



Solar Water Heating Is On The Move

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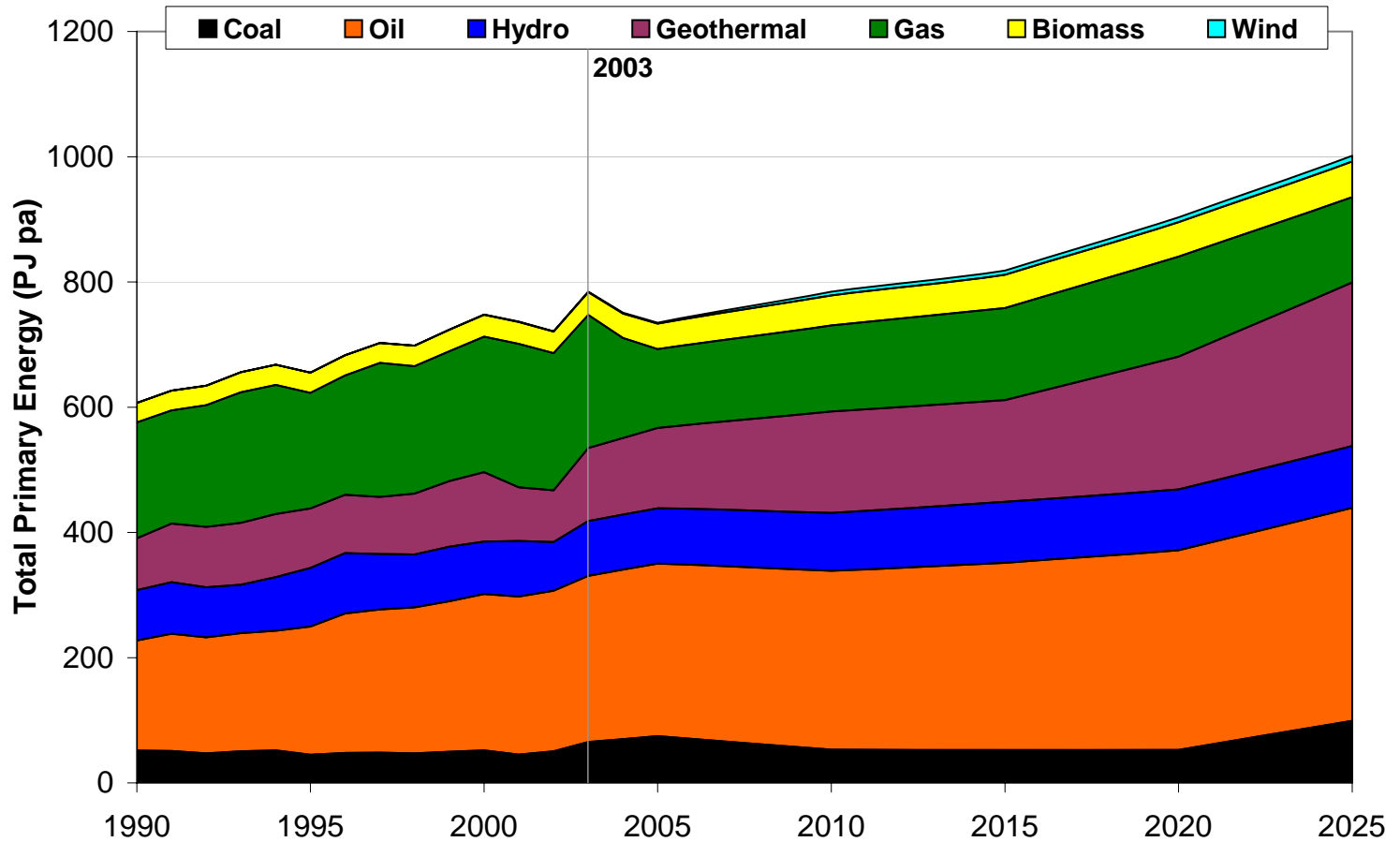
Presentation to IEA Solar Heating and Cooling Programme Meeting,

