INDUSTRY COMMISSION

Volume 1: Summary and Recommendations

Report No. 11

17 May 1991

Australian Government Publishing Service
Canberra

ISBN 0 644 14457 2 (volume 1)
ISBN 0 644 14491 2 (the set)

Printed in Australia by P. J. GRILLS, Commonwealth Government Printer, Canberra

INDUSTRY COMMISSION

17 May 1991

The Honourable P J Keating MP
Treasurer
Parliament House
CANBERRA ACT 2600

Dear Treasurer

In accordance with Section 7 of the *Industry Commission Act 1989*, we submit to you the report on Energy Generation and Distribution.

Yours sincerely

A C Harris
Acting Chairperson

K J Horton-Stephens
Presiding Commissioner

T J Hundloe
Commissioner

A J Webb
Associate Commissioner

COMMISSIONER

Benjamin Offices, Chan Street,
Belconnen ACT Australia
PO Box 80, Belconnen ACT 2616
Telephone: 06 264 1144
Facsimile: 06 253 1662

Acknowledgement
The Commission wishes to thank those staff members who contributed to this report.

STRUCTURE OF THE REPORT

The Commission's report on Energy Generation and Distribution comprises three volumes as follows:

VOLUME I **Summary and Recommendations**

VOLUME II **Report**

Part I - Background information
Part II - Existing and potential performance
Part III - Future directions for reform

VOLUME III **Supporting Appendixes**

PREFACE

Governments and energy utilities agree that there is substantial scope for improving the efficiency of energy generation and distribution in Australia. The potential gains are large - in the order of $2.4 billion a year.

To increase competition and improve efficiency, the Commission recommends significant changes to the structure of the electricity and natural gas supply industries. This involves separating ownership of key functions in each industry and progressively selling much of the publicly owned generation and distribution assets. It would result in a considerable diminution in the dominant role traditionally played in Australia by publicly owned vertically integrated energy utilities.

Most public utilities reject structural change. However, without it, many of the current inefficiencies may become even more deeply entrenched significant change might never emerge and the nation could suffer the ongoing handicap of electricity and gas industries which are not performing to their full potential

The Commission considers that the process of structural reform needs to start now. This will require immediate action by governments

TERMS OF REFERENCE

I, PAUL JOHN KEATING, in pursuance of Section 7 of the Industry Commission Act 1989 hereby:

1 refer the generation, transmission and distribution of electricity and the transmission and distribution of gas, excluding tax, resource rent and royalty issues relating to gas, for inquiry and report within twelve months of the date of receipt of this reference;

2 specify that the Industry Commission report on institutional, regulatory or other arrangements subject to influence by governments in Australia which lead to inefficient resource use, and advise on courses of action to reduce or remove such inefficiencies;

3 without limiting the scope of the reference, request that the Commission give priority to areas where greatest efficiency gains are in prospect, and areas where early action is practicable, having regard to:

(a) the scope for improving the efficiency of electricity generation, transmission and distribution and gas transmission and distribution including through changed management and work practices, the removal of structural impediments and the use of, and investment in, new technology;

(b) the scope for rationalisation of electricity and gas supply between the various authorities, for example by interconnections between systems;

(c) whether generation, transmission and distribution activities should be subject to control by the one organisation within the region;

(d) whether electricity and gas retailing is most appropriately performed by a central authority or by a number of distributors;

(e) practical issues which may apply to the introduction of more efficient pricing policies;

(f) alternative efficient sources for infrastructure and other capital investments including any efficiencies arising from mechanisms for raising loan/or equity funding;

(g) the potential for additions to generating capacity, including from privately owned sources;

(h) the appropriateness of various load management and energy conservation initiatives to enhance efficiency of supply and use of energy; and

(i) the relative efficiency and cost effectiveness of options to reduce the environmental impact of burning fossil fuels.*

4 specify that the Commission is to have regard to the established economic, social and environmental objectives of governments; and

5 specify that the Commission is to avoid duplication of recent substantive studies undertaken elsewhere.

P. J. KEATING
20 MAY 1990

* In a letter from the Treasurer, dated 5 December 1990, the Commission was advised that this clause had been deleted from the terms of reference.

SUMMARY AND RECOMMENDATIONS

The electricity and gas supply industries are among Australia's biggest. In 1986-87, their combined annual output was in the order of $7 billion - around 2.5 per cent of GDP. Employment, which was then about 90 000 people, has subsequently declined to around 75 000.

Both industries are capital intensive in their production facilities (the cost of power stations in the case of electricity, and cost of exploration in the case of gas). They require large, fixed and expanding transmission and distribution networks. Lives of major assets range from around 30 to 60 years.

In many countries, the gas and electricity industries have remained largely in private hands. In Australia, the electricity industry is almost totally government owned, although major parts of the gas industry are run by the private sector. Both the gas and electricity industries, private and public, are subject to extensive government regulation.

The industries supply vital inputs to a wide range of Australian industries, including many key export industries. Both command significant capital and recurrent resources. It is imperative that they function as efficiently as possible. If they perform poorly, the international competitiveness of major industries is undermined and our standard of living will suffer.

The electricity and natural gas supply industries have not been performing to their full potential. Participants in the inquiry, including governments and utilities themselves, acknowledge significant shortcomings in performance.

Poor investment decisions leading to excess capacity and gross overstaffing during the 1980s provide the most striking evidence that electricity and gas have not been supplied at least cost. Reserve plant margins (which provide an indication of capital utilisation) ranged from around 40 to 70 per cent for mainland electricity utilities during the mid to late 1980s. Levels of 20-25 per cent are regarded as satisfactory overseas. The 30 per cent reduction in staffing levels achieved by the Electricity Commission of New South Wales (ECNSW) in the two years to June 1990 and the 18 per cent cut by the State Electricity Commission of Victoria (SECV) in the 18 months to June 1990 provide some indication of the extent of overstaffing that existed through much of the 1980s. Similarly, the productive efficiency of Australia's largest gas utility - the Gas and Fuel Corporation of Victoria (GFCV) - has been questioned. Concern has been expressed about many aspects of its performance, including its staffing levels, management and work practices, and operating efficiency in general.

The failure of electricity and gas prices to reflect accurately the cost of supply is indicative of pricing inefficiency. Cross-subsidies between different classes of users, and

between urban and country users, exist throughout the nation. While initially advantaging residential consumers, they penalise most industrial users (particularly those located in metropolitan areas) and reduce job opportunities. Few tariff structures take into account adequately the variations in the cost of supply over the day, the week and the year.

These inefficiencies have cost us dearly. The costs have not been quarantined to the electricity and gas supply industries themselves. They have been borne by users and taxpayers generally.

Analysis undertaken by the Commission suggests that, if the electricity supply industry's performance were as good as international best practice and cross-subsidies between users were eliminated, national output could expand by around $2.2 billion annually. In effect, this represents the annual cost to the nation resulting from the centralised planning system which has been imposed on the industry. Efficiency improvements in gas distribution would produce smaller, but significant additional benefits - in the order of $150 million annually. These reforms would increase household disposable income by about $300 per year. About 8000 new jobs would be created.

Given the nature of the analysis, the estimates are not intended to be precise. They should be interpreted as broadly indicative of the potential gains: they are likely to understate the benefits. But, even if the benefits were overstated by 50 per cent, the conclusions would be unchanged: reform of the electricity and natural gas industries can yield substantial benefits to the economy as a whole.

