

20 Tonnes of Solar Panels for fun and non-profit

BIEDO – Future Energy Forum

Rob Farago – LocalPower
info@localpower.net.au

Exercise - Guess the largest uses of electricity in the home (non gas cooking & hotwater)

- 34% - Hotwater
- 16% - other appliances
- 13% - lighting
- 13% - refrigeration
- 10% - heating and cooling (3% + 7%)
- 9% - cooking
- 5% - standby power



Outline

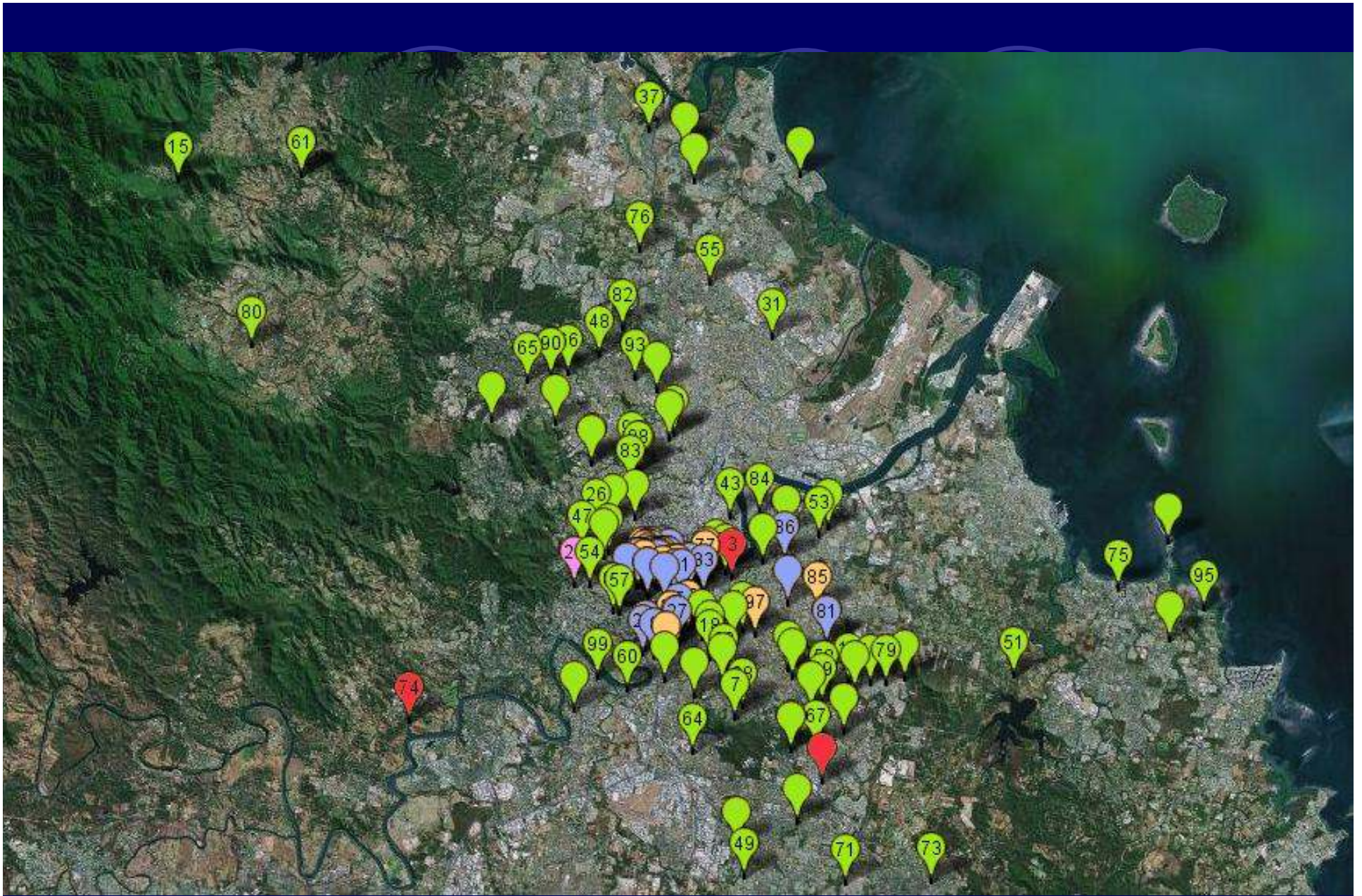
- The Local Power Buying Group
- Some principles
- Some challenges
- Some learnings
- PVRP Program
- Feed-in Tariffs
- Questions?

