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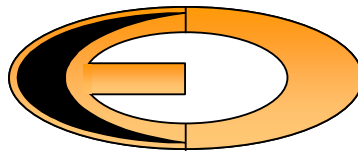
AUSTRALIAN GREENHOUSE OFFICE

For

AIR CONDITIONING CHALLENGE – PROGRAM OPTIONS

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AIR CONDITIONING CHALLENGE – PROGRAM OPTIONS

PURPOSE

The AGO want to investigate voluntary measures for encouraging energy efficiency air conditioners and ways that government can assist industry in marketing these products. The purpose of this paper is to engender debate on what the government can do to help industry with particular regard to:

- **Education** projects targeting the industry and potential consumers encouraging selection beyond “first cost” considerations to include efficiency considerations.
- **Technical Assistance** projects that effectively promote efficiency in air conditioning and schemes to market this information to the end user.

Based on research of voluntary energy efficiency programs operating in Australia and overseas which target air conditioning, this paper presents a list of program options/ideas to canvas with the AC industry in Australia. It also provides an assessment of the most cost effective options/ideas.

APPROACH

The approach involved an extensive internet based research effort concentrating on the following program types in relation to AC:

- Information targeting consumers including:
 - Simple education materials on how to select efficient AC systems
 - Comparison data on available products/services
 - Interactive www sites to assist selecting efficient AC systems
- Training/accreditation assistance for energy efficiency promotion targeting the AC industry (suppliers, wholesalers, retailers and other market intermediaries).

The internet search focused specifically on government and industry specific sites in Australia, North America, Europe and to a limited extent, Asia.

The review of overseas and Australian WWW sites revealed that program types could be grouped into the following categories:

- **Standards and codes**, such as the Minimum Energy Performance Standards (MEPS) for AC and energy labelling as part of industry practice
- **Financial assistance**, such as tax incentives, rebates,
- **Technical assistance**, such as interactive web sites and training/seminars
- **Information provision**, directories, general energy efficiency tips, lists of equipment or service providers

For the purpose of this options paper, the categories under focus are only technical assistance programs and information provision programs. Financial assistance programs were not specifically reviewed, as Australia presently does not have access to public or private sector funds of a size that could support rebates, incentives and other financial benefits. Mandatory standards and codes were not specifically reviewed as the Australian Greenhouse Office undertakes periodic reviews of such programs (when Governments contemplate imposing minimum energy performance standards upon industry). A review is in the final stages of approval as at early 2001.

Finally, an assessment of the programs found were undertaken based on the following categories:

- Countries in which Implemented & Implementing Agency:
- Targeted Users
- Targeted Equipment
- Australian Options
- Potential lead Implementing Agency:
- Usefulness/Relevance to Australia
- Costs
- Assessment:
- Overall Priority

ASSESSMENT

Program Types

A table presenting the types of programs and in which region or country the program is present in is shown below. The table provides a summary of the types of programs available in relation to AC and gives a snapshot of what is being undertaken overseas in comparison to Australia.

Program Types	Region/Country			
	USA	Canada	Europe	Australia
Codes/Standards:	♦	♦	♦ (In progress)	♦ (In progress)
Technical Assistance:				
AC Software	♦	♦		
Selection Tools				
Training/Seminars	♦	♦		
Interactive Web Sites	♦	♦		
Information:				
On line Product Directories	♦		♦	
Awards/listings of Products	♦			♦
Directories of Service Providers			♦	♦
Brochures/Efficiency Tips	♦			♦

The Australian program could include projects from any or all of these areas.

Potential Program Options and AGO Assessment

The program options presented below have been ordered based on their overall priority.

<i>On-line Product Directory</i>	
Countries in which Implemented & Implementing Agency	USA, ARI EU, Eurovent
Targeted Users	Market Intermediaries Commercial and some residential
Targeted Equipment	Packaged, Split, Chillers, etc
Australian Options	
Potential lead Implementing Agency	AREMA, as they have the paper copy of certified products
Usefulness/Relevance to Australia	Highly relevant
Costs	Development: \$10,000 - 20,000, depending on the interactive nature of the site On-going: Perhaps \$2,000 pa, as most of the data should be updated on the WWW site automatically with the update of the existing printed version
Industry Contribution	Provision of data on certified products, ongoing management of website
Assessment	Printed version is currently distributed by AREMA. No electronic on-line version exists in Australia. The information service can be highly useful for the mechanical services industry, as they can find the most up-to-date certified ratings for several AC types and compare COP's and output capacities. There seems to be a need for this service, as it is highly regarded in the USA and now established in Europe. The industry is the most appropriate implementing agency, however the AGO can provide seed funding for the development of the On-line site.
Overall Priority	High