The analysis suggests that, in the long run, improvements in productive efficiency would result in a decrease in average electricity prices. In the short run, the removal of cross-subsidies could advantage some industrial and commercial users, but domestic users could face higher charges. Following corporatisation, public utilities will be required to meet rate of return targets, pay dividends to governments and pay all relevant government taxes and charges. However, since the additional revenue would accrue to state/territory governments, it could be used to offset other government taxes or charges. Some cost savings should also be achievable as corporatisation is introduced. Consequently, it is not clear that these requirements would have any significant detrimental impact in the short term. In the case of electricity, imposts on utilities may also be partially offset in the short term through better use of current surplus capacity. In the longer term, the Commission expects that greater efficiency would lead to considerable decreases in overall costs, with consequent savings for users and the community generally.

There is little debate over the need and the scope for improving the performance of the industries. Most agree that reform is urgent and that the potential gains are considerable. It is not good enough to say that Australian energy prices compare favourably internationally when we are not taking full advantage of our available

resources. The central issue is therefore: what policies should be adopted to ensure that the industries operate as efficiently as possible?

Most governments have introduced, or foreshadowed, policies to improve efficiency. To date, the focus has been on 'administrative reform'. This is directed at achieving improvements without changing ownership or industry structures. In publicly owned utilities, administrative change - commonly styled 'corporatisation' or 'commercialisation' - is intended to increase efficiency by putting them on a more commercial footing. Administrative reform of private utilities involves changes to their regulatory environment.

In some states, reforms have already brought significant benefits. Substantial reductions in staffing levels have been achieved by the Queensland Electricity Commission (QEC), ECNSW and the SECV. Major changes to the regulatory environment applying to natural gas utilities in both Queensland and New South Wales promise to enhance operational efficiency. Improvements in pricing have been more gradual. There have been some worthwhile changes (eg the New South Wales bulk supply tariff has been restructured), but considerable cross-subsidies between users persist throughout Australia.

These initiatives demonstrate that efficiency can be improved by administrative means. Nonetheless, there remains considerable scope for improvement. Consequently, the Commission has considered the nature of administrative reform which would maximise the efficiency gains possible under this approach. As discussed later, the Commission sees this as only a possible interim step towards structural and ownership change - both of which it considers offer greater scope for reform.

A corporatisation model for public utilities

Corporatisation seeks to improve performance by creating better incentives for efficient management and a more neutral operating environment between public utilities and private sector enterprises. It aims to mimic many of the commercial incentives which apply to private firms.

Corporatisation reforms provide gains which can be captured relatively quickly. However, changes to date have been ad hoc and have varied markedly between states.

Implementation of the reforms in progress will still leave considerable differences in the treatment of electricity and gas utilities within states, as well as differences between states. This gives rise to two major concerns: first, that the policies of some governments will not capture all of the potential efficiency gains; and second, that differences in practices between governments will lead to production and investment decisions which, from a national perspective, hinder rather than aid efficient development.

The main elements of an approach which the Commission considers would maximise the gains possible from corporatisation are outlined below with regard to, first, utilities' relationship with government and, second, differences in treatment between public and private utilities.

Relationship with government

- **role of governments:** governments' primary role should be to determine strategic objectives, monitor performance and appoint a board of directors. Governments should not be involved in operational decisions. This should be left to utility management.

- **board of directors:** with the exception of utilities owned by local communities, boards should be accountable to parliament through the relevant minister. Boards of utilities owned by local communities should be accountable to local councils. Board members should be appointed on the basis of relevant commercial experience, and not because they represent particular community groups.

- **utilities' objectives:** utilities' objectives should relate solely to commercial performance. Each utility should be required to supply electricity or gas (but not both) in the most economically efficient manner. This would overcome difficulties caused by current requirements to undertake non-commercial functions. It would also eliminate potential conflicts of interest where utilities regulate activities in which they themselves are involved. A simply stated commercial objective would also avoid problems in accountability and performance monitoring which can result from multiple and ill-defined objectives.

- **community service obligations (CSOs):** if governments wish to pursue the objectives served by CSOs, it would be more efficient to do so by other mechanisms (eg through the tax system or welfare programs). If, however, governments insist on utilities discharging CSOs, they should be individually identified and costed, and directly funded by government. This would increase transparency and accountability, and avoid inefficiencies which arise when CSOs are financed by cross-subsidisation between users. It would also remove any need to restrict competition to permit cross-subsidisation to be maintained.

- **performance monitoring:** rigorous and transparent performance monitoring procedures should be established. This should involve a range of financial and non-financial targets related to utilities' commercial objectives and, if relevant, also cover residual non-commercial activities. As far as possible, performance measures should be common across utilities to facilitate comparisons of performance (ie ‘yardstick’ competition).

- **rate of return requirement:** the major financial target should be a rate of return target. It should be determined on a commercial accounting basis related to the level which a

comparable private firm would seek to achieve. If the rate of return target is artificially low, resources will be inappropriately directed into public utilities. Uneconomic projects will be undertaken. Project evaluation will be biased in favour of capital intensive projects (eg in favour of relatively capital intensive coal-fired generating plant rather than less costly gas-fuelled power stations).

- **rewards and penalties:** an appropriate set of rewards (eg bonuses for performance) and penalties (eg dismissal) are essential complements to performance monitoring measures. This could involve greater use of contract employment for senior managers.

Fairer competition

- **legislative barriers to entry:** legislative barriers that shield public electricity and gas utilities from competitive pressures should be removed. Barriers include legislation which gives public electricity utilities supply monopolies and which provides some public gas utilities with exclusive rights to construct and operate gas transmission pipelines and/or to distribute gas in a specified region. These barriers reduce the incentive to contain costs by removing even the possibility of competition.

- **liability for government taxes and charges:** public utilities should be liable for all government taxes and charges. Exemptions currently enjoyed by public utilities distort utilities' costs and reduce pricing and production efficiency. In the case of Commonwealth Government taxes and charges, it would be appropriate for state/territory utilities to pay an equivalent amount to their respective government.

- **accounting conventions:** the accounting practices employed by most public utilities are outmoded. This impairs performance assessment and fails to provide adequate information to management or to the community. Asset values should be recorded on a current replacement cost basis, not just on historical cost. All funds, including loans and grants from state treasuries, need to be accounted for. The publication of detailed financial statements on a comparable basis by all public utilities would promote performance monitoring and transparency.

- **dividend requirements:** all public utilities should pay a dividend similar to that which would be paid by a comparable private enterprise to its shareholders. With a small number of exceptions (eg SECV and GFCV), no dividends are currently paid to government. Some utilities pay a percentage of turnover to government. Such payments do not vary with profitability and are tantamount to taxes.

- **borrowings:** most public utilities enjoy advantages (eg free guarantees of loans), but are subject to certain constraints (eg state borrowing limits imposed by the Australian Loan Council) that do not apply to private sector organisations. If all elements of this proposed corporatisation model are applied to public utilities, such differences could be removed.

- **exposure to general public sector policies:** public utilities are exempt from the Trade Practices Act and from scrutiny by the Prices Surveillance Authority. On the other hand, they have to comply with policies which apply generally in the public sector (eg government purchasing policies and public sector employment conditions). The exemptions should be removed, as should requirements to adhere to public sector policies which constrain commercial decision-making.

