

# Business Case – Medium complexity

Project information	
Project name	Albany Pools - install solar panels
Sentient ID#	36482
Programme name	PRG Energy Efficiency and Sustainability
Programme Sentient ID #	27039
Project complexity rating (PCAT)	
Author and date	Deena Benjamin
Project budget requested and funding source(s)	\$376570.00
Estimated start and finish date	29/Apr/2022 03/Mar/2023

## Document control

<Text in grey boxes or <> provides commentary and guidance for drafting purposes only and should be deleted when no longer required.>

## Document history

Version	Date	Updated by	Update details

## Strategic case (Case for change)

Introduction	
Background	<p>This is the first project being undertaken using Project Gigawatt funding. Project Gigawatt developed out of a desire from within Council to explore how solar and battery technology could be used to minimise energy usage within Community Facilities and demonstrate Council's commitment to sustainability and its low carbon action plan. • A closed Request for Proposal was issued to three known suppliers of solar photovoltaic (PV) arrays, all of whom responded to the RFP. After evaluation and discussions, we recommended awarding the contract to Reid Technology Limited for a contract value of \$362,263.65, plus a 10% contingency. James Brown from Stellar is the PM looking after this project.</p>
Opportunity/problem	<p>Give evidence-based facts (where possible) for the problem/opportunity to demonstrate current state, what problem is to be addressed and what would happen if we were to continue status quo.</p> <p>Please consider:</p> <ul style="list-style-type: none"> <li>- Consider user feedback by consulting with service providers</li> <li>- Park Services may undertake a service assessment if necessary. Typically for buildings this has been conducted as part of a wider assessment on service levels and the growth areas throughout the city have been considered. PSR should be consulted with to determine if any strategic or service assessments have been done.</li> <li>- To cater for growth.</li> <li>- Most local boards have networks plans which have an initial review of</li> </ul>

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Introduction	
	<p>the provision in the area and proposed high level options for the identified gaps. This is essentially a strategic review.</p> <ul style="list-style-type: none"> <li>- To maintain the service level through renewal.</li> </ul>
Objectives	<p>To increase energy efficiency in a more sustainable way for the environment To save money long-term on electricity</p> <ul style="list-style-type: none"> <li>- Use of safe methodologies. Ensure work is accomplished keeping into account safe methodologies this could include removal of asbestos, seismic improvements, etc., health and safety of public/staff/workers is important to consider, ensure methodologies are robust and safe in design.</li> <li>- Improved whole of life costing. This means considering how many years is it going to last, including maintenance costs, i.e., building wash, etc.</li> <li>- Ensure sustainability. Consider using sustainable products offering higher lifetime, carbon free specs, environmental friendly, better UV protection, better degradation, etc.]</li> </ul>
High level benefits	<p>Increased electricity generation in the Auckland Region giving improved energy resilience. Carbon Footprint reduction</p>
Alignment to strategy:	
Auckland Plan Outcomes	Our Strategy Goals
Climate Priorities	Māori Outcomes
Built environment	No specific outcome focus areas
Describe the strategic linkage in more detail here:	
Climate change (adaptation and mitigation):	<p>Project management and decision-making to consider the reduction of GHG emissions through sourcing of low-carbon material options and use of products with environmental declarations for embodied carbon reductions. Consideration should be given to minimise waste from existing components through recycling and aiming for maximum diversion from landfill.</p>
Māori outcomes and engagement	
Alignment to existing programmes:	<Describe any alignment or link to an existing programme/s of work>
Constraints	<p>Constraints: In planning and delivering the work, there are some general environmental and/or site-specific constraints that require due considerations. Some examples are:</p> <ul style="list-style-type: none"> <li>- Building occupants/tenants</li> <li>- Weather conditions</li> </ul>