Training/Seminars on Energy Efficiency

Countries in which Implemented & Implementing Agency	USA – through ASHRAE, ARI Canada – through HRAI
Targeted Users	Market Intermediaries
Targeted Equipment	All AC related systems
Australian Options	
Potential lead Implementing Agency	AGO and/or ISR with: - AIRAH - AREMA
Usefulness/Relevance to Australia	Relevant. AIRAH has regular professional development seminars. In the USA and Canada, energy management/energy efficiency are highly covered seminar topics and are provided by industry organisations, as well as government agencies
Costs	\$20,000 for development of course materials and pilot delivery of first course. User pays for future courses or subsidised by industry group, or further AGO funding for additional subsidised courses
Industry Contribution	Provide input into the development of course materials, provide training course and subsidise course running costs
Assessment	The provision of training is targeted to the engineers/contractors and retailers are highly desirable. It addresses one of the first significant barriers to energy efficiency – the lack of information. The training of module developed could be used as a guide for other end-uses targeted by the AGO (i.e., lighting or motors) and integrated into the ISR EEBP.
Overall Priority	High

Award/Listings of Products

Countries in which Implemented & Implementing Agency	USA, ACEEE Australia, Galaxy Awards
Targeted Users	Market Intermediaries (ACEEE) Residential, small commercial consumers (ACEEE)
Targeted Equipment	Window AC, Split and Central AC
Australian Options	
Potential lead Implementing Agency	SEAV/SEDA/AGO
Usefulness/Relevance to Australia	Highly relevant, as it would be an extension of the Galaxy Awards to the ARI Certified Products
Costs	Marginal - \$1000 – 5,000
Industry Contribution	Support to facilitate wider marketing of the award program to market intermediaries and consumers.
Assessment	<p>The Galaxy awards by SEAV/SEDA/AGO is currently the only award program that covers AC in Australia. With additional funding support it could be extended to larger capacity/commercial sector units. Cooperation from relevant agencies in other states would ensure that these awards were a truly national representation of AC equipment.</p> <p>The greatest opportunity for industry by extending the Galaxy awards is the benefits obtained from greater public awareness of efficient equipment and could therefore potentially increase the demand for efficient AC equipment. Extending the program to the commercial sector may offer opportunity to raise awareness among market intermediaries of efficient products.</p> <p>The extension of the program would be limited to units that compete in the domestic market and possibly not the entire range of packaged air conditioners.</p>
Overall Priority	High

AC Software Selection Tools

Countries in which Implemented & Implementing Agency	<p>Canada: Team HVAC/Toolbox for HVAC Contractors, NRCan with:</p> <ul style="list-style-type: none"> - Heating, Refrigerating and Air Conditioning Institute of Canada (HRAI) - HVAC manufacturers - Wholesale distributors - Canadian energy utilities <p>USA: Various tools, mostly for energy performance modelling</p> <ul style="list-style-type: none"> - See www.eren.doe.gov/buildings/energy_tools/
Targeted Users	Market Intermediaries, for use with residential consumers
Targeted Equipment	Central AC, Window and Split AC
Australian Options	
Potential lead Implementing Agency	<p>AGO or ISR with:</p> <ul style="list-style-type: none"> - AIRAH - AREMA
Usefulness/Relevance to Australia	<p>Relevant.</p> <p>The Canadian approach integrates all the players in the supply chain (equipment supplier, installers) and provides the contractors with an agreed software selection tool for selling energy efficiency.</p> <p>USA software has mostly detailed system performance calculations involved, which are over complicated for the residential market – hence less relevant.</p> <p>The Australian market does not have such a segmented supply chain, compared to the USA/Canada with Suppliers – Distributors – Contractors, where contractors are specifically targeted and are a key influence in the choice of equipment. In the Australian market, both retailers and contractors would be good targets for the tool.</p>
Costs	\$30,000 - \$100,000 depending on specification/coverage
Industry Contribution	TBA.
Assessment	<p>If the software is developed primarily for Cooling only, as many AC contractors are installing AC in the residential market. Some experience in Australia with the Australian Motors System Challenge could be used to explore the usefulness of an AC Selection Software tool for AC Contractors/retailers.</p> <p>This has a potential benefit for Australian retailers/contractors by displaying the energy cost savings of more efficient equipment to the consumers</p>
Overall Priority	High