- **Companies Code:** if the initiatives outlined above are implemented, public utilities should be made subject to the Companies Code. This would impose similar disciplines on government managers as those applying to private sector managers.

Regulation of private utilities

Administrative reform of private utilities involves regulatory change (sometimes referred to as 're-regulation'). As few private utilities in Australia are currently involved in electricity supply, regulatory change mainly concerns private gas utilities.

The gas supply industry is subject to many Commonwealth and State government regulations. The regulations are intended to serve many objectives associated with, inter alia, entry to the industry, market conduct and the maintenance of environmental and safety standards.

Some regulatory controls have been obtrusive and inefficient. Changes proposed by the Commission are primarily intended to ensure that the objectives of regulation do not compromise efficiency or add unduly to administrative costs. The major areas of regulation of natural gas utilities relate to market power, franchise terms and conditions, and trade in natural gas.

Market power

Transmission, and to a lesser extent, distribution activities exhibit what are termed 'natural monopoly' characteristics. Put simply, this means that neither activity is likely to face a direct competitor. In this situation, some regulation is warranted to curb the potential for the abuse of market power.

Possible approaches to controlling the use of market power range from the use of detailed regulations under the supervision of an industry-specific regulatory body (a 'heavy handed' approach) to reliance on monitoring of market outcomes by an independent body charged with oversighting the conduct of industries generally ('light handed' regulation). A variety of approaches have been employed in Australia. For example, prior to 1988, the operations of gas distributors in Queensland were subject to detailed regulatory controls relating to pricing and profitability, and distributors were required to demonstrate that price rises were 'fair and reasonable'. Gas utilities in

Queensland are now free to set tariffs as they wish. However, the Minister can establish a Gas Tribunal to investigate tariffs.

Where feasible, the Commission favours a light handed approach, with oversight by a general body at the national level, rather than by a number of state/territory bodies. This would minimise regulatory costs, provide a consistent approach to the monitoring of market power across industries and ensure that the regulatory body retains its independence. Implicit in this approach is the threat of detailed regulation and close oversight if market power is misused.

Franchise terms and conditions

Most distribution franchises give the holder the sole right to reticulate gas within a prescribed area. A requirement to connect any user on request at less than full cost frequently accompanies exclusive franchise rights.

It is sometimes maintained that this arrangement avoids wasteful duplication of gas infrastructure (eg duplicate distribution systems). However, as it is highly unlikely that investment in a duplicate network could be recouped should the venture fail, the Commission believes it improbable that inefficient duplication will occur. It considers it would be preferable to abolish exclusive franchise arrangements. This would allow for the possibility of some competition developing (eg some large users would be able to negotiate for supply directly with producers or with an adjacent franchise holder). Terminating any requirement to connect on request would complement this change.

Two other factors - restrictions on shareholdings and the provision of long term franchises - also artificially decrease competitive pressures.

Restrictions on shareholdings (eg those applying to AGL in New South Wales and Allgas in Queensland) limit individual shareholdings in some utilities. Participants indicated that they are intended to prevent asset stripping and other forms of opportunistic behavior. However, the controls cannot prevent current owners from engaging in such practices. Furthermore, by providing immunity from takeovers, ownership controls reduce disciplines for efficiency which usually apply to publicly listed companies. The Commission can find no justification for the maintenance of ownership restrictions.

Long or open-ended franchise periods prevent the entry of more efficient operators. However, participants claimed that short franchise terms (eg 10 years) would provide no incentive for investment and that, as a result, gas utilities' assets would not be maintained. The length of franchise periods may have some effect on investment patterns, but any incentive to allow the assets of a utility to run down would be significantly reduced by the realisation that this would be reflected in a lower valuation of the utility's assets at the end of the term. The Commission considers that franchise

periods of about 10-15 years would provide franchise holders with some security yet, by allowing for the possibility of new entrants at regular periods, also provide some safeguard against ongoing inefficiencies.

The Commission considers that franchises should be allocated by competitive tendering. It favours a system in which bids are invited for the cost of distributing gas (net of the cost of gas) in the franchise area. The successful tenderer (the lowest bidder) would be required to purchase all assets specific to the franchise area. The Commission recognises that it may be difficult to value assets. However, this has been required for past takeovers and also needs to be undertaken periodically for accounting purposes. Franchise fees should only cover the costs of government administering necessary gas regulations, and not be used as a surrogate for a tax.

Trade in natural gas

With the exception of gas supplied from the Moomba field in South Australia to users in New South Wales and the ACT, there are no significant interstate transactions in natural gas. This situation largely reflects government impediments to trade. For example:

- In South Australia, legislation limits the supply of gas to New South Wales to the current contract.
- Prior to 1988, the Queensland Government would not permit gas in the Queensland section of the Cooper/Eromanga Basin to be sold to South Australia.
- More recently, the Northern Territory Government has refused a proposal to permit South Australia to be supplied with gas from the Amadeus Basin in Central Australia.

Where governments have agreed to interstate sales, it has generally been conditional on compliance with specified conditions. For example, Moomba to Sydney sales have been conditional on the ethane being removed prior to sale.

The incentive to explore and develop further gas fields in Bass Strait is reduced by the Victorian Government policy which restricts the use of gas for new electricity generating capacity to 500 MW, and only for intermediate or peak-load plants.

Gas industry representatives expect resources in south and east Australia will probably need to be augmented by additional supplies before the year 2010. This will require either successful exploration and gas production in central or eastern Australia, or major extension to the existing pipeline network to gas reserves off north-west Australia. Either outcome will be frustrated or rendered uneconomic unless unrestricted interstate movement of gas is allowed.

According to participants, a transcontinental gas pipeline can be most efficiently achieved if there is simultaneous depletion of existing gas reserves in the central and

south-eastern regions of Australia. This also requires unrestricted interstate movement of gas.

Unrestricted access to markets is also essential if appropriate incentives are to be provided for exploration and the further development of existing fields. This includes access to export markets. At present, export of natural gas is subject to Commonwealth Government approval.

The Commission cannot establish any justifiable basis for governments restricting trade in natural gas. Present policies appear to be heavily influenced by notions of scarcity and a 'premium' fuel status of natural gas, as well as parochial interests. Such restrictions can lead to uneconomic investments and to a reduced exploration and production effort. The Commission favours the termination of policies that restrict the use of gas (other than those which relate to safety) or its sale interstate or overseas. The Commonwealth should consider using its powers, where relevant, to facilitate the abolition of these restrictions.

The benefits from administrative reform

Administrative reform would lead to significant improvements in efficiency. Moreover, in terms of the wording of the reference for this inquiry, administrative reform provides an approach 'where early action is practicable' Most of the changes could be implemented within 12 months.

Administrative reform would increase competition in some areas of gas supply. For example, the removal of exclusive franchises could lead to competition for the supply of natural gas to some large users. This would be reinforced by the removal of state government policies that retard interstate trade in natural gas. Regular tenders for distribution franchises, coupled with ongoing monitoring to ensure compliance with the conditions of the franchise, should also provide an incentive to improve efficiency.

The consequences of corporatisation of public utilities would be greater. Quite significant benefits would result if utilities were required to function as commercial entities at arm's length from government, but accountable to parliament.