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	<ul style="list-style-type: none"> <li>- Current operation of the premises - make sure you liaise and communicate with building occupier/tenants. You may require them to shut their operations during their peak business.</li> <li>- There is a risk that the pool roof cannot take the weight of the solar panels. This risk is considered to be low as the building was intended to have solar panels, but these were cut from the build project due to budget constraints. A structural assessment will be undertaken as part of the project.</li> <li>-If the grid is congested with generation Vector may require grid strengthening in the area before agreeing to have distributed generation connected to their electricity network. The risk of this is low as there is a large electrical supply to the building. A distributed generation (DG) application will be lodged with Vector before the design is finalised.</li> <li>-The equipment will need to be shipped to New Zealand. Supply chain constraints may cause delays.</li> </ul> <p>Further requirements should be discussed with the relevant Design principal. Refer to Practice notes for further detail on constraints and how to manage them.</p>
Dependencies	<ul style="list-style-type: none"> <li>- Adequate budget</li> <li>- Structural surveys</li> </ul>
Assumptions	<ul style="list-style-type: none"> <li>-The roof is checked to ensure it can take the weight of the solar panel prior to installation.</li> <li>- Budget is adequate</li> <li>- Consents are non-notified and approved</li> <li>- Stakeholders and Governing body are informed</li> <li>- Programme of works for the project is manageable</li> </ul>
Health, safety and wellbeing	<p>[Edit as required:</p> <p>At Auckland Council, we put the health and safety of our people and the people of Auckland first. We empower everyone working across the council family to stop work and speak out if they see unsafe work practices.</p> <p>As part of the due diligence process, it is important to regularly monitor and audit the work site(s) using iAuditor, to ensure that all the safety controls that are discussed and agreed to in meetings or written into documentations are put in place and checked to operate effectively.</p> <ul style="list-style-type: none"> <li>- Ensure contractor provides Site-Specific Safety Plan (SSSP) and it is reviewed and approved by project manager. All projects must have a Safety in Design report and register. It is recommended this be attached to the front page of the design/professional services document</li> <li>- Council has an obligation to provide accessible and inclusive assets</li> <li>- Accessible and inclusive considerations include: <ul style="list-style-type: none"> <li>- Providing accessible or mobility impaired access</li> <li>- Ensure fire egress and emergency evacuation processes</li> <li>- Removing uneven surfaces and trip hazards (e.g. signage etc)</li> <li>- Ensure methodology and oversee impact on staff/public.</li> </ul> </li> <li>- Working on heights, working on edges, working on roof or confined space etc.</li> <li>- Ask for SSSP and site audit plan.</li> <li>- Some of the H&amp;S related risks to people and users will only be possible to mitigate by scheduling the work i.e. doing the work after hours or closing the facility which will all have budget implications and critical to consider at</li> </ul>

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<p>High level risks and issues</p>	<p>the time of setting the budget]</p> <p>Unsuitable ground conditions, unidentified closed landfills or other below ground issues not allowed for in project planning Closed landfills and arboricultural works require asset owner approvals (AOAs). They often required significant timeframes to be reviewed and granted. Damage during construction to works and equipment. Damage after construction to the asset. Includes high winds, tornadoes, heavy rain, slips and king tides etc. Stakeholders not consulted on proposed design or informed of project progression, including physical works timeframes Issues with neighbours complaining about the park, works or operations. Errors, mistakes, broken plant, lack of resource etc. Always a risk on major construction projects. Common injuries and deaths are falling from height, impact with vehicles and heavy lifting. Clubs, users and leaseholders are required to meet the consent conditions once operating Example: Covid 19 has resulted in work stoppages, increased costs, lack of resources, illness and material shipment delays Differing political opinions and expectations can lead to major delays and cost increases i.e. for additional security due to protestors Usergroups and park bookings teams need to be kept up to date with the programme of work. Possible scope creep pressure from future users, stakeholders and politicians Heavy vehicles moving on and off site, general public vehicles. Common to many construction projects trenching is prone to collapse without warning Children may be out of the immediate reach of their parents and are prone to irrational and dangerous behaviour. Both design and construction methodology need to consider this risk. Consequence: Potential injury or death. Cause: Inadequate design or errors during the design process. Design does not consider all elements of safety in design for the given site, situation, user group or environment. Consequence: Injury</p>
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### Economic case (Determining value for money)

#### In Scope

To install a Solar Photovoltaic (PV) array on the roof of Albany Stadium Pool. The proposed solution from Reid Technology Limited is a 206.8 kilowatt peak (kWp) system made up of 440 solar modules. It is expected the system will generate approximately 335,900 kWh of electricity per year.