18 November 2003

Energy Market - Major Transition Period

- **Era of cheap energy has now gone**
 - especially with depletion of Maui gas field; very large, plentiful, and cheap
 - number of energy intensive industries were set up to take advantage of cheap energy
- **New and replacement energy is much more expensive**
 - new gas, coal, geothermal, wind, solar and hydro
 - more constraints on new projects than in the past
 - but we have many generation options in the longer term
- **Energy market players on a step learning curve**
 - new forms of contract
 - structural rigidities
 - customers incentivised to manage energy costs
 - opportunities for new players / activities

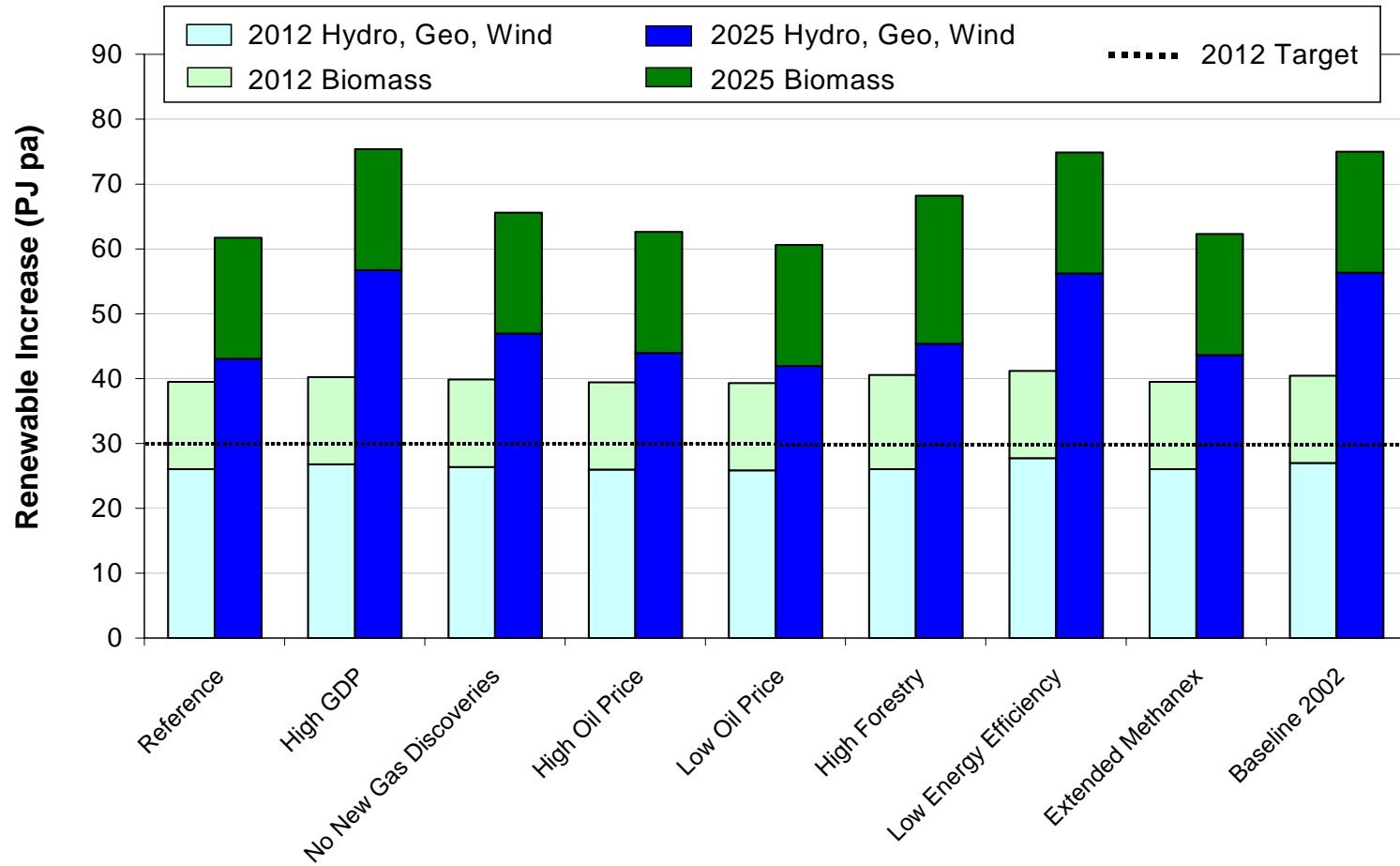
Total Primary Energy Supply 1990-2025



Government Policy - Solar

- National Energy Efficiency and Conservation Strategy
 - Significantly improve the energy efficiency of residential heating systems
 - Accelerate development of the solar water heating industry
 - Development of a Home Energy Rating Scheme (HERS)
 - Crown Energy Efficiency Loan Scheme
- Renewable Energy programme
 - Partnership with Solar Industries Association
 - Solar Water Heating Action Plan
