ORDINARY MEETING 11 DECEMBER 2019	4

EMISSIONS REDUCTION TARGET UPDATE

Dan Walton | 8/24/18-01 | #6189835

RECOMMENDATION:

That Council:

1. **Notes that Council is forecast to achieve the 2007/08 greenhouse gas emissions reduction target of 50% in 2020/21;**

2. **Endorses a detailed investigation into options available to Council set a new emissions reduction target for 2030; and**

3. **Notes that a report will be presented to Council prior to 30 June 2020 outlining the proposed target and presenting an action plan to achieve this target.**

EXECUTIVE SUMMARY:

Council's Energy and Emissions Management Policy was due for revision 31 July 2019.

As part of the revision process, two important questions are under consideration:

- *Is Council going to meet its 2020 emissions reduction target?*

Council is forecast to reach 50% emissions reduction during the 2020/21 financial year, once the current $3.3M, 1.78 megawatt Wastewater Treatment Plant solar power project has been completed and operational for a year.

- *What new target should Council set for 2030?*

The most significant endeavour for Council to reduce emissions would be to transition to 100% renewable energy. This was an aspiration for Council voiced at the Cairns Youth Climate Summit. Whilst 100% renewable energy is a realistic option for Cairns Regional Council, careful consideration needs to go into how this is achieved. Many organisations are simply "buying into" renewable energy schemes to claim reduction targets without any correlation to their locality or actual energy consumption patterns.

An option available to Council to achieve 100% renewable energy is a Power Purchase Agreement (PPA) for a long-term contractual supply of renewable energy from North Queensland wind and solar farms. This would be complemented over time by other measures such as ongoing reviews of energy consumption to drive efficiency measures and the appropriately timed introduction of electric vehicles to Council's fleet to further reduce emissions from fuel.

Additional options include generating Australian Carbon Credit Units (ACCU) from local reforestation initiatives which would provide Council with an emissions reduction pathway for fugitive emissions, creating opportunity for Council to achieve zero net emissions while delivering significant co-benefits to wet tropics habitat connectivity.

There are benefits and risks associated with these options and it is recommended that a detailed investigation is undertaken to more accurately quantify these risks and benefits. 100% renewable energy coupled with carbon offsetting for residual emissions from wastewater gas and fuel use is a pathway to achieve the most ambitious emission reduction target of zero net emissions. Other targets will also be considered as part of further investigations.

A report with options (and associated pathways) for a 2030 emissions reduction target will be presented to Council in the first half of 2020.

COMMENT:

2020 Emissions Reduction Target

Council's Energy and Emissions Management Policy contains a target to reduce the organisations 2007/08 greenhouse gas emissions by 50% by 2020.

In 2018/19, after more than a decade of emissions reduction initiatives, Council had reduced its greenhouse gas emissions by 47% compared to 2007/08 levels, consisting of:

- 30% reduction from landfill gas management;
- 15% reduction from wastewater treatment (i.e. reduced fugitive gas emissions); and
- 2% reduction from energy efficiency and rooftop solar power.

Forecasting indicates Council will achieve 50% emissions reduction in the 2020/21 financial year with the addition of:

- 3% reduction from the 2020 install of 1.78MW of ground-mounted solar.

This forecasting is based on the assumption that the past two years of only minor fluctuations to Council's electricity and fuel consumption will continue into the 2020/21 reporting period.

2030 Emissions Reduction Target

To set a new emissions reduction target for 2030, Council must consider:

- Community expectations;
- Budget implications of a renewable energy Power Purchase Agreement;
- Emissions reduction potential of additional measures (e.g. energy efficiency and introduction of electric vehicles to Council's fleet); and
- Emissions reduction potential of local carbon offset projects.

Community Expectations

Transition to 100% renewable energy was a key aspiration voiced in the Cairns Youth Climate Summit. This aspiration aligns with the community's prioritisation of environment, liveability and sustainability in the Our Cairns Survey. Furthermore, Council has demonstrated a strong track-record at cost effective, financially responsible emissions reduction and can continue to meet community expectations in this regard.

Power Purchase Agreement

Electricity use accounted for 81% of Council's 2018/19 emissions profile. The most significant input into emissions reduction is a transition to 100% renewable energy.

There are a number of ways in which Council could achieve this outcome, however, the most effective is likely to be a Power Purchase Agreement (PPA) for a long-term contractual supply of renewable energy from North Queensland wind and solar farms.

PPAs are long-term contracts to buy renewable energy in agreed volumes and at prices that meet the needs of the generator and the consumer. These renewable energy agreements have the ability to provide both parties not only with financially beneficial solutions, but also secure clean renewable energy supplies to the corporates and enable investment in additional renewable energy developments.

