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Comment on Implementation of Ecologically Sustainable Development by Commonwealth Departments and Agencies

Attached is comment on the Productivity Commission's report, *Implementation of Ecologically Sustainable Development by Commonwealth Departments and Agencies*, by the Domestic Energy and Environment Branch, Energy and Environment Division, Department of Industry, Science and Resources. Following discussion with Barbara Aretino, we were advised that a response this week by email would be acceptable.

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Implementation of Ecologically Sustainable Development by Commonwealth Departments and Agencies

Comment by Domestic Energy and Environment Branch, Energy and Environment Division, Department of Industry, Science and Resources

The following is comment on pages 51, 55, 58 and 65 of the draft report relevant to responsibilities of the Domestic Energy and Environment Branch, viz Improving Energy Efficiency in Commonwealth Operations. The draft report should make appropriate reference to the following initiative.

Improving Energy Efficiency in Commonwealth Operations

In his 20 November 1997 announcement "Safeguarding the Future: Australia's Response to Climate Change", the Prime Minister set out a number of policies to reduce greenhouse gas emissions. Included in this package is a policy *Measures for Improving Energy Efficiency in Commonwealth Operations*, to reduce emissions from the Commonwealth Government's own operations by adopting measures that will improve energy efficiency. The Department of Industry, Science and Resources (ISR) and the Australian Greenhouse Office (AGO), through the Energy and Environmental Services Team (EEST), have joint responsibility for implementing the policy.

The Government's decision, requires Heads of Departments and substantially budget dependent Agencies to be accountable to their Ministers for improvements in energy performance. Commencing end-October 1998, Department and Agency Heads are required to report annually to their Ministers on energy performance and from this data a whole of government performance report will be prepared and published. The first whole of Government energy report was tabled in Parliament December 1998. This

report will be used to assess progress toward energy intensity targets which must be met on a portfolio wide basis by 2002-2003.

The policy document, *Measures for Improving Energy Efficiency in Commonwealth Operations* (copy attached), contains mandatory requirements including energy intensity targets for buildings, against which performance will be measured, and minimum energy performance standards for new and refurbished buildings, appliances and equipment. In addition, a number of measures are being developed, including vehicle fuel efficiency targets and energy performance contracting.

Measures for Improving Energy Efficiency in Commonwealth Operations is currently being revised to reflect the new administrative orders, the relocation of the EEST to the AGO and to clarify some points.

Regular reviews of the policy will be conducted, with an external review commissioned after two years (ie in 2000). Recommendations arising from this review will be brought to Cabinet.

The Commonwealth also facilitates the exchange of information and expertise between State and Territory Governments by providing the secretariat for the co-ordinating body - the Government Energy Management Group (GEMG). The GEMG provides a means for intergovernmental liaison, coordination and information exchange to improve energy efficiency and reduce greenhouse emissions in government operations (including 3.1 in the National Greenhouse Strategy).

A Joint Working Party on Improving Energy Efficiency in Commonwealth Operations has been set up to

- facilitate the efficient and effective implementation of the energy policy, and *Measures for Improving Energy Efficiency in Government Operations*, through coordinating agency activity;
- identify issues and suggest to the Minister, remedies to same regarding the energy policy and *Measures for Improving Energy Efficiency in Government Operations*; and
- promulgate the policy and best practice to stakeholder agencies through, for example, regular forums.

Joint Working Party members are drawn from representatives of the Departments of Industry, Science and Resources, the Environment and Heritage, Defence and the Australian Greenhouse Office. In the interests of wider involvement, membership of the JWP will also be offered to other major energy using departments/agencies.

We understand the EEST (contact David Crook) will provide separate comment.

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MEASURES FOR IMPROVING ENERGY EFFICIENCY IN COMMONWEALTH OPERATIONS

1.0 Summary of Main Requirements

- Energy intensity targets to be met on a portfolio wide basis by 2002-2003;
- departmental secretaries and agency heads to be accountable to their Ministers for their performance in improving energy efficiency;
- all departments and agencies to report annual energy consumption and intensity;
 - a whole-of-government performance report to be prepared and published annually;
 - energy performance contracting accepted and encouraged as a vehicle for achieving energy savings;
 - specialist energy advisory unit established;
- minimum energy performance standards to be established for new buildings (owned and leased);
- new building leases to exclude energy from being recovered as an outgoing;
 - all building space to be energy audited regularly and all cost effective recommendations implemented;
- all new office equipment to be US EPA Energy Star compliant, where available;
 - all new appliances to have 4-star or better energy rating;
- all new houses (owned or leased) have a NatHERS rating of 4-star or better, where available;
 - assess potential to upgrade all existing houses to 3-star or better, where NatHERS is applicable;
- setting fuel consumption targets for the Commonwealth fleet to apply from 2003;
- periodic reviews of the program and an independent review after two years, with results and recommendations to be brought to Cabinet.