 - Target - 10,000 new systems per year
 - Market transformation
 - Quality standards - training, skills, accreditation, Code of Practice
 - Government purchase programme
 - Interim bid-in support fund
 - Effective public information
- Climate Change
 - Small /Medium enterprises programme

Renewables Uptake to 2012 and 2025



Solar Industries Association

- Solar water heating manufacturers and suppliers industry group
- Quality systems
 - Code of Conduct and Responsibility
 - Accreditation for manufacture or supply
 - Certification for installation
 - Establishment of manufacture and performance standards
- Collective promotion
- Partnership with Government to grow solar water heating
- Target installation of 30,000 m² new systems per year by 2005
(8-10 fold increase)

Three Year Action Plan

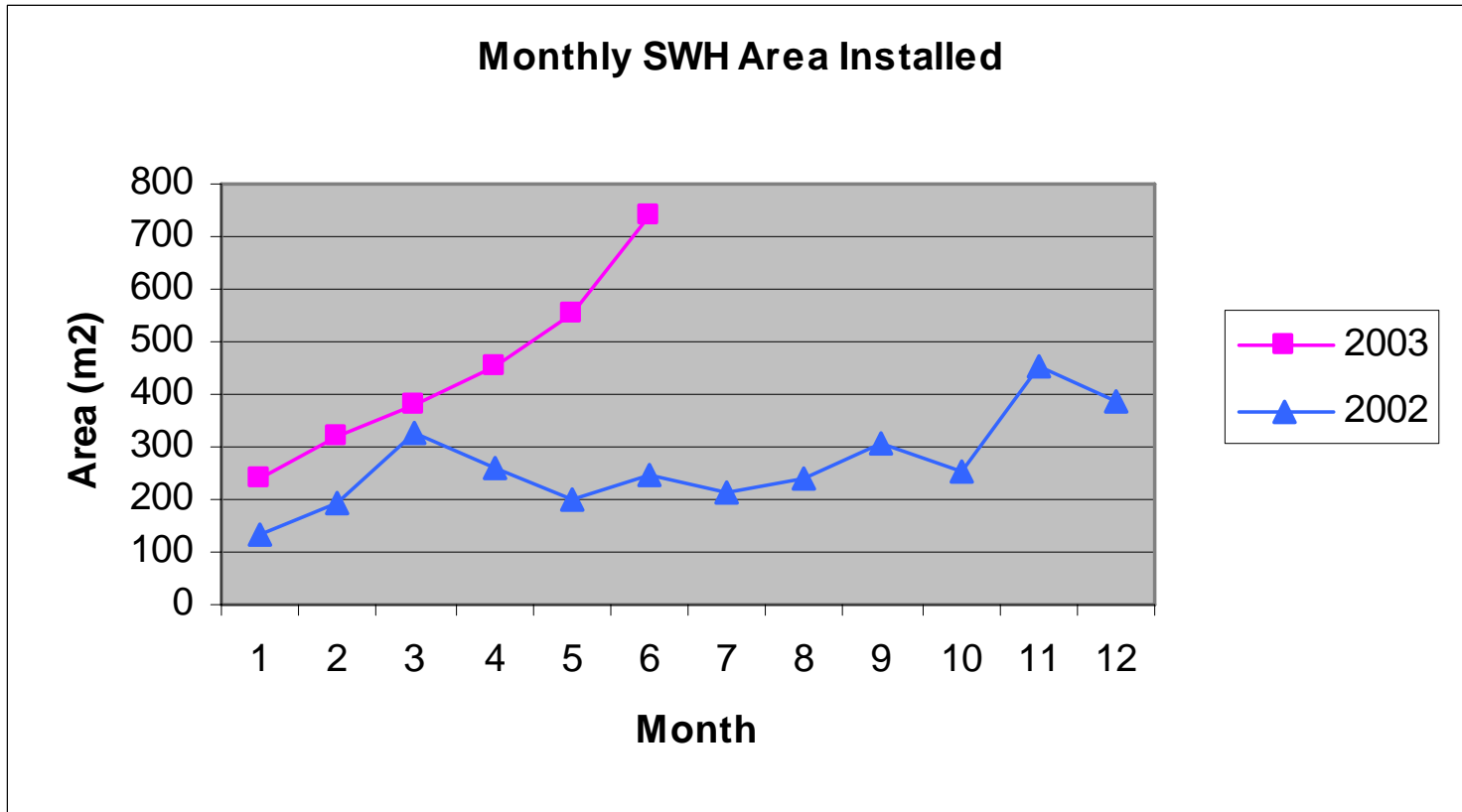
- Industry Capacity Building
 - Mass residential market
 - Accreditation
 - Code of Practice
 - Energy rating building code
 - Certificate of SWH installation
- Focus on large volume energy installations
 - Working with building professionals
 - Large volume hot water applications – prisons, rest-homes, hospitals
 - Industrial – dairy, kiln drying
- High temperature applications