If all of the potential gains are to be realised, it is essential that the reforms to corporatise public utilities and the proposed changes to the regulatory environment of private utilities be implemented in their entirety. Selective implementation of particular components of these packages would seriously erode the potential benefits. Commercialisation programs, for example, still leave in place many factors which have inhibited the performance of public energy utilities, such as barriers to entry and certain financial concessions. A lack of uniformity between governments (eg with regard to accounting practices and to the basis and level of rate of return targets) could also

undermine the prospects for attaining improvements in efficiency. To this end, inter-government consultative processes could usefully be established.

The potential for improvement varies between utilities. Some (eg QEC and ECNSW) have already made significant changes, while others (eg GFCV and the Electricity Trust of South Australia (ETSA)) have introduced only modest reforms so far. All public electricity and gas utilities are in a position to do much more.

Productive efficiency

Corporatisation would encourage more prudent assessments of resource use leading to increases in productive efficiency. There would be greater incentives to assess a wider range of technical alternatives and opportunities for improving labour productivity (eg by making more use of external contractors).

Further reductions in staffing levels and improved management and work practices are needed and would also lead to significant cost reductions. Prospective gains in these areas could be accelerated by award restructuring. In particular, there are gains from overhauling the multiplicity of awards that cover employees of most public electricity and gas utilities to reduce their number and promote more flexible working arrangements. In this area, single awards covering all employees have recently been established for ECNSW, the Hydro-Electric Commission of Tasmania (HECT) and the Queensland electricity supply industry.

A more commercial approach should lead to a more judicious evaluation of new investments. The traditional imperative that all new capacity be provided from plant owned, operated and often constructed by the utility itself should no longer apply. Lower cost options may include buy-back arrangements with private generators, the use of private sector resources to build, own and operate new capacity, and purchasing electricity from interstate utilities.

Buy-back arrangements

Consideration of private generators by electricity utilities as potentially economic sources of supply rather than as ‘unwanted competitors’ could lead to buy-back arrangements that would benefit both parties. It would allow firms to utilise surplus capacity and/or energy which is presently wasted and provide utilities with increased flexibility to cope with system loads. It could also permit deferral of new investment and have environmental advantages.

The Commission considers that arrangements between private generators and utilities should be determined by normal commercial considerations and not be governed by legislation as currently exists in some countries (eg the United States of America). It also considers that private generators should generally be able to purchase electricity from utilities under standard tariffs rather than being required to buy at higher standby tariffs.

Private sector provision of new capacity

There are good reasons why new capacity (eg pipeline extensions or new power stations) should be provided and operated by the private sector (see the section on ownership). Some utilities recognise potential advantages in this. The Western Australian Government recently announced that its next major power station will be built, owned and operated by a private consortium. New private stations have also been under examination in New South Wales (Oaklands) and South Australia (Arckaringa). ECNSW is negotiating to buy electricity from a new power station at Gunnedah and the SECV wishes private interests to purchase and operate the Loy Yang B power station.

To help ensure that appropriate consideration is given to the scope for private sector participation while corporatisation is under way, the Commission believes that all major new investments should be subject to tender, and that evaluation of tenders should be scrutinised by a neutral body.

Electricity interconnections

Overseas, extensive interconnections have evolved both within and between countries. However, largely because of parochial state interests, public electricity utilities in Australia have been reluctant to pursue opportunities for sourcing power from other states. Until the recent completion of the interconnection between Victoria and South Australia, only the Victorian and New South Wales systems were interconnected.

Electricity authorities and governments now recognise that further interconnections may be warranted. Studies examining the feasibility of connecting Queensland and Tasmania to the interconnected grid are now under way. Corporatisation should encourage the assessment of interconnection options to focus on the relevant benefits and costs and not on the proprietary interests of utilities or states.

Assessments of interconnection possibilities would also be facilitated by, first, changes to the arrangements presently applying to the Snowy Mountains Hydro-Electric Scheme and, second, by removing restrictions on the use of gas for electricity generation in Victoria.

The Snowy Mountains Scheme plays a pivotal role in linking and supplying power to the Victorian and New South Wales grid. However, management responsibility for the Scheme is blurred by the division of responsibility between two bodies (the Snowy Mountains Council and the Snowy Mountains Hydro-Electric Authority). Furthermore, the present pricing arrangements have the potential to distort decisions concerning day-to-day use of the Scheme and also future investment decisions. The Commission considers that management should be vested in a single body and that the pricing arrangements should be re-negotiated to reflect more closely the economic costs of supplying electricity and water respectively.

The Victorian Government policy of restricting the use of gas for electricity generation constrains consideration of new power station options, not only for Victoria, but for a more integrated south-eastern Australian grid. As noted above, the Commission can find no justification for this policy. It should be abolished.

Pricing efficiency

Corporatisation should promote improved pricing practices.

Requirements for public utilities to meet rate of return targets and pay all taxes and charges should help ensure that they recover the full economic costs of their operations. Changes to the arrangements for CSOs and greater autonomy from government will provide public utilities the opportunity to restructure tariffs so that prices more closely reflect supply costs. These changes would lead to more efficient production and consumption of electricity and gas. They would also provide a better basis for assessing the need for new capacity.

Current tariff practices involve grouping users into classes based on end-use and charging a uniform tariff to all users in a class, irrespective of location. While some grouping into classes is warranted for administrative simplicity, classes should primarily be determined on load profiles and not just end-use. Electricity and gas prices should vary between regions in accordance with variations in the costs of supply.

Pricing would be improved if greater use were made of time-of-use tariffs to reflect variations in supply cost over the day, the week and the year. At present, time-of-use tariffs are optional and available to only some users. Furthermore, current time-of-use tariffs only roughly approximate actual variations in supply costs. Improved metering which is now available has removed a major impediment to the introduction of more cost-reflective time-of-use tariffs. The Commission considers that time-of-use tariffs should apply to all major users.

Load management and energy conservation

Some governments require that utilities actively promote energy conservation initiatives. However, these directives may conflict with utilities' commercial interests and with other government requirements imposed on energy utilities. For example, while governments wish to promote energy conservation, they simultaneously insist on a conflicting requirement that public utilities subsidise residential energy consumption. Exemptions from taxes and charges provided by government to public utilities suppress energy prices generally and also conflict with conservation initiatives. Similarly, government requirements that public utilities subsidise grid connections in rural. areas have undermined other government policies intended to encourage the development of renewable energy sources.

The Victorian Government policy of restricting the use of gas for electricity generation constrains consideration of new power station options, not only for Victoria, but for a more integrated south-eastern Australian grid. As noted above, the Commission can find no justification for this policy. It should be abolished.

Pricing efficiency

Corporatisation should promote improved pricing practices.

Requirements for public utilities to meet rate of return targets and pay all taxes and charges should help ensure that they recover the full economic costs of their operations. Changes to the arrangements for CSOs and greater autonomy from government will provide public utilities the opportunity to restructure tariffs so that prices more closely reflect supply costs. These changes would lead to more efficient production and consumption of electricity and gas. They would also provide a better basis for assessing the need for new capacity.

Current tariff practices involve grouping users into classes based on end-use and charging a uniform tariff to all users in a class, irrespective of location. While some grouping into classes is warranted for administrative simplicity, classes should primarily be determined on load profiles and not just end-use. Electricity and gas prices should vary between regions in accordance with variations in the costs of supply.