2.0 Energy Consumption Targets and Reporting

2.1 Departments and agencies covered by the decision

Applies to all Commonwealth departments as well as agencies and bodies whose operations are substantially budget-dependent. (Applies to all agencies and bodies covered by the Financial Management and Accountability Act and all those covered by the Commonwealth Authorities and Companies Act and whose operations are substantially budget-dependent).

2.2 General

The aims of the reporting process are to provide a simple measure of the total energy consumption of the Commonwealth and feedback on the effectiveness of energy management programs. It will monitor the efficiency of energy use; progress towards improving that efficiency and will provide, for the first time, a clear picture of the total energy consumption and energy efficiency of the Commonwealth.

The Departments of Primary Industries and Energy (DPIE) and Finance and Administration (DoFA) will regularly review the reporting process and targets and an external review will be commissioned after two years.

2.3 *Targets*

2.3.1 Basis

The building energy targets are intended to reflect the previous targets of reducing the energy use in Commonwealth occupied buildings by 15% within five years and 25% within ten years, using 1992-93 as a base year. The targets have been converted from reductions in absolute energy to measures of energy intensity, to minimise the impact of changes in the size and activity levels of organisations. Energy intensity targets provide for equity, recognising that some organisations may have taken steps to achieve significant energy reductions. Targets are set only in end-use categories where there is sufficient information for a reasonable target to be set.

It is proposed that targets will be set in remaining end-use categories as a result of a two-year review based on reported data. The targets will be set in consultation with affected departments and agencies and will take into account the current performance, available benchmarks and the time remaining for implementation. The target date for compliance will be the 2002-03 financial year. It is not expected that targets be set in the "Other Transport" or "Defence Operational Fuels" categories.

The targets are applied to the key energy intensity indicators listed in Table 1.

Defence establishments have a target based on aggregate energy consumption, recognising that defence bases, which may contain many buildings of varying types, typically have only a single meter at the front gate. It is expected that metering advances will progressively enable the Department of Defence to establish relevant energy intensity targets for a range of activities in many of its establishments.

2.3.2 Application

The targets are **not** intended to apply to individual facilities, but to the average consumption of that type of facility throughout an organisation and ultimately across the Commonwealth. Typically, efficient facilities will individually perform well under the targets but it is expected that there will be a wide variation in general facility performance. Individual facility performance should only be measured against recognised performance standards.

2.3.3 Timing

Subject to the two-year review, it is expected that all organisations will be performing at, or below, the target energy intensities in the 2003-04 financial year.

2.4 *Reporting*

2.4.1 Requirement

All energy used by all departments and budget dependent agencies must be reported.

Reports will be on a financial year basis, by fuel type and by end use category (see Table 1). Normalisation factors such as building floor area, number of people, distance travelled etc. must also be reported. Energy use intensity will be factored in using the respective normalisation factors. Energy intensity will be reported in units such as MJ/m² or MJ/km. Energy consumption by type is required to enable greenhouse gas emissions to be calculated.

2.4.2 Energy Intensity

Energy intensity figures provide a good measure of relative energy efficiency, despite any changes in the size, or activity levels of an organisation. There will often be more than one indicator of energy intensity for any end-use category. For example, the energy intensity of buildings might be expressed in terms of MJ/m², MJ/person or MJ/unit output. However, for each end-use category there is usually one indicator which best represents its energy efficiency. These key indicators are in Table 1.

2.4.3 Assumptions

The reporting requirements recognise that detailed information is not always available on all energy consumption associated with end-use categories. For example, tenants in office space leased in privately-owned buildings are unlikely to get access to information regarding the energy consumption of the building's central services (air conditioning, lifts etc.) and are therefore not required to report this consumption. In some cases, even the tenant light and power is not measured.

In Commonwealth-owned office buildings, the total energy use of the building is always available, but in very few cases are there meters to separate the central services energy use from the tenant light and power.

Tenant light and power energy consumption must always be reported. Where there is no available information on energy consumption, the space will be deemed to have energy consumption per unit area as prescribed in Table 1. Where only the total building consumption is known, formulae are provided in Table 1 to disaggregate the central services from the tenant light and power and to apportion energy consumption to individual tenants.

The deemed consumption rate is set slightly above the target figures to provide an incentive to install meters to measure actual energy use. Lack of adequate metering presents a significant disincentive to the implementation of energy saving measures and prevents effective energy management. Experience in the UK of detailed monitoring and targeting on energy sub-meters is of savings of between 5% and 25%, with little or no additional capital expenditure. (UK Department of the Environment, Energy Efficiency Office, "Good Practice Guide 31")

Central services energy use will, wherever possible, be reported by the organisation that is directly responsible for paying the bill. Central services energy use, for which private sector owners are responsible and which is factored into rent, will not normally be available. However, where a tenant is the sole occupant of a building, and the lease agreement requires the tenant to pay the total energy bill for the building, tenant organisations will report the central services energy use. In Commonwealth-owned buildings, the managing organisation will report the central services energy use.