#### Out of scope

Anything unrelated to the solar panels

#### Service change assessment

Service / process description	Proposed change & impact
<p>Will this initiative cause a change to a service or process e.g. adding an additional service, changing or removing</p>	

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an existing service?

## Outline options analysis

<To make an informed decision, what options have been researched to demonstrate we are getting value for money for the investment? How do the options stack up against each other?>

Option	Description
<Option 1>	
<Option 2>	
<Option 3-5 etc.>	

Description <a href="#">(click here for CBA worksheet)</a>	Option 1: Do nothing	Option 2:	Option 3:	Option 4:
Appraisal period (years)				
Implementation cost (\$000)				
Whole of life cost (\$000) (ongoing consequential opex, disposal cost, plus implementation cost)				
<b>Cost Benefit analysis:</b>				
<b>Financial benefits and costs (excluding depreciation)</b>				
Net present value of benefits (\$000)				
Net present value of costs (whole of life) (\$000)				
Net present value (\$000)				
<b>Non-financial benefits</b>				
Benefit 1				
Benefit 2				
Benefit 3				

**Preferred option**  
 <Highlight the rationale or compelling reasons for preferring one option over others. Along with the above analysis there may be other considerations that have resulted in the preferred option such as time to deliver, risk, climate impact etc>

## Benefits tables

<The [Benefits Library](#) is a guide which can be used to assist with completing the financial benefits and non-financial benefits tables below. Please contact the [EPMO](#) if you require additional assistance>

<b>Benefits and dis-benefits</b>									
Category	Sub-category	Type	Metric	Benefit statement	Benefit Description	Benefit Measure and Method	Source of data or cost centre/GL code	Baseline	Expected benefit and date(s)
Non-financial				Increased electricity generation in the Auckland Region giving improved energy resilience.	Increased electricity generation in the Auckland Region giving improved energy resilience.	Electricity Invoices as well as the ESP monitoring			<b>TOTAL</b>

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Benefit owner & Role	Santosh Puthran	Benefit Reporter	Sentient Admin
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\*Note: If there are additional benefits, add extra rows, with a Benefit owner signature line after each benefit.

Non-quantifiable Benefits and additional information

## Commercial case (Procurement of preferred option)

Detailing the procurement strategy
<p>[Edit as required:</p> <ul style="list-style-type: none"><li>- Design services will be procured via the professional service Master Service Agreement (MSA) procurement panel unless alternative procurement can be justified and approved by the panel manager.</li><li>- Physical works procurement process in CF currently stipulates the Full Facilities Maintenance (FFM) supplier for the area associated with should be included within the supplier selection depending on the value. The remaining suppliers should be selected upon consultation with experienced the Design Principal and procurement staff.</li><li>- Bulk tenders and amalgamation should be considered when timing and efficiency warrants. However depending on the number of projects single tenders may also be let. PMs should consult with the Design principals and/or Area Managers.</li><li>- Weighted attributes should be considered or contractors asked to submit resource list, current projects, and programme if a non-conforming tender is chosen.</li><li>- Health and Safety should be given a high priority, and at tender stage worker competency assessed, including for example current Heavy Transport (HT) licensing for drivers, other relevant tickets and plant experience.</li><li>- Site works and equipment installation can be tendered separately or under a main contractor. Either contract must have the equipment supplier responsible for the equipment installation to keep the compliance liability with the manufacturer.</li><li>- Build and equipment suppliers should be selected upon consultation with experienced The Design principal and procurement staff.</li><li>- Defects period: recommended to be 12 months</li><li>- For sensitive sites and high value projects, weighted attributes are useful for ensuring the contractor has relevant previous experience., product warranty generally 5 years, feel free to discuss with Design Team]</li></ul>