Pricing would be improved if greater use were made of time-of-use tariffs to reflect variations in supply cost over the day, the week and the year. At present, time-of-use tariffs are optional and available to only some users. Furthermore, current time-of-use tariffs only roughly approximate actual variations in supply costs. Improved metering which is now available has removed a major impediment to the introduction of more cost-reflective time-of-use tariffs. The Commission considers that time-of-use tariffs should apply to all major users.

Load management and energy conservation

Some governments require that utilities actively promote energy conservation initiatives. However, these directives may conflict with utilities' commercial interests and with other government requirements imposed on energy utilities. For example, while governments wish to promote energy conservation, they simultaneously insist on a conflicting requirement that public utilities subsidise residential energy consumption. Exemptions from taxes and charges provided by government to public utilities suppress energy prices generally and also conflict with conservation initiatives. Similarly, government requirements that public utilities subsidise grid connections in rural. areas have undermined other government policies intended to encourage the development of renewable energy sources.

Corporatised utilities should not be required to pursue energy conservation initiatives that are contrary to their commercial interests. However, some conservation initiatives will be in utilities' commercial interests. For example, utilities may find it to their advantage to provide advisory services about efficient energy practices in order to maintain or increase market share. If governments insist on utilities performing noncommercial conservation initiatives, they should be treated as CSOs and separately identified, costed and funded by government.

The Commission considers that, where all costs (including environmental costs) are fully reflected in prices, decisions concerning the level and pattern of energy use should be left to energy users. The appropriate role for government (but not for utilities) is to identify any market failures or institutional impediments which constrain or distort users' decisions and, if cost-effective, implement measures to address these problems. This could, for example, involve ensuring that sufficient information is available to allow users to make informed decisions.

Corporatisation would address one major impediment - inefficient pricing. Improved pricing and other load management initiatives would increase the efficiency of energy use by providing users with better information about the true cost of energy.

The range of energy conservation initiatives pursued by governments includes the provision of energy efficiency information to consumers, labeling appliances and energy rating buildings, prohibiting the sale of relatively low efficiency appliances and prescribing particular standards (eg insulation). These latter measures severely curtail consumer choice. It is not clear whether such actions are warranted. It needs to be established that these programs can provide net benefits to society, taking into account both direct and indirect costs.

Going beyond administrative reform: the need for structural change

The Commission considers that administrative change on its own will fail to lift the performance of the electricity and natural gas supply industries to the fullest extent possible. This is mainly because administrative reform does not directly address the major factor underlying inefficiency - the lack of effective competition. Additional competitive pressures may emerge as a result of the removal of legislative barriers to entry. However, the current organisation of the industries and the dominant position of existing suppliers pose formidable barriers to the development of effective competition.

Administrative reform also ignores gains which can be achieved by transferring ownership to the private sector. As discussed later, private ownership carries with it disciplines which cannot apply to public utilities, irrespective of whether they are corporatised. Moreover, the success of administrative reform in increasing efficiency depends crucially on the resolve of government. If governments and/or policies change,

there is no guarantee that the pressures to improve performance will be sustained. Similarly, there is no surety that governments will continue to maintain an 'arm's length' relationship with their public utilities, particularly during periods of depressed economic conditions.

For these reasons, the Commission considers that administrative reforms, in the words of the reference for this inquiry, do not address 'areas where greatest efficiency gains are in prospect'. If all of the potential efficiency gains are to be realised, there must be further changes to promote actively increased competition. This requires changes to the structure of the industries, as well as the removal of legislative barriers to entry.

The need for competition is acknowledged by. some governments. For example, in its initial submission the South Australian Government supported:

> ... consideration of initiatives to increase the level of competition or private sector involvement in the electricity and gas industries, where such initiatives will confer clear economic benefits on the State.

Similarly, the New South Wales Government stated:

> ... the free market approach creates an atmosphere more likely to breed continuing improvement through ongoing market pressure for reform.

The Chairman of the SECV recently commented:

... despite all we have done in SECV featherbedded manning agreements and restrictive management and work practices remain. From our experience structural reform is necessary to shake them loose.

Some argue that increased competition in electricity and gas supply is not feasible for three major reasons, none of which the Commission finds convincing. First, it is sometimes claimed that entry barriers need to be retained so that utilities can perform CSOs. As stated above, the Commission considers that public utilities should not have to undertake CSOs. However, if they are required to do so, CSOs can be fulfilled in ways which do not require the maintenance of barriers to entry (eg by direct government funding of utilities' costs).. The second reason advanced is the natural monopoly characteristics of the industries. But this is true for only part of the industries. Moreover, the Commission considers that the dominant position of existing suppliers, coupled with the likelihood that capital costs could not be recouped if the venture failed, means that wasteful duplication is unlikely to result where natural monopoly elements are present. The third argument is that system economies are available from vertically integrated organisations. While this could be correct, the separation of functions as occurs in the electricity supply and natural gas industries in many overseas countries and the separation that currently exists in some Australian states (eg New South Wales and Queensland) suggest that the economies may not be substantial or that they may be captured effectively by alternative means (eg by formal or informal agreements to coordinate some activities). In any event, the Commission considers that the efficiency

benefits associated with vertical integration would not outweigh those resulting from greater competition.

Promoting competition in the electricity industry

In developing proposals to promote competition, the Commission has sought to focus attention on priority areas. It has not developed a detailed agenda for reform. In some areas further analysis is required.

Transmission

Electricity transmission is an activity which, because of its natural monopoly characteristics, is unlikely to be duplicated. Consequently, given existing technologies, the prospects of direct competition are slim. However, if there is to be competition in the generation and distribution sectors, both sectors must have fair access to transmission facilities. Without some guarantee of access, the likelihood of new entrants into the generation and distribution sectors would be small.

There are three major approaches which would improve access to transmission facilities. First, rely on the provisions of the Trade Practices Act to promote fair access. Second, establish the transmitter as a separate accounting entity within existing utilities (so-called ring fencing), subject to oversight by a regulatory body. Third, create a totally separate body responsible for transmission and require it to act as an open access carrier (ie transmit on behalf of any party at pre-determined prices, subject to the availability of capacity and system reliability/safety considerations). The approaches are not mutually independent.

The Commission considers that access problems and regulatory costs will be minimised if transmission is undertaken by a separate utility which is required to operate the transmission grid on an open access basis. Functions that would be undertaken ultimately by the transmission utility include the operation and maintenance of the grid, merit order dispatch, pricing of transmission services, planning of grid extensions, and coordination functions to maintain system integrity.

The activity of the transmission utility would be complemented by the development of a power pooling arrangement which would supplant the traditional centralised planning approach. Pooling arrangements can be complex and highly technical. Consequently, the Commission has not attempted to specify fully the form of arrangement it believes appropriate. However, the arrangement should permit distributors to negotiate forward supply arrangements with generators and with large users. Market trading mechanisms to allow distributors to sell power in excess of their contracted requirements and, conversely, to purchase electricity to meet additional load would be required. A dispatch market, whereby generators disclose their supply costs to the transmitter, would need to be developed. This would allow for merit order dispatch of generating units so as to

minimise supply costs for any given load. The transmitter would be able to negotiate with generators to provide reactive capacity for voltage control and reserve capacity to ensure system integrity.

