



## Solar Water Heaters



Evacuated Tube System



Flat Plate System



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Evacuated Tube System



## Larger Scale Systems in NZ

Motels  
Hotels  
Rest Homes  
Health Centres/Gyms  
Laundromats  
Dairy Sheds  
Schools  
Bakeries



High school pool complex Otautau



## Really Big Systems



Novotel Hotel, Homebush, Sydney



## Some Benefits of Solar

Saves an average of 2,400 kWh/year/house electricity

Saves \$350 - \$400 per year at **current** electricity prices

Prevents CO<sub>2</sub> emissions of almost 30 tonnes each house, life of system (0.6 kg/kWh)

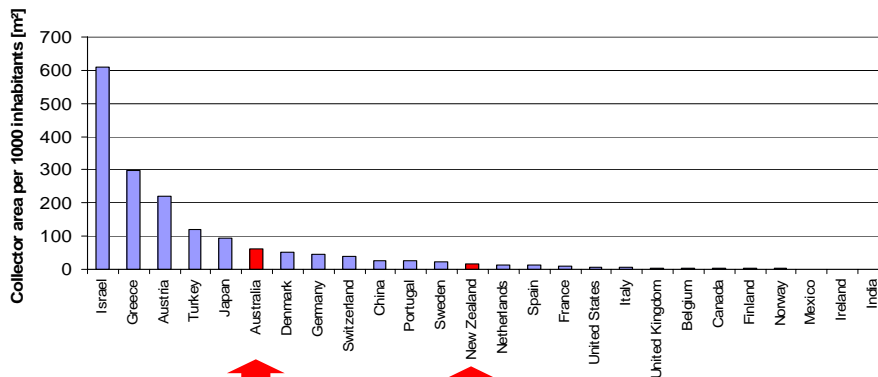


4 m<sup>2</sup> flat plate collector with horizontal tank



## Global Uptake of Solar Water Heating

Total: Glazed flat plate and evacuated tube water collectors in IEA countries per 1000 inhabitants in 2001



## Here Comes the Sun

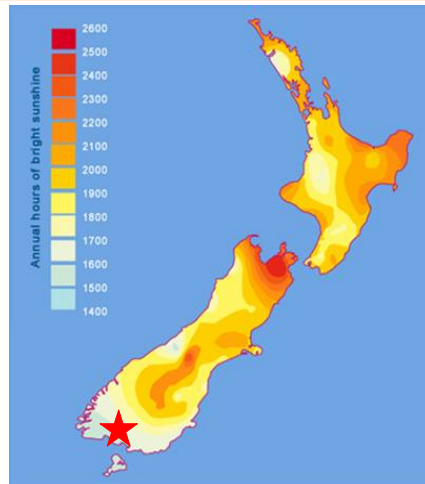
Average about 2000 hours of bright sunshine a year

- Invercargill 1,615h
- Christchurch 2,000h
- Blenheim 2,450h

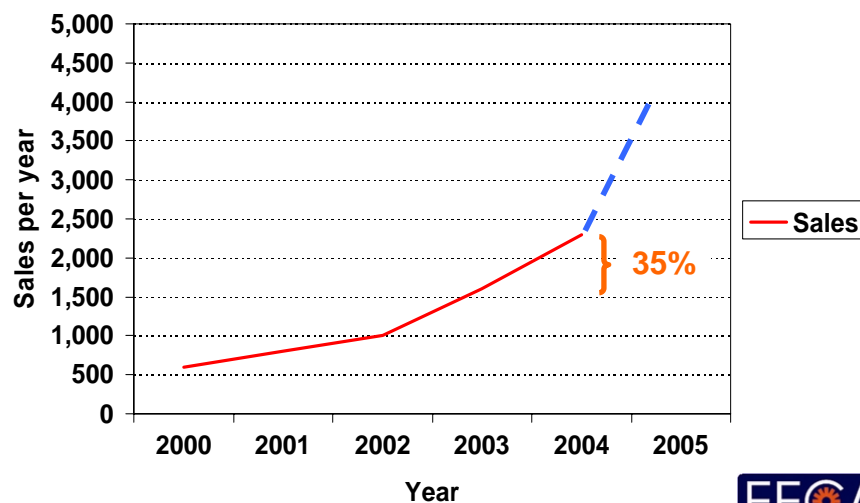
Germany 1,600h average

Spain 3,000h average

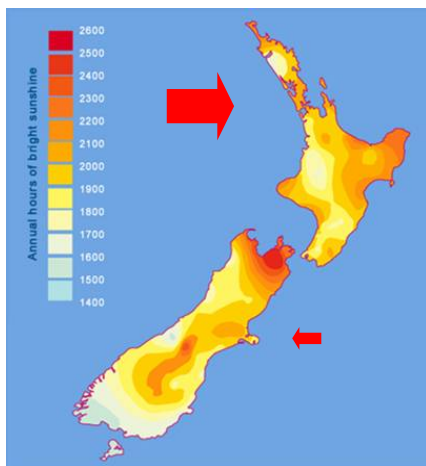
Yuma, Ariz. 4,055h average



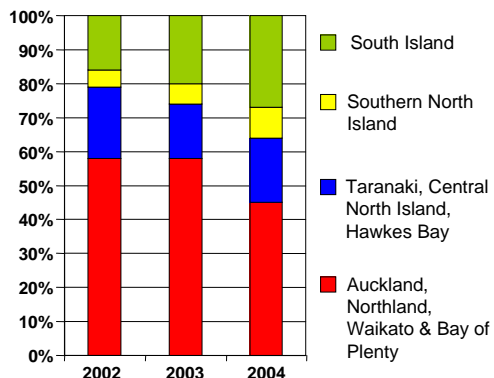
## What is rate of uptake in NZ?



