

TARONGA 2020 CARBON STRATEGY

OUR CARBON FRAMEWORK:

 **SMART DEMAND**


 **SMART SUPPLY**


 **PARTNERSHIPS & CONTRACTS**


 **COMMUNITY EDUCATION & ENGAGEMENT**


CARBON REDUCTION TARGETS:

 **10% ↓
IN CARBON
FOOTPRINT**

 **90%
DIVERSION
FROM LANDFILL**

 **20% ↓
IN CONSUMPTION
OF ENERGY**

 **10% ↓
IN WATER
CONSUMPTION**

 **5%
RENEWABLE
ENERGY GENERATION**

 **10%
GREEN POWER
PURCHASE***

SMART DEMAND

Objective: Optimise the way we use energy, now and for the future.

Rationale: Improve energy efficiency and reduce peak demand, through implementing a suite of projects across each site to reduce overall energy consumption and peak demand. This stream of activity will drive energy cost reductions (the annual savings of which may be reinvested into renewables) and re-cast the baseline energy profile for each site to make the process of achieving 2020 and 2030 carbon targets more cost-effective. In doing so, energy efficiency practices will align with the Financial and Environmental objectives of Taronga Zoo's 2020 Strategic Plan.

Relevant 2020 Targets:

- 15% reduction in CO₂e
- 20% reduction energy consumption

Strategies:

1. **Upgrade our equipment:** Old, energy-intensive and unreliable equipment will be replaced with energy-efficient alternatives; new developments under Taronga's 10-year Capital Works Program will prioritise the selection and purchasing of energy-efficient equipment to reduce the life cycle costs of these assets.
2. **Improve the operating performance of our systems:** The use of our energy-intensive cooling and heating systems for our animal enclosures and buildings will be optimised to deliver
3. **Reduce peak demand:** We will explore ways to reduce our peak demand for energy consumption, through load shifting and systems optimisation.
4. **Foster energy-efficient thinking in staff behaviours:** Our staff will practice energy efficiency in their daily roles, responsibilities and actions.

SMART SUPPLY

Objective: Deploy a diverse mix of smart and practical low-/no-carbon energy supply solutions.

Rationale: Reaching Taronga's emissions reduction targets (for 2020 and beyond) can be made more achievable through the replacement of carbon-intensive grid-power with renewable energy alternatives. Deploying the appropriate mix of on-site and off-site renewable energy solutions can be achieved cost-effectively when considering:

- That the technical and commercial suitability of each option will be assessed with due consideration to each site's specific energy demand, infrastructure and geographic characteristics.
- That emphasis be placed on technologies that are currently commercially viable, yet give due consideration to those technologies that may become more viable in the next 5-10 years.
- That efforts are made to 'group' technologies and capital upgrades together (e.g. solar PV + battery storage) for step-change improvements in resource productivity and innovation, thus boosting the business case and making such projects more attractive for internal bidding of capital funds.
- That opportunities are explored to access external funding avenues, such as those available via the Australian Renewable Energy Agency (ARENA).

Relevant 2020 Targets:

5% onsite generation of renewable energy
A minimum of **10%** reduction in CO₂e
A minimum of **10%** Green Power

Strategies:

1. **On-site renewable energy generation solutions:** We will evaluate a wide range of renewable energy technology options and supporting systems for installation at each site, including solar PV (rooftop or ground-based), solar thermal plants, cogeneration/trigeneration plants, battery storage, anaerobic digestion other biomass to energy solutions.
2. **Off-site renewable energy solutions:** We will investigate off-site renewable energy generation solutions, provided by third parties and supplied to Taronga Zoo, to increase the percentage of renewable energy used at both sites, including retail Green Energy (both electricity and gas), and renewable energy projects in partnership with other organisations (public or private).

PARTNERSHIPS & CONTRACTS

Objective: Establish partnerships and contracts with stakeholders to achieve meaningful progress on climate change.

Rationale: Taronga is in a unique position as a Conservation Society to influence action on climate change, beyond its own footprint, through partnerships with Corporate Sponsors, the Government and the local community. There is a limit to what Taronga can realistically achieve with respect to emissions reduction at each site with currently available technologies; it is therefore critical that Taronga engage and work with partners on projects and initiatives that achieve meaningful reductions in carbon emissions, both for the Zoo and for the partners involved. More importantly however is the opportunity for Taronga to influence the thinking and practices of these partners to achieve emissions reductions on a mass-scale.

Relevant 2020 Targets:

A minimum of **10%** reduction in CO₂e

Strategies:

- 1. Climate-smart procurement:** We will establish and renew contracts with key sponsors and supplies to encourage the provision of climate-smart products and services (e.g. energy-efficient refrigerators supplied for Events)
- 2. Carbon innovation partners:** We will establish partnerships with providers of innovative low-carbon technologies and solutions that can use Taronga as a 'demonstration site' (e.g. Tesla battery storage technology). Such partnerships may benefit both Taronga (in having technology/solutions installed for free, or cheaply) and the innovation partner (by providing them with a high-profile site to demonstrate the performance of their offering).
- 3. Habitat restoration projects:** We continue to actively support and, be directly involved with, projects that restore our natural environment. Taronga will aim to, where possible, quantify the emissions reductions achieved through habitat restoration projects and plantations that store carbon.

COMMUNITY EDUCATION AND ENGAGEMENT

Objective: Taronga is committed to supporting and delivering targeted community conservation programs to achieve conservation outcomes. By using behaviour change science, effective partnership principles and social marketing strategies, Taronga leads strategic campaigns that connect individuals through an inspirational guest experience, empowering them to take action. Taronga aims to:

- Support conservation and environmental sustainability by engaging and influencing knowledge, values and behaviors of our visitors, community and stakeholders
- Advocate and build a community of support for wild places and wildlife

Rationale: Taronga has established its position as a trusted source of information and advocacy with respect to conservation of wildlife. Taronga extends this role to the education of guests, stakeholders, and community about the impact that human behaviour climate change on these habitats, and the broader ecosystems that we need as a society to sustain ourselves. The Zoo can also extend this role internally, through taking a proactive approach to engaging staff and raising their level of action with respect to carbon reduction activities, both in the workplace and in their own homes.

Relevant 2020 Targets:

100% of our people engaged on carbon reduction initiatives

Strategies:

- 1. Sharing Our Story:** We will link our carbon reduction journey and initiatives to our guest experience & community education programs. We aim to demonstrate initiatives and projects that tackle climate change to help raise awareness of issues affecting the future of people and wildlife.
- 2. Our People:** We will implement a practical and engaging program of educating Our People about climate change & resource efficiency, and where possible provide the necessary capacity-building to enable all of Our People to take action.
- 3. Contribution to State and Federal Government Programs:** We will contribute to (and where appropriate play a leadership role) in State and Federal Government climate change and energy productivity programs.