The new arrangements would need to be trialed and refined prior to full separation of transmission from other industry functions. During this period, there should be regulatory oversight to ensure that grid access, pricing and planning procedures are, and are seen to be, impartial and transparent. While this task extends beyond the usual charter of the TPC, a Ministerial Direction could require that it fulfill this oversighting role. Once the new arrangements are in place, the Ministerial Direction would lapse and transmission could be subject to general TPC and PSA provisions. However, mainly because of the natural monopoly characteristics of transmission and the implications of this for pricing, some difficulties may arise if both agencies are involved. Consequently, it would be appropriate to consider requiring the TPC to coordinate all regulatory tasks. If this were to occur, it would also be appropriate to consider amendments to the Trade Practices Act to ensure that all network activities are covered and that efficient forms of pricing for a natural monopoly are not construed as discriminatory.

Generation

Separating transmission should stimulate private sector interest in new generating capacity. However, even if the private sector provided all new generating capacity over the next decade, current levels of excess capacity would mean that private participation and competition in generation would still be relatively minor. Consequently, the Commission proposes that existing government owned generating capacity be split into a number of independent generating utilities that would compete against each other, as well as against new private generators.

The principle of having separate and independent generators is not radical: it has been accepted in some states (eg the Western Australian Government has announced that its next major power station will be privately built, owned and operated, the SECV wishes to sell one of its power stations and QEC has recently examined the sale of the Gladstone power station). Overseas, the United Kingdom Government has divided its generating capacity in England and Wales into three entities. Many other countries (eg Germany, Japan and Sweden) have diverse ownership of generating plant.

Splitting generation could increase costs: eg coordination costs and perhaps fuel costs could increase with an expansion in the number of generating bodies. However, the Commission is confident these costs would not be significant in comparison with savings which would arise from increased competition.

Distribution

There is also scope for introducing competition into the distribution sector. The removal of exclusive franchise rights would permit some competition, but this would be limited,

particularly in those states where there is only a single distributor. If there is to be effective competition, multiple franchises in each state are an essential prerequisite. A requirement that distributors provide open access to their networks would also facilitate competition. Regulatory oversight similar to that proposed for transmission would be appropriate.

Following these changes, competition could evolve in a number of ways. First, large energy users in one franchise area may find it profitable to purchase supply from another franchise holder. Second, it may be in the best interests of some users to by-pass distribution utilities and take power directly from the transmission grid or a nearby generator. Third, franchise holders could compete to. attract new industry. Fourth, publication of standard performance indicators for each franchise could act as a spur to competition (so-called 'yardstick' competition).

Unlike generation, distribution is already divided in a number of states. Twenty-five government bodies are responsible for distribution in New South Wales, seven Electricity Boards distribute in Queensland and about 30 per cent of distribution in Melbourne is performed by 11 Municipal Electricity Undertakings. Distribution in the other states/territories and in the remainder of Victoria is undertaken by a single authority. These differences largely reflect varying perceptions about the relative significance of scale economies and advantages stemming from having a 'local identity'.

The Commission considers there should be multiple franchises in each state. The precise number of franchises would need to be determined having regard to geographical and demographic features, and to the significance of scale economies, but should not be constrained by state boundaries. The use of these criteria could also lead to the consolidation of existing franchises in Melbourne and non-metropolitan New South Wales. It could also lead to the separation of large franchises in urban New South Wales.

Implementation

The separation of the generation, transmission and distribution components of the industry could be undertaken as separate exercises within each state. Such a proposal is already being considered in New South Wales. However, the Commission considers that competition would be increased and efficiency enhanced if, rather than having a separate transmission body in each state, transmission responsibility in those states presently interconnected (New South Wales, Victoria and South Australia), along with those states where the possibility of interconnections exists (Queensland and Tasmania), were consolidated in the one body. This would facilitate evaluation of new generating capacity and extensions to the transmission grid free of constraints imposed by state interests.

To this end, the Commission proposes that an independent body be formed to acquire transmission assets in New South Wales, Victoria, Queensland, South Australia and

Tasmania. Initially each participating government would own shares in this body in proportion to the value of the transmission assets which it had contributed. The shares could be freely traded. One possibility would be for the Commonwealth to purchase additional equity in the body if this would increase the likelihood of an integrated grid developing. In Western Australia and the Northern Territory, interconnections are not viable with existing technologies.

Most state electricity authorities support the formation of a 'national' grid, but consider that ownership should remain with the individual states and that transmission should continue to be owned and operated by state generating authorities. They propose that management of the grid be undertaken on a cooperative basis by a Council comprising the chief executive officers of the relevant state utilities.

The Commission considers this alternative totally inappropriate. The proposal, which is an extension of the arrangements which have applied to the existing interconnected grid for some years, would perpetuate inefficiencies that have held back consideration of new interconnections in the past. Each state would be free to determine how much, if any, electricity it buys and sells interstate. There would be no guarantee that new capacity and grid extensions would be considered from a national perspective. With ownership remaining in the hands of six governments, the scope for governments to intervene would be substantially greater than if transmission were handled by the one body. The failure to separate transmission from generating authorities would inevitably create conflicts of interest, jeopardise the attainment of non-discriminatory access to the grid and stifle the prospects for competition emerging in the generation and distribution sectors.

At the Special Premiers' Conference in October 1990, a working group was established to assess whether extensions to the interstate electricity grid are economically justified and, if so, to consider organisational options - including the possibility of a jointly owned transmission system - for achieving this. The Commission considers that it is feasible, and that a jointly owned interstate transmission system should be developed along the lines suggested here.

All of the structural proposals outlined in this section could not be put in place immediately. It will take some time to establish separate bodies, to make the changes necessary to provide them with a corporate identity and commercial functions, to address practical problems concerning system integrity, and to establish appropriate operating procedures and regulatory provisions. A two-stage process would be required.

The first stage would involve notional separation by means of ring fencing of transmission from the remainder of the industry, and the division by ring fencing of both generation and, where applicable, distribution. During this stage, each of the entities would be prepared for corporatisation and the mechanisms required for market transactions developed. The second stage would involve full separation of all the corporatised bodies and the amalgamation of state transmission bodies to form a single transmission body for eastern and southern states.

Ongoing consultation between governments and utilities will be required to ensure a uniform approach to corporatisation, to create and develop operational guidelines for the new transmission agency, to establish commercial markets for electricity and to pool information so as to minimise transitional problems and reduce duplication.

Promoting competition in the natural gas industry

The natural gas supply industry has a number of features in common with the electricity supply industry (ESI). For example, transmission and distribution of natural gas also display natural monopoly characteristics and, like the ESI, the industry consists mainly of large enterprises servicing well established markets in which there is no direct competition from alternative suppliers. Largely because of these characteristics, structural change and associated regulatory reform is required to promote competition in the industry.

There are also some notable differences between the ESI and the natural gas industry. Consequently, while the measures proposed by the Commission to promote competition in the natural gas industry are similar to those proposed for the ESI, they are not identical.