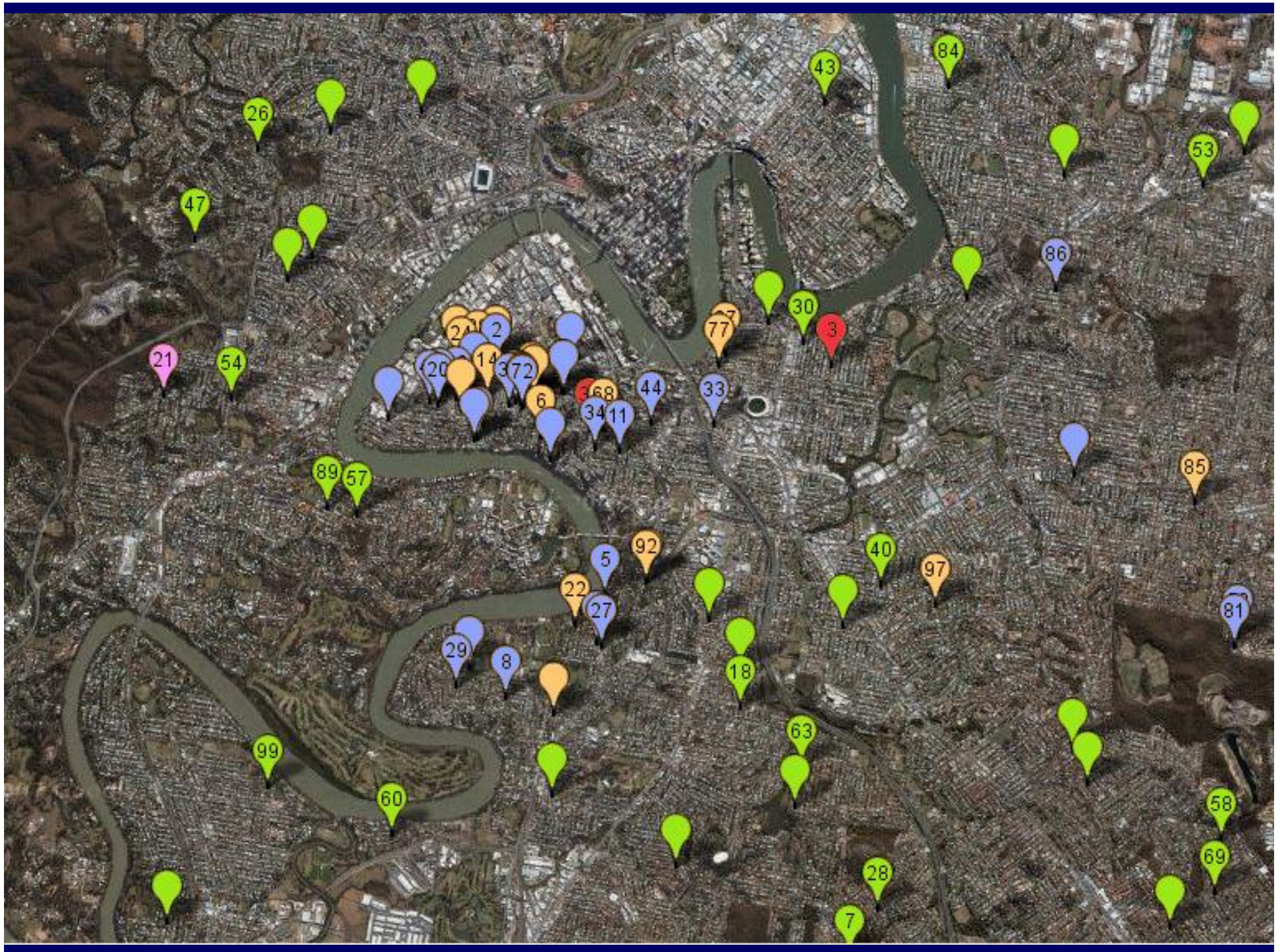
The Local Power Buying Group

- Quality components (sharp, fronius etc.)
- Good prices due to
 - Buy lots of components
 - Install them close to each other
 - Not for profit admin & project management
- Wanted to offer under \$2000 1kW entry level
- 150 signups – had to close it early
- 200kW worth of systems
- 20+ tonnes of panels, inverters, frames etc.

