and has included a number of assets with appropriate control in our demand response program to be utilised in times of severe supply constraints in the grid.

GPT's back-up generators have been involved in Transgrid's program to reduce loads on transmission lines during periods of infrastructure risk as well as occasional market events where supply constraint drive price increases.

In addition to payment for the provision of electrical capacity, the dispatch of back-up generators provides buildings with a co-benefit of testing under load. In general, the dispatch of back-up generators is limited and not the preferred method to support the transition to a low carbon economy as generators run on diesel and have associated emissions.

Partnership

We understand that the transition to a low carbon energy economy is not something that GPT can deliver on its own. We will be a positive contributor to an orderly transition but we also acknowledge a cross dependency between many stakeholders on this journey.

Success requires a collaborative effort and strong partnerships are essential. In many cases, efforts support our partners to reduce their scope 1 and 2 emissions which reflect scope 3 emissions reductions in our carbon accounts. In other cases, we are making an equally important and broader valuable contribution to an orderly shift to a low carbon economy.

GPT has a focus on partnerships with 3 key stakeholder groups:



Tenants



Suppliers



Industry and government



Tenants

GPT is providing options to support our tenants with their own decarbonisation pathway which, in turn, addresses scope 3 emissions. GPT leverages its existing experience, systems, and relationships and extends these to tenants. Key areas that we are working to support tenants include:

- **Energy efficiency:** Whilst tenants choose the devices and equipment with which they do business and we have limited influence over these items, we do have influence and fit out guidelines for the fixtures such as lighting. We drive energy efficient design in tenancies as well as providing tenants buildings with good natural light and efficient base building HVAC and other services.
- **Renewable contracts:** Tenants within GPT embedded networks can gain excess to renewable energy certificates for their electricity consumption via direct acquisition of certificates through their energy contracts and voluntary surrender to the Clean Energy Regulator. The GPT sustainability team facilitates this through its existing systems on a tenant's behalf and works in partnership with them to help meet their own decarbonisation and reporting goals.
- **On-site solar:** Tenants in our logistics assets have access to on-site solar generation through a no capital PPA model or through newly developed assets with solar PV arrays now part of standard design. We also encourage data monitoring and benchmarking. GPT has a total of 4.38MW of solar PV capacity installed on its logistics assets providing approximately 5.86MWh of electricity annually to tenants. This electricity displaces grid supplies and associated emissions of 4,750 tCO₂-e per year using the national market-based residual mix factor.
- An offer for Logistics tenants has been developed providing the opportunity to monitor their major electrical loads including solar, through our central monitoring platform – Envizi. The tenant will have the benefit of troubleshooting high electricity usage, as well as being able to make informed decisions in relation to increasing efficiency in their energy consumption.

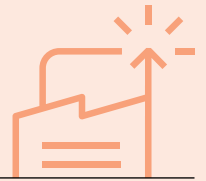


Suppliers

GPT works with its suppliers to drive energy efficiency and reduce emissions in their own operations and for the services they provide us. Our improvement in energy efficiency over the past decade has been underpinned by innovating with suppliers that deliver efficiency improvements as part of the business case.

Activities with GPT's major suppliers that impact our energy efficiency and emissions include:

- **Energy providers:** GPT sees its energy providers as crucial partners in the transition to a low carbon economy. In particular, Shell Energy Australia has secured a long term contract to 2030 with GPT that includes requirements to provide energy solutions that align with our Net Zero Plan. Shell has partnered with GPT for all of the 'Resilient Transition' solutions in the Energy Master Plan as well as to on-site solar PV solutions for GPT and our tenants.
- **Optimisation:** For GPT assets, collaboration between Operations, BMS and Mechanical contractors and the sustainability team while leveraging analytics data is critical to capture efficiency opportunities, reduce operational inefficiencies and maximise customer satisfaction. Using analytics to automate fault detection and diagnostics allows extra bandwidth from the BMS and Mechanical teams to focus on projects and upgrades that are communicated during regular engagement between teams focused on discussing building performance.
- **Design and construct:** In GPT's developments, we work with our architects, engineers and ESD consultants in order to continuously raise the bar in energy efficiency and low carbon readiness for our new buildings. New assets are now designed as efficient all-electric buildings. Our Energy Master Plan even extends to the construction phase, targeting efficient and electric construction processes.
- **Procurement policy:** GPT's procurement policy also embeds energy efficiency and emissions considerations with all procurement that impacts energy and emissions (as well as water and waste) requiring review and approval by the Sustainability Team before proceeding.



Industry and Government

Developing solutions and creating a market for efficient and renewable energy solutions can only work in collaboration with the broader industry or leveraging government policy settings. GPT works with counterparts in industry groups such as the Property Council of Australia (PCA) and Green Building Council of Australia (GBCA) to drive energy solutions. We also work closely with government programs for innovation grants and NABERS and Climate Active to ensure integrity in verifying claims.

Evolving Energy Master Plan

GPT's Energy Master Plan was initially developed in 2018 as a crucial element of our Net Zero Plan. It has served us well as we led the low carbon transition of the property industry including delivering the first carbon neutral certified portfolio in the World Green Building Council's Net Zero Carbon Buildings Commitment.

The Energy Master Plan has supported GPT's decarbonisation efforts, driven cost savings and mitigated the impacts of a volatile and high priced energy market. It has also served as point of shared interest between us and our tenants and suppliers.

With the transition of Australia's energy landscape accelerating, we have reviewed and refreshed the Energy Master Plan to ensure that we strengthen our resilience to the upcoming challenges of a large shift to renewables, electrification and energy market reforms.

The Energy Master Plan will continue to evolve as we look over the horizon and innovate to maximise our opportunities and minimise risk exposure.

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