The Townsville: Queensland Solar City project is part of the Australian Government Solar Cities program. Ergon Energy would like to acknowledge the support of the Australian Government for the project, which also includes the Queensland Government as a funding partner and these consortium members -

- Queensland Government
- City of Townsville
Day 2 – Solar Cooling Conference - 16/03/2011
Venue: The Hall, University House (ANU), Canberra

Solar City Community Day –
19/3/06

Consortium Partners

- Delfin Lend Lease
- HIG (Honeycombes Property Group JV)
- Cafalo
- Townsville City Council
- Ergon - Magnetic Island
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Ergon Energy – MAGNETIC ISLAND SOLAR SUBURB

- REDUCE ENERGY USE BY 25%
- REDUCE PEAK BY 27%
- Install smart meters
- Carry out energy audits
- Install solar electricity systems
- In-house displays
- Comprehensive demand-side management
- Tariff Trials
- Community Engagement
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Peak Demand Growth

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Daily Load Profile
Residential Energy Assessments

- Over 75% of Households Assessed

- Changeout lights and showers
- Incentive programs for appliance changes
- Behaviour change crucial
- Incentive programs for continued engagement

Commercial Program

- Around 120 businesses engaged
- Case Studies so others will follow
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HOLIDAY MAKERS

- COMMUNITY BASED SOCIAL MARKETING
- MULTILAYERED INTEGRATED APPROACH TO INFLUENCING BEHAVIOUR

Please...
Hard at work keeping Maggie beautiful...
help keep Maggie beautiful by switching us off when you are not using us.

SOLAR CITY

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Are we getting anywhere?
Solar Suburb Milestones

- Over 1500 Smart Meters installed
- 1400 Energy Assessments
- 170 PV systems - 500kW
- Largest PV system to date 22 kw
- 340 kW of light bulbs replaced
- 17000 t GHG avoided

Peak Demand Reduction
MI Peak in 2010 11% less than 2008

Magnetic Island Yearly Peak Demand
Business Case Forecast and Actual
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Peak Demand Reduction
Rolling Average

Magnetic Island - Trend in Seasonally Adjusted Daily Peak Demand since Oct06

<table>
<thead>
<tr>
<th>Change (%)</th>
<th>Sep-06</th>
<th>Dec-06</th>
<th>Mar-07</th>
<th>Jun-07</th>
<th>Sep-07</th>
<th>Dec-07</th>
<th>Mar-08</th>
<th>Jun-08</th>
<th>Sep-08</th>
<th>Dec-08</th>
<th>Mar-09</th>
<th>Jun-09</th>
<th>Sep-09</th>
<th>Dec-09</th>
<th>Mar-10</th>
<th>Jun-10</th>
<th>Sep-10</th>
<th>Dec-10</th>
</tr>
</thead>
<tbody>
<tr>
<td>-2%</td>
<td>4%</td>
<td>6%</td>
<td>8%</td>
<td>10%</td>
<td>-2%</td>
<td>0%</td>
<td>2%</td>
<td>4%</td>
<td>-2%</td>
<td>0%</td>
<td>2%</td>
<td>4%</td>
<td>-2%</td>
<td>0%</td>
<td>2%</td>
<td>4%</td>
<td>-2%</td>
<td>0%</td>
</tr>
</tbody>
</table>

Average Reduction: 2.5%/yr
First Intervention: February 2008

LOAD DURATION

Distribution of Daily Peak Demand
Magnetic Island Feeders

~65 kW Reduction

Days at Demand Level

2008
2010
Cable Limit

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Australian Solar Cooling Interest Group (ausSCIG) Conference 2011
www.ausSCIG.org

Day 2 – Solar Cooling Conference - 16/03/2011
Venue: The Hall, University House (ANU), Canberra
LOAD DURATION

Frequency of Daily Peak Demand Level
Magnetic Island Feeders

% Days at Demand Level

% of Maximum Annual Peak Demand

TOTAL ELECTRICITY USE REDUCED
MI 2009/10 3% less than 2008/9
TOTAL ELECTRICITY USE REDUCED Compared to Ayr Control

Change in Seasonally Adjusted Monthly Electricity Consumption since Jan08 compared to East Ayr Fdrs 03+04

- First MI Intervention
  February 2008

11% difference

Magnetic Island
Ayr Feeders

Infrastructure Deferment
Target 5 years now 7 years

Magnetic Island Load Growth - Revised Scenario July 2010
Any questions?

Thank you
Savings after Energy Assessment – 7%

% Consumption Reduction after Energy Assessment - Residential Properties

<table>
<thead>
<tr>
<th>Change (%)</th>
<th>Number of Individual Households</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased Consumption</td>
<td>0%</td>
</tr>
<tr>
<td>Reduced Consumption</td>
<td>50%</td>
</tr>
<tr>
<td>100%</td>
<td>150%</td>
</tr>
<tr>
<td>200%</td>
<td>250%</td>
</tr>
<tr>
<td>300%</td>
<td>350%</td>
</tr>
<tr>
<td>400%</td>
<td>450%</td>
</tr>
</tbody>
</table>

Magnetic Island Golf Club

- Roof painting
- Installed Triphosphor lights
- Hosting 11kW Photovoltaic System
- Refrigeration control, LVR, Redflow
PV Supply to Grid

Grid Supply and PV Generation on 1-Jun-2010

- Grid Supply
- PV Generation
- Grid without PV

Power (kW)

<table>
<thead>
<tr>
<th>Time (hour)</th>
<th>Grid Supply</th>
<th>PV Generation</th>
<th>Grid without PV</th>
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</thead>
<tbody>
<tr>
<td>0:00</td>
<td>1950</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>3:00</td>
<td>1950</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>6:00</td>
<td>1950</td>
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<td>0</td>
</tr>
<tr>
<td>9:00</td>
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<td>0</td>
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</tr>
<tr>
<td>12:00</td>
<td>1950</td>
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<td>18:00</td>
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<tr>
<td>0:00</td>
<td>1300</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

12% Saved

Building on the Successes

- Honeycombes
  - Holborn
  - Central
- Townsville City Council
  - Sustainable Townsville
  - Townsville Cluster Connections
- Ergon
  - Powersavvy, Energy Savers, NDM, peak demand in various locations, Smart Community