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Risk Description	Mitigation	Date Identified	Owner
Unsuitable ground conditions, unidentified closed landfills or other below ground issues not allowed for in project planning	Ensure design follows NZ ground investigation specification at a minimum.	24/08/2022	
Closed landfills and arboricultural works require asset owner approvals (AOAs). They often required significant timeframes to be reviewed and granted.	Ideally have AOAs approved the year before physical works is scheduled to begin consider processing times of 6 months or more.	24/08/2022	
Damage during construction to works and equipment. Damage after construction to the asset. Includes high winds, tornadoes, heavy rain, slips and king tides etc.	Careful planning of work and consideration of weather impacts	24/08/2022	
Stakeholders not consulted on proposed design or informed of project progression, including physical works timeframes	Share and seek feedback from key stakeholders to ensure the design is fit for purpose and meets users expectations]	24/08/2022	
Issues with neighbours complaining about the park, works or operations.	Adhere to resource consent conditions - keep neighbours informed	24/08/2022	
Errors, mistakes, broken plant, lack of resource etc.	Adhere to best practice at all times. Competitive procurement process, selecting only the best value contractors contract. Strict adherence to programme and quality plans	24/08/2022	
Always a risk on major construction projects. Common injuries and deaths are falling from height, impact with vehicles and heavy lifting.	Ensure Health and safety is the number 1 priority - adhere to best practice on site - follow all Council Process - regular audits.	24/08/2022	
Clubs, users and leaseholders are required to meet the consent conditions once operating	Community Services to monitor and control	24/08/2022	
Example: Covid 19 has resulted in work stoppages, increased costs, lack of resources, illness and material shipment delays	Sufficient planning, contingency, contract management and safety planning.	24/08/2022	
Differing political opinions and expectations can lead to major delays and cost increases i.e. for additional security due to protestors	Allow sufficient contingency for politically sensitive projects	24/08/2022	

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Usergroups and park bookings teams need to be kept up to date with the programme of work.	Ensure assets are booked out or otherwise allocated for the duration of the works.	24/08/2022	
Possible scope creep pressure from future users, stakeholders and politicians	Limit scope to that specified in this business case	24/08/2022	
Heavy vehicles moving on and off site, general public vehicles.	TMPs and safety audits.	24/08/2022	
Common to many construction projects trenching is prone to collapse without warning	Follow Worksafe best practice including benching and shoring of works	24/08/2022	
Children may be out of the immediate reach of their parents and are prone to irrational and dangerous behaviour. Both design and construction methodology need to consider this risk. Consequence: Potential injury or death.	Isolate. Engineering Control	24/08/2022	
Cause: Inadequate design or errors during the design process. Design does not consider all elements of safety in design for the given site, situation, user group or environment. Consequence: Injury	Follow Master Service Agreement (MSA) panel and/or approved procurement processes for professional services. Ensure Safety in Design is included within the scope of work. Ensure all adequate indemnity insurances are in place.	24/08/2022	
<b>Issue Description</b>	<b>Resolution</b>	<b>Resolution Date</b>	<b>Owner</b>

### Financial case (Affordability & funding)

#### Financial analysis

Please complete the <b>financial analysis spreadsheet</b> and use the output to complete this table	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026-28	Total
Capital expenditure						
Operating expenditure						
<b>Total expenditure</b>						
Consequential operating expenditure						
Financial benefits (revenue/cost reduction)						
<b>Net ongoing cost</b>						

<Please attach the financial analysis spreadsheet as an appendice.>

#### Financial sources

<Specifically, how is this initiative being funded i.e. is part of it from existing BAU? New or additional funding request or LTP allocated funds? Is there any other external party funding involved? Are other departments within council also contributing a portion from their own BAU budget?

