

## Inner Melbourne Action Plan

### Progress Report

#### Action 9.4 Green Demonstration Projects – Distributed Energy Project

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#### Purpose

1. To update the Committee on the progress of Action 9.4 Green Demonstration projects: Distributed Energy project.

#### Background

2. Action 9.4 consists of 3 parts:
  - a) Water Sensitive Cities
  - b) Green Roof Project
  - c) Distributed Energy project

The Distributed Energy Project is being led by the City of Melbourne in partnership with the CSIRO. The project has undertaken energy mapping and modelling for the Cities of Melbourne, Port Phillip, Stonnington and Yarra and has focused on the CitiPower electrical distribution network. The project was commenced prior to the City of Maribyrnong joining IMAP and Maribyrnong has not been included in the study.

3. The project will identify:
  - a. Map the current energy demand in the four municipalities (based on available 2011 data).
  - b. Identify opportunities for distributed generation, including district energy systems, renewable and low-carbon energy generation, and
  - c. Identify potential impacts for greenhouse gas and energy reductions through energy efficiency initiatives and demand management initiatives.
  - d. Model future energy consumption trends based on expected future growth and development scenarios, and
  - e. Compare the effectiveness of different programs and development scenarios in achieving energy reductions.
4. A Draft Stage 1 report has been completed and presented to the project working group and relevant Council staff. The study has drawn on Census data, buildings and rates data from the four councils and energy consumption data from utilities.
5. The Stage 1 report identifies existing energy consumption based on building typologies and had generated a map of this data. Refinements to the map are being undertaken to provide greater land parcel granularity and improve the granularity in the energy gradients used.
6. Additional refinements are being undertaken to forecast growth scenarios more accurately based on existing Council and State Government development plans.

## Discussion

7. Project timeframes have been adjusted to take into account delays in collating data, both from Councils and the utility. Necessary data has now been collected. The project is now working to a completion date of June 2014.
8. Stage 1: Following completion of the Stage 1 report, a workshop was held in February 2014 with Council staff representing various work areas: GIS, Rates, Planning, Research, and Environmental Sustainability. The workshop focussed on:
  - a. Testing the usability of the maps and modelling and identifying improvements,
  - b. Identifying potential end uses for the data
  - c. Identifying potential end users for the data
  - d. Identifying future intervention scenarios for modelling – these would model energy saving initiatives for modelling in stage 2 of the project
9. Stage 2 of the project will now focus on identifying and modelling the energy saving potential through various intervention scenarios and refining the future growth scenarios based on Council's strategic growth plans.
10. The final report will be able to inform:
  - a. electricity network planning,
  - b. the design and focus of energy efficiency programs delivered by councils or other agencies,
  - c. the design and focus of renewable energy programs.
11. A delivery interface needs to be developed in order to maximise utility of the available data and modelling. Options for the development of the delivery tool will be considered by CSIRO and the project team.
12. Next Steps will include:
  - a. GIS Inputs and Future Growth: Inputs to be incorporated into the model
  - b. Project group to meet to agree to future intervention scenarios
  - c. Phase I reporting to be completed, incorporating comments, and if possible, GIS and growth inputs from Councils.
  - d. IMAP Project group to agree on course for developing delivery tool.
  - e. Second Phase Report and modelling to be undertaken by CSIRO.

## Funding

13. IMAP expenditure for the project was approved by the IMAP Implementation Committee and contributions were made between 2010/11 – 2012/13. No further contributions are required.
14. The total project budget is \$955,000. Of this, \$180,000 will be contributed by IMAP through a grant agreement with CSIRO. The balance, \$775,000, is being funded by CSIRO.
15. The initial grant contribution of \$100,000 has been paid. The balance of \$80,000 remains in the budget and will be paid upon the delivery of the Stage 2 report.
16. There is potential for the project to be developed further to take into account economic modelling and studying the impacts (positive and negative) of distributed generation and energy efficiency on the electricity networks. This aspect is subject to additional funding being secured by CSIRO. It was anticipated that this work would occur as part of the IMAP project however this has not occurred due to failure to secure funding.

## 17. Recommendation

That the IMAP Implementation Committee resolves to **note** the progress of Action 9.4 Distributed Energy project.