BNT Climate Crisis Position Paper

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INTRODUCTION

The future of Bermuda's natural and cultural heritage is threatened by the global climate crisis. Rising sea levels, extreme weather, and the warming or cooling of our environment will have very real impacts on our natural and cultural heritage, which we hold in trust. This crisis impacts both physical heritage places and resources and their intangible community value, meanings and uses.

OBJECTIVES

1. **Reconcile the deployment of renewable energy generation on BNT properties across the island with the Trust's mission to protect and promote our heritage.**
2. **Position BNT as a leader in addressing the climate crisis, through its practice and advocacy, for a more sustainable future.**

CONSIDERATIONS

BNT is in a strong position to lead:

1. BNT has a strong reputation, a sound financial standing, and community of donors and members who are in a position to effect change.
2. BNT has a strong advocacy programme which can be leveraged.
3. BNT owns properties on which renewable energy strategies can be deployed.
4. BNT owns open space (second only to Government) including mangroves and woodland which absorb and sequester greenhouse gases.

The solutions to addressing the climate crisis will involve:

1. Educating and engaging the community to shift culture and practice so that we can respond to change before it is too late;
2. Adapting our buildings and environments to make them more resilient to climate change;
3. Consuming less; and
4. Transitioning away from fossil fuels and shifting to renewable energies.

BNT must consider and weigh the problems the climate crisis presents when advocating for solutions and take a balanced approach:

1. Biodiversity loss will increase.
2. Coastal habitats are threatened.

3. A portion of Bermuda's community is not engaged with the Trust's mission and advocacy because other social needs may be higher priorities. Heritage and environmental concerns may be perceived as a luxury.
4. Historic buildings are not ideal for roof solar and the open spaces the BNT holds are protected natural habitats, limiting the opportunities for renewable deployment.
5. Aesthetic considerations often hinder the deployment of renewables at the expense of function, affordability and liveability.
6. The regulatory framework around energy generation does not benefit small scale generators and is deferential to the incumbent fossil fuel energy provider.
   The affordability of renewables remains a hurdle. Energy cannot be sold back to the grid at a fair price. Battery storage is prohibitively expensive for many and there are limitations to the on-island ability to repair equipment.

OPPORTUNITIES

Lead by example

- Reduce operating costs and carbon footprint by optimising energy efficiency (water heater timers, LED lights, annual AC maintenance). Use BNT as an example, especially as a property owner and landlord, in understanding everyday community challenges.
- Deploy renewable energy sustainably on BNT properties.
- Install electric vehicle charge points on BNT properties.
- Transition to electric vehicle fleet.
- Ensure BNT programming, and especially retail sales or fundraising, aligns with climate crisis ethics (i.e. shop merchandise, corporate donor profiles).

Public messaging and advocacy

- Shape policy and discussion around renewable energy deployment by way of its actions and advocacy so that the BNT is seen to be a leader in the climate change space in Bermuda.
- Demonstrate a balanced approach.
- Shift perceptions about the BNT and attract a younger membership base.
- Shift heritage value beyond aesthetics, to seeing built heritage as a lived process.
- Equate solar collection with water collection to increase public understanding and acceptance.
- Highlight examples of installations with lower negative impacts. Advocate for ground mounted systems or pergolas.
- Affordability:
    - Although the upfront costs may be challenging, solar is cheaper over time. High up-front investment but reduced operational costs for property owners or tenants.
    - Cheaper electricity supports greater socio-economic equity.
    - For listed buildings, cost savings may in turn support heritage conservation.

Leverage BNT's land bank to respond to the climate crisis

- Offer biodiversity credits.
- Offer carbon credits if a viable model is found (Bermuda/BNT's small acreage means insufficient scale for existing global models.)
- Leverage corporate interest in achieving ESG goals to fund tree planting on BNT reserves and open space protection through Buy Back Bermuda.

STEPS

General

- Identify goals and draft policy. Set a 2030 target.
- Create a synchronisation matrix of actions over time in support of policy.
- Identify reference policy in Bermuda and internationally.
- Identify red lines e.g. destroying green space for renewable energy, solar panels on most Grade 1 listed buildings.
- Align BNT management / leadership with advocacy across committees.
- Check Department of Planning existing policy and analyse for possible gaps.

BNT Leadership

- Conduct an energy audit of all BNT properties and implement strategies for reducing energy consumption.
- Develop a rationale for determining appropriate sites for renewable energy deployment.
- Purchase electric vehicles to replace existing ones, when they need to be replaced.
- Budget for installation of electric vehicle charging ports at Waterville and Verdmont by 2026.