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## Contingency

<What contingency is included in the above costs. This is calculated by individual projects and is based on risk.>

## Management case

### Change Impact Assessment

For scoring assessment guideline, please refer to “[Change impact assessment matrix](#)” in **Kotahi**

<If you scored 1 extreme or 2 High or 3 Medium, you'd need to engage a “Change Manager”>

Impact Assessment	Impact (Low, Moderate, Medium, High, Extreme)
Size of the change	
Complexity of the change	
People increase/reduction change	
People – skills, training, new ways of working	
System change	
Process change	
Organisation structure change	
Culture change	

## Change management

The <name of programme/project/initiative> will follow [Auckland Councils Change Management Framework](#).

We make sure we **do the right change** and that solutions are positive for employees and Aucklanders

We **build trust** by collaborating with and **involving those affected** in decision making

We **share** ideas and plans and ask for feedback **early and often** so people can choose to **help create the future**

We make sure those affected clearly **understand why** the change is needed and **what it means** for them



The [change management plan](#) will need to be completed in the plan phase, if applicable.

## Stakeholder engagement

Key stakeholders		
The following stakeholder groups will be impacted by this change in the following ways:		
Stakeholder name / group / contact	Evidence of collaboration / impact assessment	Agreed outcome
<ul style="list-style-type: none"> <li>- Sarah Clarke - Centre Manager</li> <li>- Santosh Puthran – Senior Aquatics Facilities Specialist</li> <li>- Kris Bird – Area Operations Manager</li> <li>- Customers of Albany Pools</li> <li>- Members of the public</li> </ul>		

The [stakeholder engagement plan](#) will need to be completed in the plan phase, if applicable.

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## Outline project plan

Outline project plan		
How will this project be delivered, by who and when?		
Deliverable(s)	Delivered by	Date due
<p>[Edit as required: A deliverable is an element of output within the scope of the project. Refer to the Auckland Design Manual, practice notes &amp; specifications for more detailed information.</p> <p>The deliverable should consider:</p> <ul style="list-style-type: none"> <li>- Aesthetics</li> <li>- Protection of structure</li> <li>- Continued use</li> <li>- Extension of life</li> <li>- Replacement with new due to new standards or changes to building code</li> <li>- Outlook of an asset</li> <li>- Futureproofing of an asset</li> </ul> <p>Ultimately, the asset should be fit for purpose and aligned to the scope and objectives (consider the whole of life considerations, including maintenance and end of life). For example, safe, functional space could be the deliverable, whereas HVAC would form part of the scope.]</p>		

### Health and safety

This project is expected to < include / not include > design or modification of an existing asset, as such the requirements of Safety in Design will apply/not apply to this project.

There is legal responsibility on Auckland Council (as the ‘Person Conducting a Business or Undertaking’) to ensure, so far as is reasonably practicable, the health and safety of workers and other persons over the life of the asset.

The following health and safety related risks were identified in the option assessment relating to this project which will need to be considered for elimination or where not able to be eliminated to be minimised.

Option	Health and Safety Risk	Project Phase
	<e.g. Striking live power cables>	
	<e.g. Stormwater network surcharge, dislodging manhole lid exposing risk of falling>	
	<e.g. Work in confined space to clean device>	

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## Approval and acceptance

<b>Handover activities</b>
The following activities and documents will be handed over once acceptance criteria have been met: <Designs, procedures, registers, maintenance manuals, templates, as built materials, post-project benefits monitoring and realisation activities, post project evaluation etc. (attach any relevant documentation to appendices)>

Governance sign off	Name	Signature to endorse	Date	Comment
I agree that the potential costs/benefits identified are realistic, and the low complexity delivery path reflects PCAT findings and approve and or endorse the project to continue for funding.				
Financial Manager / Commercial Manager				
Project sponsor	Grant Jennings			
Business owner	Julie Pickering			
Benefit Owner	Santosh Puthran			

SME endorsement <i>If applicable</i>	Name	Signature to endorse	Date	Comment
Eg. Change, legal, financial transactions, governance, communications etc				

Advisor/stakeholder endorsement	Name	Signature to endorse	Date	Comment

## Appendices

<b>Appendices</b>
<Attach PCAT report and all related supporting documents/information to this section>