Directory of Service Providers

Countries in which Implemented & Implementing Agency	Singapore, Grace Publications Europe, Eurovent (European Association of Air Handling and Refrigeration Equipment Manufacturers) Australia, SEDA, Energy Smart Allies Directory
Targeted Users	Primarily Market Intermediaries and secondly end users
Targeted Equipment	All AC related equipment and service providers, highlighting energy efficient products/services
Australian Options	
Potential lead Implementing Agency	SEIA or SEDA – Energy Smart Allies for integration with other service providers OR: AREMA/AIRAH: for development with an Online Certified Equipment Directory or as a Buyers Guide
Usefulness/Relevance to Australia	Relevant and could easily extend the exiting Australian databases
Costs	\$2,000 – 5,000 depending on the source of the information
Industry Contribution	TBA
Assessment:	<p>SEDA's Energy Smart Allies Program is currently the most comprehensive directory of service providers in Australia. SEIA is currently compiling a national database of all the players in the sustainable energy industry, including all Allies. The information will be used in a comprehensive Sustainable Energy Industry Yearbook 2001, which will be launched early in 2001. It will replace www.energysmartallies.com, which will continue to be updated until the changeover.</p> <p>Support to SEIA or the air conditioning industry to ensure extensive coverage of AC market intermediaries would be highly beneficial to the AC industry and a necessary part of increasing the prominence of manufacturers of efficient units in the marketplace.</p>
Overall Priority	Medium

Brochures/Energy Efficiency Tips

Countries in which Implemented & Implementing Agency	USA, DoE Canada, NRCan Australia, SEDA, SEAV
Targeted Users	Residential and Small commercial end users
Targeted Equipment	Small AC equipment and systems
Australian Options	
Potential lead Implementing Agency	SEDA, SEAV
Usefulness/Relevance to Australia	Highly relevant
Costs	\$2,000 - \$5,000 marginal costs for material for WWW and copy/graphics for brochures; to be printed by the state agencies. Total costs may be \$20,000 for the initial project plus the cost associated with the on-going commitment to update over time
Industry Contribution	TBA
Assessment	SEDA and SEAV are currently providing information on the internet and supply brochures on improving energy efficiency. The information is aimed at residential and business consumers and extends far beyond AC. Further support to SEDA and SEAV to extend information provided to include more detailed information on AC could be beneficial, particularly if incorporated into other AC information sources such as directories and service provider directories
Overall Priority	Medium

Interactive Web Sites

Countries in which Implemented & Implementing Agency	USA – DOE EREN: Ask an Expert Canada – NRCan www.hvac.nrcan.gc.ca/calculator/
Targeted Users	Consumers
Targeted Equipment	AC and other equipment (for the USA)
Australian Options	
Potential lead Implementing Agency	AGO or States with: - AIRAH - AREMA - EnergySmart Allies
Usefulness/Relevance to Australia	Relevant. The use of the software depends on how important the on-going running costs of AC are to the consumer. However, such simple interactive sites can alert the consumer to the size of the AC running costs. To certain extent, the site www.EnergyRating.gov.au provides running cost information and this site would have to be different or interact with the Energy Rating site. The usefulness would be greater if the interactive site helps consumers select the appropriate size or type of AC, and illustrates the differences between good system design/location of components.
Costs	\$5,000 - 10,000 for development of site
Industry Contribution	TBA
Assessment	The provision of training is targeted to the engineers/contractors and retailers are highly desirable. It addresses one of the first significant barriers to energy efficiency – the lack of information. The training of module developed could be used as a guide for other end-uses targeted by the AGO (i.e., lighting or motors) and integrated into the ISR EEBP.
Overall Priority	Medium

APPENDICES

The following appendices have samples of the web sites relating to the types of programs.

- [On line Product Directories](#)
- [Training/Seminars](#)
- [Awards/listings of Products](#)
- [AC Software Selection Tools](#)
- [Directories of Service Providers](#)
- [Brochures/Efficiency Tips](#)
- [Interactive Web Sites](#)