## Regional Sales

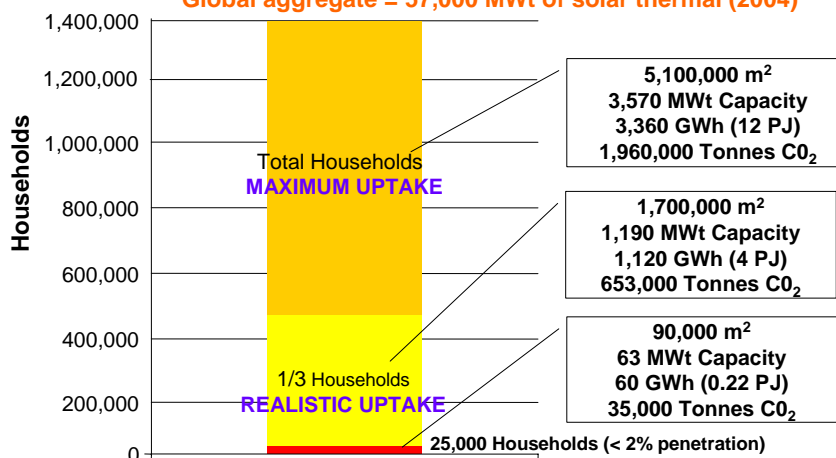


Which regions are getting behind solar?



## New Zealand Potential for SWH – Household Market

Global aggregate = 57,000 MWt of solar thermal (2004)



Conversion factor = 0.7 kWt/m<sup>2</sup>



## Solar Water Heating on New Buildings

### Building Act 2004

- Greater consideration of renewable energy and energy efficiency in new buildings

### Building Code - Must respond to the Act

- Minimum home energy performance standards
- Solar water heating may be one 'acceptable solution' to meeting requirements of Act

**Potential: 30,000 new homes per year plus other buildings**



## EECA's Finance Assistance Programme 2004/05

### Interest Free Loans

- Industry wide finance scheme - single finance provider (FAI Finance Ltd)
- Up to 36 months interest free
- Borrow \$7450 for 12 months interest free
- EECA provides up to \$450 per unit to cover finance costs
- Funding approximately 450 systems (\$200,000)

***Launched 15 November 2004***

***This round ends 30 June 2005 or until funds spent***

***An ongoing programme!***



## Crown Energy Efficiency Loans Scheme

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Suitable for council buildings

- Funds investments in energy efficiency and renewable energy in publicly funded organisations (government departments, local authorities, crown owned companies, hospitals, schools, etc)
- Only energy efficiency projects were eligible until recently
- **Now renewable energy projects are eligible**

*Solar water heating projects can now qualify!*



## Crown Energy Efficiency Loans Scheme

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\$2 million loan fund available each year

Up to \$200,000/project

Repay over 3-5 year period

Loan fee

- 10% of the first \$100,000 plus
- 6% of amounts over \$100,000
- Effective finance rate < 6.6%

Apply to EECA before the 4<sup>th</sup> April



## What else can councils do?

### Barrier to uptake of Solar Water Heating

#### Building Permits

**Problem** – high prices, obstructive building inspectors due to lack of knowledge about safety issues, lack of awareness of industry installation standards and requirements (Code of Practice)

**Solution** – Producer statements, auto sign-off after several good installations, best-practice guide...other ideas?



## Councils Getting Involved

### Santa Clara - California

The City offers a 'green' water heating service

- Equipment (collector, cylinder etc) are owned and maintained by the Council under rental agreement
- Renter pays monthly fee
- Programme promoted through newsletters enclosed with the power bill, the power company's web site, and customer referrals



## Councils Getting Involved

### Maui – Hawaii

Maui Electric Company and the County Government: 'Maui Solar Roofs Initiative'



- The County Govt designated \$450,000 for revolving fund for interest free loans for installation of solar water heating
- Homeowners eligible, with down payment equal to 35% of system cost
- Loan payments are based on expected monthly savings



## Councils Getting Involved

### What can you do?

- Market solar water heating to your rate-payers (websites, newsletters, mailouts)
- Promote EECA's Finance Assistance as a solution
- Think about innovative ways to make your region a leader in solar water heating
- Lease-to-buy option? Payments through rates?
- Councils owns and maintains systems, and rents the services

### How can EECA help you?

- We work very closely with the industry
- We can offer finance assistance
- We can offer marketing and promotion support



# Improving energy choices

[www.eeca.govt.nz](http://www.eeca.govt.nz)