BNT messaging and advocacy

- Concentrate on mitigating impacts of climate change on natural and cultural heritage, with a terrestrial focus.
- Consider through-life costs, especially disposal of renewable energy systems, use of non-toxic panels.
- Communicate in layman's terms - language / style guide.
- Recognise challenges of renewable adoption.
- Equate solar collection with water collection to increase public understanding and acceptance especially to counter the challenge that solar panels are not aesthetically pleasing. Advocate that the climate crisis generally trumps aesthetic considerations, except in designated circumstances such as historical protection areas and for listed/important buildings where preserving the heritage setting or aesthetics is required or should play an important role.

END STATE

BNT is leading in Bermuda in mitigating the climate crisis, providing an example through its actions and its advocacy, thus attracting a new generation of supporters in order to protect and promote our heritage for everyone, forever.

APPENDIX A: BNT Solar Energy Policy

BERMUDA NATIONAL TRUST
SOLAR ENERGY POLICY*

Introduction

BNT recognises that our planet is in the midst of a climate crisis caused in large part by the burning of fossil fuels for energy. Transition to renewable sources of energy is both essential and urgent.

However, the benefits of renewable energy generation must be balanced against potential impacts to:

1) open space, particularly woodland that sequesters carbon dioxide and agricultural land that provides food security
2) cultural heritage, particularly Historic Protection Areas and listed buildings and their curtilages.

As every situation is different, this policy allows for determination of what is acceptable on a case-by-case basis, taking into account many considerations. This is in line with the present Bermuda Department of Planning practice.

It is important for BNT's credibility that there is consistency between our own practices with respect to solar deployment on our properties and what we advocate publicly for other properties.

BNT will ensure neutrality with regard to renewable vendors and avoid advocating for proprietary technology. [1]

Application

This policy is intended to be applied:

- When solar or renewable energy installations are proposed on BNT properties.
    - Cultural heritage properties (listed and historic buildings, historic monuments other historic buildings and cultural sites)

*This policy addresses solar energy production in the terrestrial context only and does not address other forms of renewable energy such as wind, tide and ocean current generators.

[1]This includes recommending white solar panels (to match white roofs) over black solar panels, as white solar panels have limited suppliers but more importantly are typically reflective and less energy capturing/generating.

    - Natural heritage properties (nature reserves, open spaces)
- When advocating BNT's position on Department of Planning applications and projects by community stakeholders.
    - *Historic Town of St. George and Related Fortifications, Bermuda* — UNESCO World Heritage Site and the St. George's Preservation Area (the two areas are mostly but not entirely contiguous)
    - Other Historic Protection Areas (historic protection areas, historic monuments)
    - Listed Buildings
        - Grade 1
        - Grade 2
        - Grade 3
    - Open space with conservation protection zonings (woodland, coastal, agricultural)
- As reference guidance to homeowners considering solar or renewable energy installations as well as solar providers.

General Guidance

1. Before any solar installation, first conduct an energy audit and apply strategies to minimise energy consumption in order to reduce the scale of renewable energy installations and save cost.
2. Consider the zoning of the proposed installation. Guidance on conservation areas, Protection Areas and listed buildings is given below.
3. Installation of solar panels is encouraged on ancillary structures such as carports and pergolas, brownfield sites, water catchments and the roofs of non-historic buildings.
4. Ground mounting of solar panels on green space that (i) has no conservation zoning (woodland, agricultural or coastal) or (ii) has no other notable ecological value (e.g. habitat for a protected species of fauna or flora such as specimens of old-growth cedars) is generally acceptable.
5. Ensure compliance with planning and building control guidance (including ensuring hurricane-proof installations).
6. Consider the orientation of the proposed installation for maximum energy generation.

Guidance for Solar Panel Installation in Protected Zonings

OPEN SPACE

<u>Woodland Reserve</u>
The destruction of woodland for renewable energy generation is counterproductive to combatting the climate crisis and in virtually all cases is unacceptable, particularly if the aim is generation of energy to be sold to the grid for profit.

The removal of a small number of trees or shrubs of low ecological/biodiversity value may be acceptable on rare occasions where other alternatives for deploying solar panels to power a building are considered even less acceptable for that particular property.

Agricultural Reserve
Since it is generally more environmentally sound to produce food locally vs. importing food, the deployment of solar panels on land zoned for agricultural use is unacceptable, unless methods of deployment are used that allow for both energy generation and crop production/grazing at the same time. The approach should have a proven track record of success elsewhere, in a similar environmental context.