Local Power Buying Group Offer

fully installed cost* without PVRP financing fee								
system name	cost of system	deposit payment	balance payment	total upfront payment	PVWP rebate	cost less PVWP	cost less PVWP and REC at \$15	cost less PVWP and REC at \$39
1kW	\$10,461	\$1,500	\$8,961	\$10,461	\$8,000	\$2,461	\$2,146	\$1,642
1.5kW	\$14,906	\$2,500	\$12,406	\$14,906	\$8,000	\$6,906	\$6,426	\$5,658
2kW	\$19,100	\$3,500	\$15,600	\$19,100	\$8,000	\$11,100	\$10,455	\$9,423
3kW	\$26,361	\$5,500	\$20,861	\$26,361	\$8,000	\$18,361	\$17,386	\$15,826
fully installed cost* with PVRP financing fee								
system name	cost of system	deposit payment	balance payment	total upfront payment	PVWP rebate	cost less PVWP	cost less PVWP and REC at \$15	cost less PVWP and REC at \$39
1kW	\$10,626	\$1,500	\$1,126	\$2,626	\$8,000	\$2,626	\$2,311	\$1,807
1.5kW	\$15,071	\$2,500	\$4,571	\$7,071	\$8,000	\$7,071	\$6,591	\$5,823
2kW	\$19,265	\$3,500	\$7,765	\$11,265	\$8,000	\$11,265	\$10,620	\$9,588
3kW	\$26,526	\$5,500	\$13,026	\$18,526	\$8,000	\$18,526	\$17,551	\$15,991







Some principles

- Community based not for profit
- Keep things simple
- Make it affordable

Some principles

Community based not for profit

- We wanted PV solar for our own homes
- Lots of our friends, neighbours & others did too
- Why not join together and buy in bulk?
- Luckily we got some media coverage to spread the word
 - Local paper - front page with photo
 - ABC news
 - TEN news

Some principles

Keep things simple

(except for the paperwork! 😊)

- Research & get good advice
- Put a complete offer “out there”
- PVRP pre-approval (front/back license, rates)
- Energex application to connect (electricity bill for NMI, serial numbers)
- PVRP installation report (certificate of test, photos, tax invoice, circuit diagram, bank details for rebate payment)
- REC paperwork (tax invoice, serial numbers, bank details for REC payment)

Some principles

Make it affordable

Reduce people, time and travel costs

- Try to have an informative website & FAQ - to help minimise queries
- Primarily email interactions - so we can answer when we have “time to spare”
- Answering service – voice messages emailed
- Clustering of site inspections
- Clustering of deliveries and installations

Some principles

Make it affordable

Try to make it accessible to less well off

- Many could not pay \$4500+
- LP offered to carry the PVRP rebate for a fee
- Asked people who could carry it themselves to do so
- Larger systems had a larger fee

Didn't do well

- Catering for people not on the Internet
- Probably made fees too low

Some principles

Make it affordable

Try to “work smarter”

- Self assessment checklist on the website
- Detailed website signup
- Collect a deposit to be in the group
- Payment in full just before installation
- Internet based processes behind the scenes
 - Google notebook & docs for collaboration
 - Digital photos for capturing onsite information
 - Document pdf scanner to save paper
 - Google maps for clustering
 - Lots of emails, “mail merge” and spreadsheets

Some challenges

Complexity Kills!

Panels – mono, poly, amorphous, 24V, 16V, ...

System size - 1kW, 1.5kW, 2kW, 3kW, ...

Inverters - upgrade & external model options

Tin or tile or ??? roof

Finance PVRP rebate or not

Tilting frames - south facing & flat roofs

We **didn't** do SAPS (i.e systems with batteries)
panels for pumping, camping, selling just
component kits etc.

Some challenges

Complexity Kills!

People like to change their :

Minds about system size & which roof

Roofs (replace them “just in time”)

Homes (both renovate existing and move house)

Email addresses

Inspection day

Installation day

Some challenges

Chicken and egg!

- You can get a good price if you know how many you want to buy
- You can't get people interested to buy until you can tell them a good price
- Local Power? Who are you again?

Some learnings – People...