A Growing Industry

- SIA membership increased 250%
- Active involvement of members
- 298 listed on contacts database
- Stronger support from Government
- Capacity of industry to deliver is growing
- Capacity building is based on quality

Target of 30,000m² of new panels installed per year

40% Annual Growth



Installation

- Shortage of skilled installers
- Few problems with product, any problems generally relate to installation
- Some suppliers use only in-house installers to ensure quality, others draw on strengths of local plumbers
- Certificate for SWH Installation
- Working with plumber training organisations to upskill plumbers knowledge of solar water heating systems
 - Apprenticeship
 - Up-skilling registered plumbers
- Need to develop working relationships between suppliers and installers
- Opportunity for plumbers to expand their business

Accreditation

- SIA administers an industry accreditation scheme
- Accreditation is performance based
- Accredited SIA members are encouraged to use the logo



- The public are encouraged to purchase only from an accredited SWH supplier

Code of Practice

- “Code of Practice for Manufacturing and Installation of SWH Systems in NZ”
- The industry is focusing on performance based quality systems
- Code is also to give assurance to SWH system purchasers on what they are buying and how it should be installed
- Code is openly available on the website
- Code covers building structure and building permit requirements which have been unclear until now

Commercial and Industrial Applications



- Motels / Hotels
 - Resthomes
 - Motor camps
 - Institutions (hospitals, hostels, prisons etc)
 - Industrial hot water (freezing works, dairy factories)
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- ❖ Often used as a preheater to other heat generators
 - ❖ Heat from solar can be supplied at 4-5c/kWh cf coal and gas at around 4c/kWh

Next Steps

- Increased promotion
- Working with building professionals
- Household energy rating
- Focus on large volume hot water applications
- Certificate for SWH Installation

30,000m² of SWH panels per year

**All Government facilities (prisons, hospitals etc) use
SWH by 2010**

**Energy rating requirements of new residential buildings
by 2010**

Residential SWH installation requirements by 2015