In Australia, the natural gas industry is not as mature as the ESI. The industry is still developing. There are only a few major producers. The area supplied with reticulated natural gas is small compared with electricity and, perhaps more importantly, the transmission sector of the industry consists of only a half dozen or so major pipelines. Moreover, there are currently no interconnections between major transmission pipelines in Australia, either within or between states. In contrast, there is a large number of electricity generating units. The transmission sector of the ESI consists of comprehensive interconnected networks within states, with limited connections to networks in other states. Because there are no interconnections, and because natural gas can be stored, the coordination task so significant in the transmission sector of the ESI is presently not nearly as complex or important for the natural gas industry.

Because of these considerations, the Commission does not consider it essential that production and transmission of natural gas be undertaken by separate bodies. However, it considers that all pipelines should be required to operate on an open access basis. This would increase the potential for competition by permitting distributors and large users to negotiate directly with producers. It may also stimulate competition by encouraging additional exploration. At the same time, growth in competition would be constrained by existing contractual arrangements (eg virtually all available gas from the Cooper Basin is committed under existing contracts).

The Commission considers that ownership of major transmission and distribution assets should be separate for similar reasons that separation is proposed for the ESI. Separation would support the introduction of an open access requirement. As coordination of supply is not as complex in the natural gas industry, the possibility that significant transactions costs will arise from separating those organisations which are presently vertically integrated (GFCV and SECWA) is small. A two stage process involving, first, ring fencing and, second, full separation is proposed.

Competition in distribution would be promoted by creating multiple distribution franchises in those states where this currently does not apply (ie all mainland states except New South Wales and Queensland). As with the ESI, the number of franchises in each state would be influenced by geographic and demographic factors and should not be constrained by state boundaries. The extension of open access provisions to distribution activity would add to competitive pressures and complement the formation of multiple franchises in each state. Multiple franchises would also provide a better basis for assessing performance. To promote competition, there may also be a case for ensuring that there are several independent franchise holders in each state.

In Western Australia, separating the electricity and gas functions of SECWA would be a necessary step to promote competition and increase efficiency in both natural gas and electricity activities.

Ownership

Market disciplines which apply to private organisations - such as the threat of takeover, the risk of bankruptcy and monitoring mechanisms associated with listing on sharemarkets - do not apply to government bodies (irrespective of whether they are corporatised). Moreover, even with a corporatised public body, there is always the possibility that government will interfere in operating decisions and apply pressures for short term political ends which will damage economic performance. Consequently, there is the potential for greater efficiency in a private enterprise than in a public enterprise.

Studies of the comparative performance of public and private enterprises suggest that, where there is effective competition, private enterprises operate more efficiently. In activities where there is some potential for the exercise of market power (eg in natural monopoly activities such as electricity and gas transmission), the findings are inconclusive. The outcome essentially hinges on the comparative costs of regulating a public compared with a private monopoly.

Overseas experience and information submitted by participants demonstrate that it is possible to have effective competition in the electricity generation sector. Private ownership currently accounts for around half of the world's generating capacity. As discussed above, most Australian utilities have recently canvassed the possibility of

private sector participation in generation and it has recently been announced that SECWA's next major power station will be privately owned and operated.

Selling existing power stations to the private sector would remove ongoing constraints associated with public ownership and may permit faster rationalisation of management and work practices. Furthermore, competitive pressures are likely to be greater between private firms (and between private firms and government owned bodies) than it would be between the newly formed publicly owned generating bodies. Unless some of these latter bodies are privatised, the generating sector would be dominated by public utilities for many years to come. Entry of new private generation would only be a possibility when current excess capacity is absorbed.

The Commission considers that governments should sell their existing generating capacity to the private sector. Guidelines concerning transmission access and pricing and details of the regulatory regime will have to be available to enable potential buyers to prepare bids. Given the size of the investment required to acquire a power station or group of stations, sales will have to be staggered over time. Nonetheless, if the benefits from increasing competition are to be realised as soon as practicable, it is imperative for sales to commence in the near future. For early sales, there would be no need to proceed first through the process of corporatisation in its entirety, although the changes required to create a neutral market environment (eg the removal of barriers to entry and exemptions from taxes and charges) would have to be implemented prior to sale.

Because of natural monopoly characteristics and the consequent need for some regulation, ownership of electricity transmission assets is a more complex question. The Commission considered a number of options including: a corporatised public enterprise; a club of generators; a club of distributors; a club of generators and distributors; and independent private ownership. With minor modifications, the same options, can be considered for ownership of natural gas transmission pipelines. As discussed above, another option is to have pipelines owned by the producer(s) of the gas fields which they serve.

The probability of competition in this sector is remote. Consequently, there is a clearly a need for regulatory oversight. However, it is not clear how regulatory costs would vary between the different ownership possibilities. The Commission considers there are insufficient grounds to conclude that a change in ownership of electricity and gas transmission assets would improve efficiency.

Although the extent of competition in electricity and gas distribution is not likely to be as great as in the electricity generation sector, most of the factors outlined above in relation to generation are equally relevant. Private firms already participate in gas distribution in Australia. Private firms also participate in electricity distribution in many other countries (including Denmark, Germany, Japan, Sweden and the United States of America).

The Commission considers that governments should sell at least some of their distribution assets to the private sector. Further sales would be dependent on an evaluation of the comparative performance of public and privately owned distributors. Similar considerations on timing to those outlined above would apply.

The present taxation arrangements could mean that some governments are reluctant to sell publicly owned assets because, following privatisation, any revenue formerly collected by the state in lieu of company tax would be diverted to the Commonwealth Government. This problem could be overcome if following privatisation of public utilities, the Commonwealth agreed to compensate state and territory governments for revenue forgone. This issue was addressed at the Special Premiers' Conference in October 1990 when the Commonwealth Government's policy of in-principle commitment to compensation was welcomed.

Review

The Commission considers it would be appropriate for an independent body to review the electricity and natural gas supply industries in three years time. In addition to examining the progress made in implementing reforms, the review should include an evaluation of options for further improving efficiency in light of achievements in Australia and developments overseas.

Recommendations

The Industry Commission recommends that the following actions be taken by governments at the earliest possible date to rectify serious impediments to efficient resource use in the electricity and gas supply industries arising from existing institutional and regulatory arrangements:

1. Increase competition in the electricity supply industry by, first, notionally separating (ie ring fencing) activities within two years and, second, fully separating activities as soon as possible thereafter in accordance with Schedule 1 following. This would require government action in particular to:
    - separate ownership of generation, transmission and distribution functions;
    - break up existing publicly owned generating capacity to form a number of independent generating bodies;
    - form a public body to acquire and operate all transmission assets in New South Wales, Victoria, Queensland, South Australia and Tasmania;
    - create multiple distribution franchises in states where currently they do not exist;
    - require all transmission and distribution bodies to provide open access.

2. Increase competition in the natural gas supply industry by, first, notionally separating activities within two years and, second, by fully separating activities as soon as possible thereafter in accordance with Schedule 2 following. This would require government action in particular to:
    - separate ownership of transmission and distribution functions;
    - create multiple distribution franchises in mainland states where currently they do not exist; and
    - require all transmission and distribution bodies to provide open access.

3 Corporatise, within twelve months, all public bodies engaged in electricity generation and the transmission and distribution of electricity and natural gas to place them on a commercial basis, at arm's length from government, in accordance with Schedule 3 following.

4 Modify regulatory and other controls applying to private utilities in accordance with Schedule 4 following.

5 Progressively sell publicly owned electricity generation and electricity and gas distribution assets to the private sector in accordance with Schedule 5 following.