Coastal Reserve
In general, deployment of renewable energy generation on land zoned coastal reserve is unacceptable due to the sensitivity of the ecosystem and impact on the Bermuda landscape and image, except within the scope of existing or permitted development.

HISTORIC PROTECTION AREAS AND LISTED BUILDINGS

Solar installations within Historic Protection Areas and on or within the curtilage of listed buildings must consider any potential complexities arising as a consequence of information contained within the listing description, any opportunities to minimise visibility (particularly from public vantage points), as well as on-site circumstances.*

In Historic Protection Areas or the curtilage of listed buildings, ground mounted installations should be considered first (on appropriately zoned land on the property, on brownfield areas.) Installations on new-build additions, pergolas or water catchments should be considered next.

UNESCO World Heritage Site – Negative impacts to the Outstanding Universal Value (OUV) of the *Historic Town of St. George and Related Fortifications, Bermuda,* must be minimised or mitigated. This applies to the property's inscribed boundaries and buffer zone as well as to its wider setting.

St. George's Preservation Area – The Town of St George Protection of Buildings of Special Interest Act 1950 guides the work of the St. George's Preservation Authority (SGPA), on which three BNT appointees sit. The SGPA reviews all planning applications within the St. George's Preservation Area, including applications for solar installations.

The Department of Planning Development in the Town of St. George Guidance Note (GN 201) states under 7*.10 Contemporary elements:*

- *Objective: To minimize the visual impact of air conditioning, vents, exhaust fans, skylights, solar panels, wind turbines, satellite dishes, electrical/telephone/cable hook-ups, and other contemporary elements*
- *It is recognized that in order to encourage continued use of buildings, modern services are required. The key is to ensure that the adaptation of buildings does not affect their character and does not impinge upon the Town's character-defining features. Where*

possible, contemporary service units should be located away from buildings in a location on the property that does not detract from the character of neighbouring buildings. If contemporary elements must be fitted to the building, they should be located away from public view, for example on a rear-facing elevation.

Grade 1 Buildings – In virtually all cases, installation of solar panels on the roof of a Grade 1 listed building is unacceptable. Rare exceptions made be made when other options are not available and the installation is away from the principal elevation/s (primary aspects) of the building.

Grade 2 and Grade 3 - Roof installations are generally acceptable away from the principal elevation/s (primary aspects) of a Grade 2 or Grade 3 listed building.

For all roof installations on historic buildings, consideration must be given to minimising impact on the original or historic structure and materials, and the ability to reverse the installation per conservation principles.

Each case must be considered on its own merits, taking into account ecological impact, cultural heritage impact, aesthetic impact relative to setting, all potential alternative locations on the property and the reasonable expectation of the property owner to be able to benefit from the economic benefits of solar energy in an equitable manner.

**This is in line with the approach of the Department of Planning as advised by Kenneth Campbell, Senior Planner in the Forward Planning section.*

Examples of appropriate solar installations on listed buildings and monuments

Solar panels were installed on the back/southern side of Grade 1 listed Villa Montclare, invisible from the main aspect of the house and largely unseen except from above.

Solar panels were installed in the valleys of the roof of Grade 3 listed Topwood, to conceal them from the front perspective of the building.

Solar panels were installed on the flat roof of the new west facing porch extension on Grade 2 listed Loyalty Inn.

Solar panels were installed on the Grade 1 listed rampart wall of the Bermuda National Museum, in a discreet location away from Commissioner's House.

APPENDIX B: References

Government of Bermuda

- gov.bm/department/energy
- ttps://www.gov.bm/articles/encouraging-adoption-solar-energy-and-energy-efficiency
    - *The only exception is for listed historical buildings or those within the World Heritage Site designated area of St. George's. They will still need to go through the complete planning application process to ensure the integrity and character of our built heritage is appropriately preserved.*

UNESCO

- Guidance Tool for Renewable Energy and World Heritage
- World Heritage Operational Guidelines
- Guidance and Toolkit for Impact Assessments in a World Heritage Context

Cultural heritage

- Broström and Svahnström, 2011, Solar energy and cultural heritage values. World Renewable Energy Congress.
    - Abstract: *The use of solar energy in a building of cultural-heritage value is an issue that brings the trade-off between aspects of use and preservation to a head. A sustainable use and preservation of historic buildings requires broad and long-term compromises between social, economic and environmental aspects.*
- https://www.pv-magazine.com/2022/08/27/the-weekend-read-historical-and-landmarked-buildings-turn-to-solar-amid-changing-policies-rising-prices/
- https://heritagetribune.eu/belgium/monuments-and-sustainability-flanders-allows-solar-panels-on-nearly-all-monuments