- will buy PV if it's under \$2000
 - will buy a bigger system if its affordable
 - like the ability to expand their system
 - are accommodating to a community group
 - have or are considering solar hotwater
 - like to be part of a community group!
 - probably trust a community group more
 - think the state government bulk buy copied LP
- 😊

PVSRP/SHCP program

- Global goal for PV is grid parity cost per kWh. (Google says RE < C)
- PVSRP started in January 2000
- \$5.00/Watt capped at \$7500 -> **Boom!**
- In 2003 “to slow demand” became \$4.00/Watt capped at \$4000 -> **Bust.**
- May 2007 - \$8.00/Watt capped at \$8000 -> **Boom!**
- May 2008 - means tested @ \$100K family income -> **Bust?** (remained high so far)

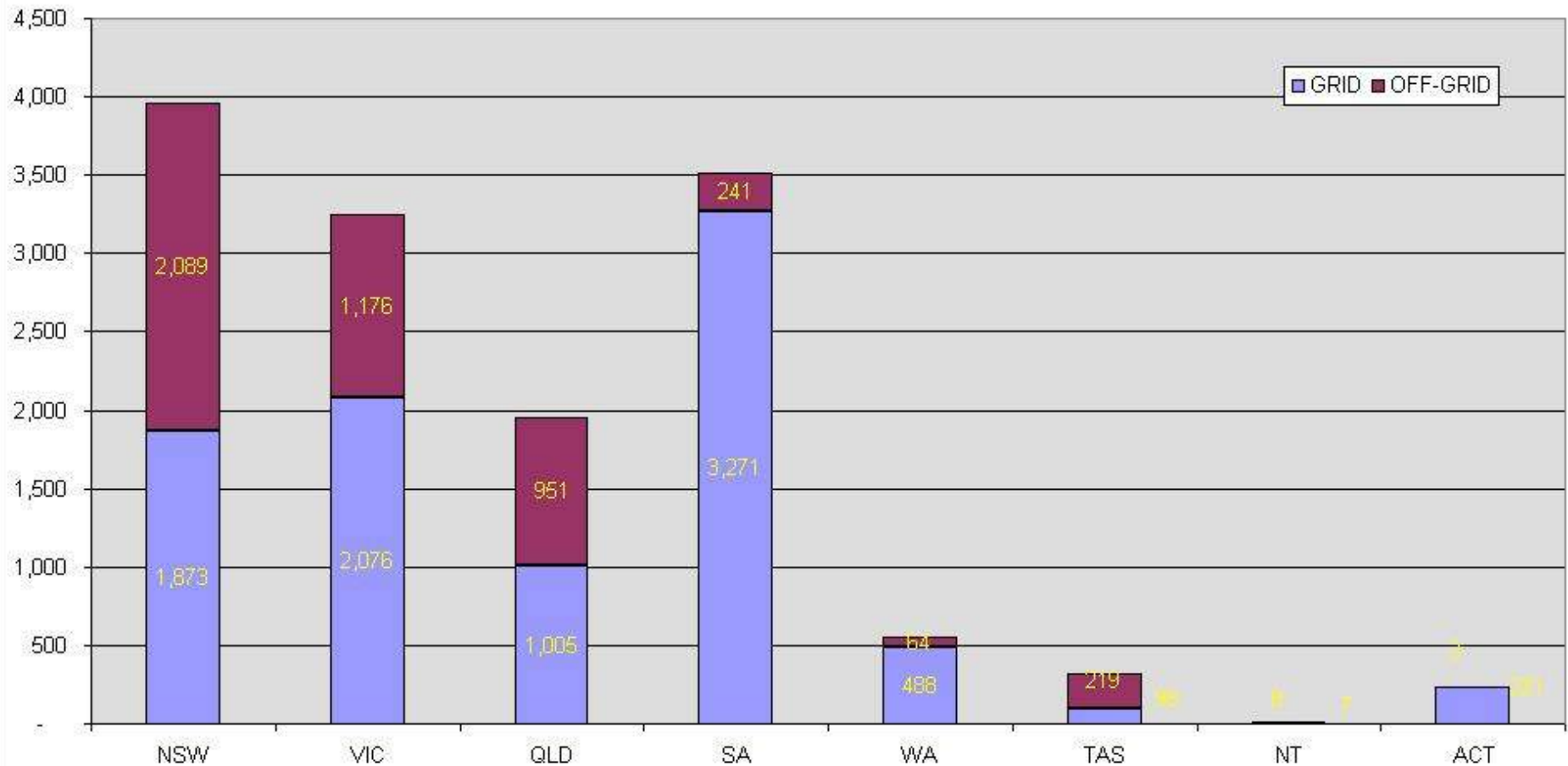
PV solar take-up in Australia



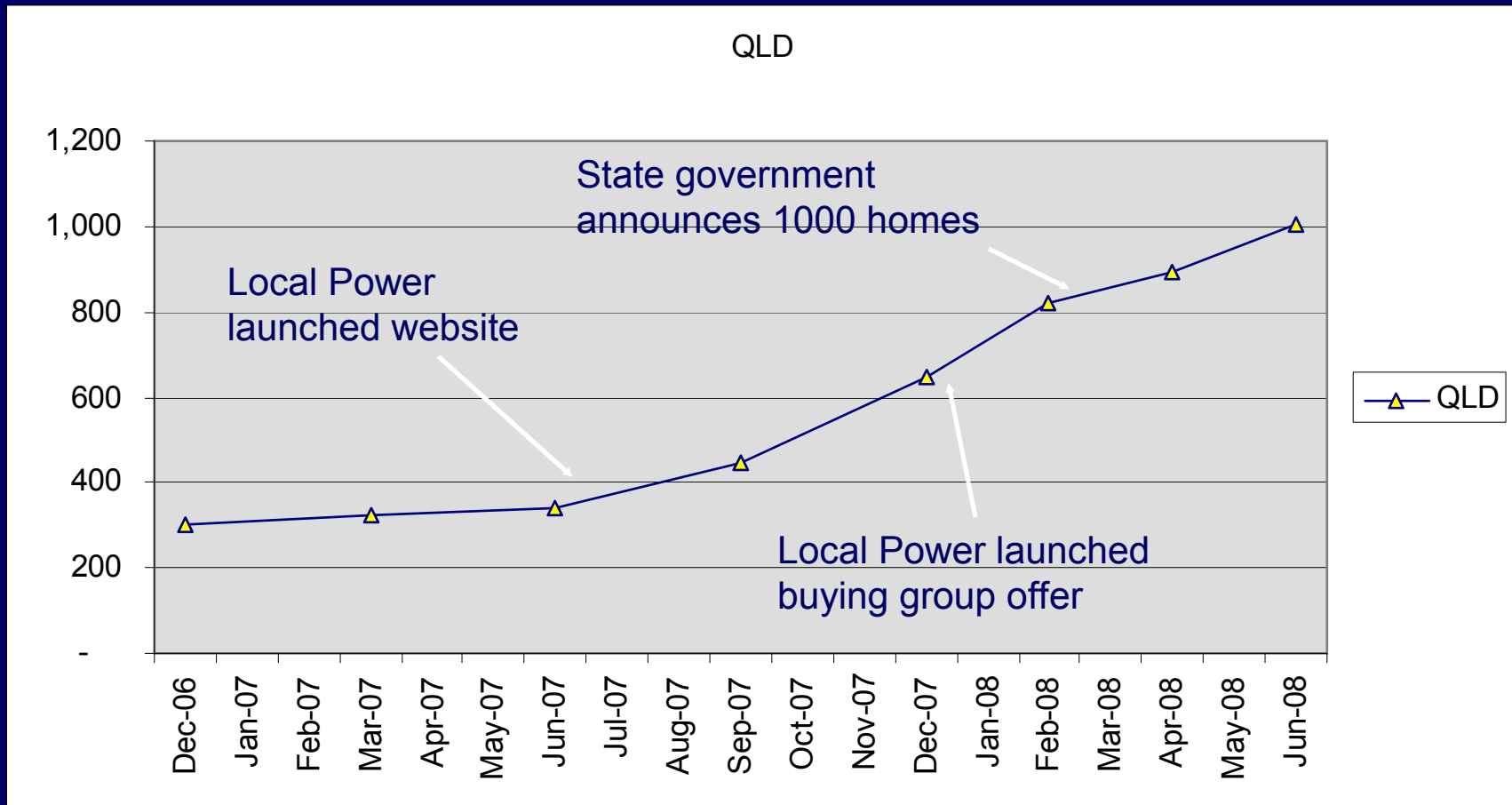
Australian Government

Department of the Environment, Water, Heritage and the Arts

Number of Systems Installed by State
to June 2008



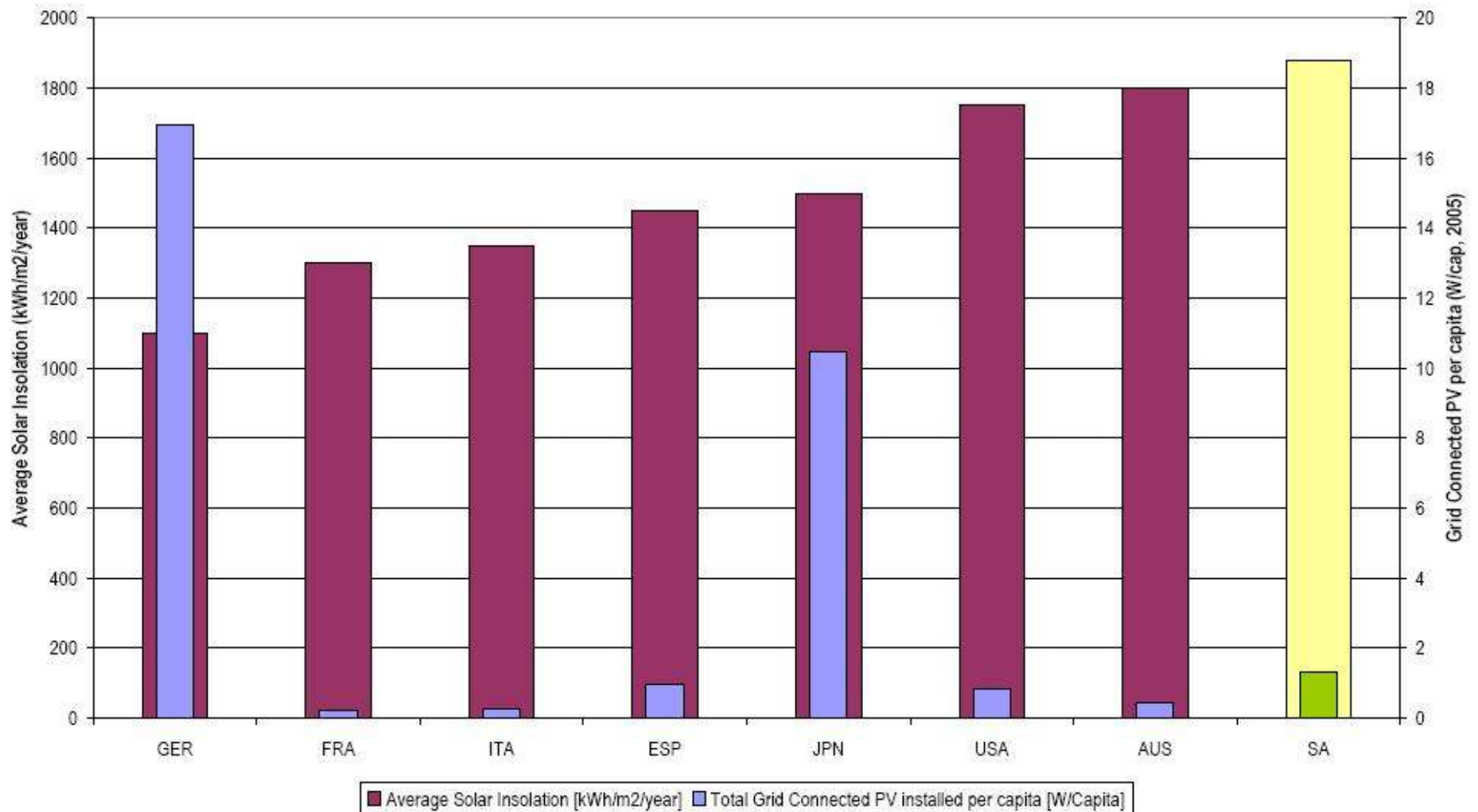
PV solar take-up in Queensland



Feed-in tariff

- Gross metering – get paid a premium for **all kWh** you generate
- Import-export metering – get paid a premium only **for kWh you export** to the grid
- 12 reasons why gross is better (see LP website)
- SA, Qld. – 44c import-export
- Vic. – 60c import-export (capped at 2kW)
- ACT – 3.88x gross
- WA – ALP policy was gross (but they lost)
- Will a “national approach” save us?

PV solar take-up globally per capita



Any Questions?



localpower.net.au

25 September 2008