There are, however, risks associated with these agreements. If there is one certain thing in the Energy sector it is uncertainty. A Power Purchase Agreement would lock Council into a price for electricity at a point in time. Any savings as a result of this agreement is reliant on the negotiated price being lower than the wholesale electricity price for the majority of the term. Regulatory change in the energy sector is also a risk. If there are future subsidisation of electricity costs then a fixed price agreement may prevent Council from taking advantage these benefits.

Another significant consideration is Council's ongoing energy consumption. Any agreement needs to be cognisant of major infrastructure being brought online in future years including Council's Draper Road Water Treatment Plant.

It is for this reason that it is recommended Council investigate this option in further detail prior to progressing with this option.

Additional Measures

Other opportunities such as continued energy efficiency measures and the introduction of electric vehicles to Council's fleet would also contribute to emissions reduction if the vehicles are charged using renewable energy. It is anticipated this initiative will not require additional investment if delivered when electric vehicles achieve whole of life cost parity with current vehicle purchases.

Whilst continued energy efficiency initiatives are expected to deliver only marginal emissions reduction benefits they should continue to be explored as this delivers financial benefit regardless of the energy source.

Local Carbon Offset Projects

Wastewater fugitive emissions and fleet fuel accounted for 19% of Council's 2018/19 emissions profile. Fleet fuel emissions (10%) will be addressed over time by the inevitable transition to electric vehicles, however wastewater emissions (9%) are an unavoidable by-product of wastewater treatment that can only be offset by actions in another part of Council operations, in this case Natural Areas Management.

Generating Australian Carbon Credit Units (ACCU) from local reforestation initiatives would provide Council with an emissions reduction pathway for fugitive emissions, creating opportunity for Council to achieve zero net emissions while delivering significant co-benefits to wet tropics habitat connectivity.

However, further investigation is required to identify what opportunities exist in this regard.

A report with options (and associated pathways) for a 2030 emissions reduction target will be presented to Council in the first half of 2020.

OPTIONS:

Option 1 (Recommended)

That Council:

1. Notes the progress towards the 2020 emissions reduction target;

2. Endorses a detailed investigation into options available to Council set a new emissions reduction target for 2030; and

3. Notes that a report will be presented to Council prior to 30 June 2020 outlining the proposed target and presenting an action plan to achieve this target.

Or

Option 2

That Council notes progress towards the 2020 emissions reduction target and does not investigate a further emissions reduction target.

Or

Option 3

That Council notes the progress towards the 2020 emissions reduction target and sets a target of X% emissions reduction by 2030.

CONSIDERATIONS:

Risk Management:

Making a commitment to contribute to the global effort to maintain and enhance our natural assets has reputational benefits for the region. Setting a new target will enable Council to continue demonstrating leadership in this regard.

Risks associated with an emissions reduction target include:

- Reputational risk from setting a target that does not meet community expectations.
- Reputational risk from not making sufficient progress toward an adopted target.
- Financial (and reputational) risk from prioritising high-cost abatement measures over low-cost measures.

Council will continue to manage these risks through the application of the Emissions Reduction Hierarchy, a step-by-step process that ensures the lowest cost abatement measures are underway before progressing to the next lowest cost measure.

According the Hierarchy, Council has two over-arching measures still to consider being:

- Purchase of renewable energy via a Power Purchase Agreement; and
- Generating Australian Carbon Credit Units (ACCU) from local reforestation and land management activities.

The financial cost/benefit of both measures will be fully investigated before any recommendations are presented to Council.

Council Finance and the Local Economy:

Strategic investment in emissions reduction has the potential to deliver significant ongoing benefits to the council budget and the local economy. Additionally, creating demand for emissions reduction technology and processes has the potential to attract low-carbon investment, diversify the local economy and strengthen the regions eco-tourism appeal.

The potential positive and negative financial impacts have been discussed throughout this report.

Community and Cultural Heritage:

Action to reduce Council's emissions will likely result in increased community confidence and satisfaction in Cairns Regional Council.

Natural Environment:

Strategic action to reduce Council's emissions delivers local environmental benefits including:

- Reforestation of wildlife corridors for habitat connectivity;
- Reforestation of riparian zones to improve water quality;
- Improved land management practices e.g. fire regimes, cover crops, utilisation of degraded areas; and
- Potential for increased investment in local reforestation initiatives.

Corporate and Operational Plans:

Local action to reduce emissions can deliver the following Corporate Plan objectives:

- Support a strong and diverse economy;
- Grow and sustain employment and education opportunities;
  Value and protect Cairns' pristine natural environment;
- Make better use of our natural resources;
- Grow renewable energy sources; and
- Encourage an organisational culture of continuous improvement and business efficiencies.

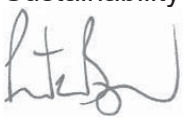
Policy:

Corporate Sustainability Policy.

CONSULTATION:

Consultation has occurred through the Cairns Youth Climate Summit and general community feedback. Any proposed action plan would be the subject of community consultation and information forums.

Dan Walton
Sustainability Officer



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