Clean Energy Options for Apartments

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The Australian Energy Foundation is leading the way to an equitable zero carbon society.

Our role is to accelerate the energy transition by empowering communities to take action.
Why Apartments?

• 1.4 Million apartments housing 10% of the population – traditionally excluded from the benefits of the energy transition

• 1 in 3 of all new dwellings are apartments

• Owners corporations manage the common areas – Energy used by common property can account for up to 60% of a building’s total energy consumption, and 25% of Administration Fund levies.
Barriers to clean energy

• Upfront cost of renewables
• Available roof space
• Common area power is not the whole story
• Exclusion from Solar Victoria rebate scheme
• Strata industry
• Legislative and regulatory framework
• Decision making process and the owners corporation.
Repair & Maintain

- Change Fluro to LED
- Change water fittings to more efficient fittings

Significant alteration

- Install new rain water tanks
- Install new solar panels

Upgrade to common property

- Install louvre windows to increase passive ventilation
- Upgrade basement carpark to include EV charging

Tip: special resolution not needed if project is in your maintenance plan
# LED Lighting

**Before you do anything else!**

<table>
<thead>
<tr>
<th>Energy Efficiency Savings - Anstey Square</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CURRENT</strong></td>
<td><strong>POST IMPLEMENTATION</strong></td>
</tr>
<tr>
<td>Annual Energy Consumption (kWh)</td>
<td>226,300</td>
</tr>
<tr>
<td>Annual Lighting Consumption (kWh)</td>
<td>173,312</td>
</tr>
<tr>
<td>Annual Site Energy Costs ($)</td>
<td>$47,523</td>
</tr>
<tr>
<td>Annual Lighting Costs ($)</td>
<td>$36,396</td>
</tr>
<tr>
<td>Annual Maintenance Savings</td>
<td>6,812</td>
</tr>
<tr>
<td><strong>TOTAL ANNUAL SAVINGS</strong></td>
<td><strong>$35,368.00</strong></td>
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</tbody>
</table>

**Starting Investment**

- **$54,452.94** ex GST
- Rebate Applied: **$24,405.11**
- Rental Period: 5 years
- Monthly Rental: **$1,075.53** ex GST
- Ahead by **$1,872 per month after rental payments**

**Annual Return on Investment**

- 65%

**Monthly Savings**

- **$2,947.00**

**Estimated Savings Over 10 Years**

- **$405,200.00**

**Annual Emissions Savings**

- **176,776 kg CO2**
GreenPower and Energy Retailing

- GreenPower is government certified renewable energy
- Paying extra for GreenPower means your retailer sources renewable energy to be added to the grid on your behalf
- Options to purchase 25%, 50%, 100% green power.

Other considerations beyond GreenPower:

- Some retailers are more involved in and supportive of local energy trading, demand response and community energy than others
- Powershop, Momentum energy, Energy Locals
- More and more retailers (slowly) coming to the table.
Energy Sharing: Allume Solshare

- Well Suited for building of 5-100 units
- 35-55% higher on-site consumption when compared to individual systems
- Just 1-1.5kW per apartment to gain up to 40% reduction in energy bills
- Full system monitoring via an online portal
- Full billing capability for PPA installs
- Keep your existing retailer
- The system can be sold outright or delivered under a PPA agreement.
- Can be cash flow positive from day one
Case Study: Brunswick East

• 12.6kW solar system
• All 8 units and 2 shops and common areas are connected
• Payback within 5 years
• Offset 40% total usage
• Annual carbon savings: 20 tonnes
• 20 year savings: over $60,000

Video
Energy Sharing: Existing embedded networks

- Electrical sub metered system for the entire building behind one “gate” or “parent” meter
- Opportunity for one solar system to power the whole building
- Existing Embedded Network Operator (ENO) may be willing to invest in a solar system and sell the energy to residents
- You may need to switch ENOs.
Energy Sharing: New embedded networks

- One supply charge, one discount bulk contract for the building can mean significant savings

- Can bulk purchase GreenPower for the whole building while still getting a competitive tariff

- Cost of the embedded network and solar system can be negotiated as a power purchase agreement (PPA) or simple lease/loan arrangement with the operator

- Can be cash flow positive from day one

- Metropolis Metering, Green Guys Group, Enervest.

- The decision making processes for the owners corporation (OC) is more complex…
Case Study: Brunswick

New embedded network

• 39kW Solar system
• 50 Units
• Payback within 4 years
• Offset 25% total usage
• Annual carbon savings: 60 tonnes
• 20 year savings from solar: over $200,000
• Ongoing revenue stream for OC
• 19c/kWh electricity for residents

• However…
Off site and collective energy

• Very much an emerging space
• Ovoid residential offsite solar contracts with ‘the big 3’ retailers
• Growing number of retailers and digital platforms that allow for offsite and onsite energy generation, sharing and trading. often called Virtual Power Plants (VPPs)
• Powerledger, Solar Cloud, Enosi, Enova, Momentum energy, LO3 energy, wepower
• Usually require all involved to be with a single retailer although more retail and solar partners coming on board
• Opportunity to set up an energy community within or between a number of apartment buildings in Port Phillip and/or Stonnington
• Investing in a community energy project
Links

Australian Energy Foundation

Allume Energy - Solshare

Metropolis metering – Embedded networks

Green Guys Group – Allume Solshare, embedded networks, PPAs

Enervest – Offsite Solar, embedded networks, PPAs, VPPs

Community Solar Portal – Community solar investment

Melbourne Renewable Energy Project (MREP) - Port Phillip Power Purchasing Agreement
Q & A
Thank you

For more information please contact Daniel Beaton at daniel.beaton@aef.com.au