6 Implement several other initiatives to increase efficiency in accordance with Schedule 6 following. These initiatives cover changes to pricing of electricity and gas, the Snowy Mountains Hydro-Electric Scheme, new capacity for public utilities and load management and energy conservation measures.

7 Initiate a review by an independent body - in three years time - of the progress made in implementing reforms and options for further improving efficiency.

Schedule 1: Promotion of competition in the electricity supply industry

The following steps should be taken to restructure the electricity supply industry so as to increase competition:

- ring fence generation, transmission and, where not already separate, distribution assets in all states;
- separate by ring fencing the electricity and gas activities of the State Energy Commission of Western Australia;
- divide by ring fencing generating capacity in each mainland state, and consider doing so in Tasmania and the Northern Territory;
- divide by ring fencing distribution assets in Western Australia, South Australia and Tasmania, and the distribution assets of the State Electricity Commission of Victoria into a number of distribution entities;
- require distribution bodies to provide open access;
- require transmission bodies to provide open access and to be responsible for the operation and maintenance of the grid, merit order dispatch of generators, pricing of transmission services, planning of grid extensions and other coordination functions to maintain system integrity;
- develop a pooling arrangement based on four main markets - dispatch, security, wholesale and retail - for organising the sale of electricity prior to the full separation of ring fenced generation, transmission and distribution bodies;
- combine the transmission assets in New South Wales, Victoria, Queensland, South Australia and Tasmania to form an independent transmission body, initially owned jointly by each of the five states and the Commonwealth;
- make the ring fenced transmission body in Western Australia fully independent;
- make all ring fenced generating bodies fully independent;
- create separate franchises for each ring fenced distribution body;
- consider amalgamating small distribution authorities in Melbourne and the non-metropolitan areas of New South Wales, and dividing existing large distribution authorities in urban New South Wales; and
- require, by means of a Ministerial Direction, the Trade Practices Commission to oversee the development of new operating guidelines, mainly concerning access and pricing of network services. Once established, this arrangement would lapse and all industry activity could be made subject to the general provisions of the Trade Practices Act and the Prices Surveillance Act only. However, consideration should be given to requiring the Trade Practices

Commission to coordinate all regulatory tasks, with accompanying modifications to the Trade Practices Act.

Schedule 2: Promotion of competition in the natural gas supply industry

The following steps should be taken to restructure the natural gas industry so as to increase competition:

- ring fence integrated transmission and distribution functions in Victoria and Western Australia;
- divide by ring fencing distribution assets in Victoria, South Australia and Western Australia into a number of distribution entities;
- require all transmission and distribution pipeline operators to provide open access;
- make ring fenced transmission bodies in Victoria and Western Australia fully independent;
- create separate franchises for each ring fenced distribution entity; and
- require, by means of a Ministerial Direction, the Trade Practices Commission to oversee the development of new operating guidelines, mainly concerning access and pricing of network services. Once established, this arrangement would lapse and all industry activities should be made subject to the general provisions of the Trade Practices Act and the Prices Surveillance Act only. However, consideration should be given to requiring the Trade Practices Commission to coordinate all regulatory tasks, with accompanying modifications to the Trade Practices Act.

Schedule 3: Corporatisation of public utilities

All public electricity and gas utilities should be corporatised as soon as possible. The major elements of this approach would be to:

- provide utilities with clear objectives that relate to commercial performance only;
- abolish requirements for utilities to perform regulatory functions;
- abolish requirements for utilities to undertake CSOs. If, however, some residual CSOs remain, they should be individually identified and costed, and directly funded by government;
- vest management responsibility in a board of directors accountable to parliament through the relevant minister. Directors should be appointed on the basis of relevant commercial experience;

- introduce performance monitoring based on financial and non-financial targets and incorporating an appropriate set of rewards and penalties to apply to managers;
- remove legislative barriers to entry and obligations to connect new users at concessional rates;
- make utilities liable for all government charges and taxes;
- adopt uniform commercial accounting practices, particularly in relation to asset valuation;
- require public utilities to pay dividends to government equivalent to those that would be paid by similar private companies;
- remove constraints and advantages associated with utilities' borrowings;
- remove other public sector constraints (eg the need to conform with government employment policies) and advantages (eg exemption from the Trade Practices Act) that apply to public utilities, but not to private organisations; and
- make public utilities subject to the Companies Code.

Schedule 4: Regulatory change to private utilities

The regulatory environment applying to private utilities should be modified as soon as possible, as follows:

- monitor tariffs by 'light handed' regulation by a body such as the Trade Practices Commission. If this is shown to be ineffective, industry specific monitoring based on a price capping formula should be employed;
- terminate exclusive franchises and obligations to connect new users at concessional rates;
- allocate non-exclusive, tradeable franchises for approximately 10-15 year periods. Franchises should be allocated by tender to the party bidding the lowest price to distribute gas over the franchise period, net of the cost of gas purchased. Franchise holders should be required to purchase all assets specific to the franchise area;
- consider the possibility of limiting the ability of a single person, or associated persons, to acquire a dominating interest in each state;
- limit franchise fees to the amount required to recover relevant administrative expenses;
- end provisions which limit trading in utilities' private shareholdings; and
- abolish government policies that restrict the use of gas or its sale interstate or overseas. The Commonwealth should consider using its powers, where relevant, to facilitate the abolition of these restrictions.

Schedule 5: Sale of publicly owned assets

The sale of government owned assets should:

- eventually encompass all generation assets;
- initially include some electricity and gas distribution assets. Further sales would be dependent on an evaluation of the comparative performance of public and privately owned distributors;
- include consideration of the possibility of limiting the ability of a single person, or associated persons, to acquire a dominating interest in each state; and
- qualify for compensation from the Commonwealth Government for any revenue paid to meet Commonwealth company tax provisions.

Schedule 6: Other initiatives to increase efficiency

The following initiatives, most of which would become redundant if the other proposals outlined in this report were implemented, should be adopted as soon as possible:

Pricing

- restructure the electricity and gas tariffs of public utilities so that revenue is sufficient to recover the economic costs of supply; and
- make charges to users more accurately reflect supply costs. This would require utilities to:
  - determine user classes for tariff purposes mainly on the basis of load profile;
  - end existing policies of charging a uniform tariff to all users in a particular class, irrespective of location;
  - increase the use of supply charges to reflect system fixed costs; increase the availability of time-of-use tariffs; and
  - generally abolish stand-by electricity tariffs for private generators.

Snowy Mountains Hydro-Electric Scheme

- vest management responsibility for the Scheme in a single body; and
- renegotiate the pricing arrangements so that prices charged for electricity and for water supplied by the Scheme reflect their full economic costs (including a return on the current replacement value of capital employed).

New capacity for public utilities

- make all major new investments subject to tender, with evaluation of tenders to be scrutinised by a neutral body, pending structural reform.

Load management and energy conservation

- remove government requirements that electricity and gas utilities pursue non-commercial demand side management activities;

- address, by means of government rather than utility sponsored programs, institutional impediments and market failures which impede the efficient use of energy, provided it can be demonstrated that net benefits would result; and

- provided that appropriate environmental and other safeguards are in place, allow the development of nuclear electricity generation in Australia to be determined by commercial considerations.