2.4.4 Averages

Where annual normalisation factors, such as m²/annum and people/annum vary throughout the reporting year, they will be averaged to equivalent full year factors. This is achieved by summing the normalisation factors that prevail at the end of each month and then dividing by 12. For example, an occupancy of 500 people for 9 months and 1000 people for 3 months would have an equivalent full year average of $500 \times 9/12 + 1000 \times 3/12$ equals 625 people. Or, as another example 500m² occupied for 3

months is equivalent to $5000 \times 3/12$ equals 1250m² for a full year. It is expected that this calculation will apply only to significant changes in normalisation factors and department/agencies will use discretion in deciding when it is to be applied.

2.4.5 Whole of Government report

Summary reports of energy consumption including key indicators will be copied to DPIE by the close of business on the last working day in October of each year. To facilitate the aggregation process, reports must be submitted on an electronic template that will be provided by DPIE.

DPIE will aggregate, summarise and analyse the data and produce a whole-of-Government energy consumption report by end of December of each year. The report will include an estimate of unreported central services energy consumption and an estimate of total greenhouse gas emissions.

Reports that are not submitted on time will be excluded from the aggregation process and the organisations concerned will be clearly identified in the report.

3.0 Energy End-Use Categories

3.1 *General*

The number of energy end-use categories has been limited in the interests of simplicity and controlling costs. Fitting into this limited range of categories will necessarily involve a degree of compromise. It is expected that the size and diversity of most organisations will ensure that these compromises will average out and that the performance indicators and associated targets will remain statistically valid.

Assistance will be available from DPIE if any clarification is required.

3.2 *Office Buildings - Tenant Light & Power*

This category relates to the energy used for tenant operations. It includes tenancy lighting, office equipment, supplementary air conditioners, boiling water units etc. The key indicator in this category is MJ/person, recognising that the overall energy efficiency is a combination of the efficient use of the space as well as the energy efficiency of the space.

3.3 *Office Buildings - Central Services*

This relates to the provision of services in buildings common to all tenants. It includes building air conditioning, lifts, security and lobby lights, domestic hot water etc.

3.4 *Climate Controlled Stores*

This relates to buildings that are required to maintain 24-hour climate controlled conditions for the protection of the goods that they house. These include archives, safety equipment stores, art galleries etc.

3.5 *Laboratories*

This category is self-explanatory.

3.6 *Other Buildings*

This category is for facility types that do not fit a defined category and the actual category should be defined in the report. Additional “Other Buildings” categories may be added, if required, with agreement from DPIE.

It is expected that a normalisation factor based on output would be the key indicator in this category. It will be up to organisations to define what units of output will be used.

3.7 Passenger Vehicles

This category includes passenger cars, light commercial vehicles and mini buses.

3.8 Other Transport

This category includes buses, ships, aeroplanes, trucks, etc.

3.9 Defence Establishments

This category covers all buildings and facilities that are within the umbrella of established Defence bases. It does not include office buildings and stores outside bases that should be reported under the appropriate category.

3.10 Defence Operations

This covers the fuel used in Defence force operations for aeroplanes, tanks, ships etc. The energy use must be reported on but there is no intention at this time of setting targets on its use.

4.0 Energy Performance Contracting

Energy performance contracting is a form of contracting for energy efficiency services or broader facilities improvement. The contractor guarantees a level of energy consumption savings, upgrades the energy using plant at its own expense to achieve the consumption targets and is repaid over a number of years from the resulting stream of energy cost savings. Energy performance contracting provides access to private sector capital, technology and technical expertise at minimal up-front cost to the Commonwealth.

The use of energy performance contractors as an option in the process of meeting energy performance targets is strongly encouraged.

To maintain a consistent Commonwealth approach to the performance contracting industry, departments and agencies are encouraged to refer proposals to the Energy and Environmental Services Unit (EESU).

5.0 Specialist Energy Advisory Unit

A specialist Energy and Environmental Services Unit (EESU) advisory unit has been set up in the Domestic Property Group in DoFA, to sponsor best practice by advising and assisting departments/agencies on building related energy matters and by developing model contracts for energy supply and performance contracts. In summary, the functions of the EESU will include:

- providing an energy procurement advisory service and representing Commonwealth interests in the deregulated energy market;
- investigating opportunities for collaborative government energy procurement;
- assisting departments/agencies in the assessment of financial and contractual risks in the evaluation of tenders for energy supply and developing risk management and minimisation strategies;
- developing best practice energy performance contract documentation and methodology;
 - establishing pre-qualified panels of energy service suppliers;
 - assisting in the evaluation of energy performance contract tenders;

- identifying suitable Commonwealth-owned premises for pilot projects in energy performance contracting and monitoring contract performance;
- reviewing and updating energy guidelines for Commonwealth-owned and leased non-residential buildings;
 - reporting on energy aspects of proposed major construction projects;
 - developing training courses for Commonwealth officers;

6.0 Other Requirements

6.1 Commercial buildings

6.1.1 Minimum Energy Performance Standard

All newly constructed buildings, whether Commonwealth-owned or where the Commonwealth is the majority tenant, must meet a minimum energy performance standard. Initially, this standard is to be the 1994 (former) BOMA (Property Council of Australia) Energy Guidelines. Because these standards are limited to office buildings in capital cities they will be replaced in the near future with standards being developed for the Commonwealth.

All substantially refurbished buildings, whether Commonwealth owned or where the Commonwealth is the majority tenant, must also meet a minimum energy performance standard. In this case the interim standard is the 1994 BOMA Energy Guidelines but with a 20% margin of leniency. Again, it is intended to replace this standard with the Commonwealth's own standards for refurbished buildings in the near future.

6.1.2 Certification of Minimum Energy Performance Standard

Funding for building construction and refurbishing will be contingent on certification by suitably qualified persons, through the EESU, that the building will meet required energy standards.

6.1.3 Lease Agreements

All new lease agreements for buildings must include a clause specifically excluding the cost of energy used by building central services during normal working hours from recoverable outgoings. This will ensure that building owners have an incentive to improve the energy efficiency of building central services. Designated special purpose buildings may be excluded if a case for doing so can be demonstrated.

6.1.4 Mandatory Energy Audit Requirements

All building space must be energy audited within one year of occupancy and thereafter at intervals not exceeding five years. All cost-effective energy saving measures identified in the audits must be implemented. The standard of audit must be not less than that required by the relevant Australian Standards, but may be provided as a proposal from an energy performance contractor, a post occupancy evaluation or similar approaches. Measures shall be considered cost effective if they have, an internal rate of return of 15% or better when calculated over the estimated remaining period of occupancy, the life of the equipment involved, or seven years, whichever is the lesser.

This benchmark IRR rate is subject to further negotiations between DPIE, DoFA and DoE,
Audits are not required if they fall due less than one year before the expected cessation of occupancy

6.2 Houses

All new Commonwealth owned or leased houses shall have a Nationwide House Energy Rating Scheme (NatHERS) rating of 4-star, or better, in all regions as it becomes available. "New" is defined for these purposes as housing commencing in or after 1999.

A sample stock-take will be made of existing owned and leased Commonwealth housing commenced prior to 1999 to assess the potential to upgrade cost effectively (with costs recovered through rent) to NatHERS 3-star or better where available.

Subject to the outcome of the stock-take, all houses will be upgraded by 2002.

(NatHERS is a scheme which allows the energy efficiency of all new and existing housing to be rated on a consistent basis. Contact address for further details is given below).

6.3 Appliances and Equipment

Departments and agencies are required to purchase only office equipment that complies with the US Environment Protection Agency "Energy Star" standard, where it is available and fit for purpose. A key feature of Energy Star compliance is that the equipment should have power management features enabling it to meet a minimum energy performance standard and these power management features should be enabled at the time of supply. The EESU will be the point of reference for ensuring compliance with this provision.

The EESU will also manage the requirement that departments and agencies purchase only labelled appliances and equipment at the 4-star level, or better, where available and fit for the purpose.

Industry will be consulted with a view to lifting this requirement to the 5-star level in 2000.

6.4 Vehicles

The Government intends to set challenging, but realistic, fuel consumption targets for the Commonwealth fleet to apply from 2003 and to investigate and develop further options to strengthen action on fuel consumption in the Commonwealth fleet. These initiatives will be developed by the Australian Greenhouse Office in consultation with the administering departments.

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Table 1
Energy Consumption Report

		End Use Category					
		Office		Climate Controlled Stores	Laboratories	Other Buildings	Passenger Vehicles
		Tenant Light and Power	Central Services				
Energy Use	Electricity (GJ)						
	Natural Gas (GJ)						
	LPG (GJ)						
	Gasoline (GJ)						
	Diesel (GJ)						
	Petrol (GJ)						
	Aviation Kerosene (GJ)						
	AVGAS (GJ)						
	Total (GJ)						
Normalisation factors	Occupancy (people)						
	Area (m ²)						
	Output (units)						
	km						
Energy intensity indicators	MJ /person/annum	10,000					
	MJ /M ² /annum		500				
	MJ /unit						
	MJ /km						

= key performance indicator/target

If not directly measured:

Central services = 30% of electricity
100% of gas

Tenant L&P = 70% of electricity pro rata with proportion of total floor area
or 500MJ /m² if no other data available