SUBMISSION

BY

AUSTRALIAN PETROLEUM PRODUCTION & EXPLORATION ASSOCIATION LIMITED

TO

THE HOUSE OF REPRESENTATIVES STANDING COMMITTEE ON ENVIRONMENT, RECREATION AND THE ARTS

INQUIRY INTO THE REGULATORYARRANGEMENTS FOR TRADING IN GREENHOUSE GAS EMISSIONS

CANBERRA

MARCH 1998

Executive Summary

The Australian Petroleum Production & Exploration Association (APPEA) is the representative organisation of the upstream oil and gas industry in Australia. It has 44 member companies engaged in oil and gas exploration and production activities and a further 104 member companies who provide services to the exploration and production parts of the industry.

The process of exploration, development and production of oil and gas and of producing liquefied natural gas (LNG) contributes 3 per cent of Australia's national greenhouse gas emissions. However, petroleum resources (in the form of oil, liquid petroleum gas {LPG} and natural gas) provide 55 per cent of Australia's basic energy requirements. In addition, LNG plays a major role in Australia's energy exports and makes a significant contribution to the balance of payments.

APPEA believes that two broad issues need to be considered in relation to emission permit trading, namely:

- Is it possible to develop a workable, equitable and efficient emission permit trading scheme domestically and internationally?

- Is it necessary to implement such a workable scheme at this point of time?

The Principles for a Workable Scheme

APPEA notes that, in economic theory, greenhouse gas emission permit trading in competitive markets is described as an effective mechanism for facilitating least cost emission abatement. However, there is, as in all things, a significant gap between the theoretical concept and how a trading system may operate in a real life situation. In addition, it should be recognized that trading does not, of itself, abate emissions. It is part of a whole suite of measures and policies. The role of emission permit trading is as a vehicle for encouraging those with a capacity to take cost-effective action to do so.

There are however a number of principles that APPEA considers should underlie further work in relation to greenhouse gas emission trading. These are:

- Any scheme must not undermine the international competitiveness of the Australian economy.
  - ♦ Any international scheme must apply to all countries that are major greenhouse gas emitters so as to minimise international trade distortions.
  - ♦ A sub national scheme or set of schemes is unacceptable.
- Any national scheme must be capable of integrating into an international scheme including allowing the option for companies to freely trade nationally as well as internationally.
- The scheme must be able to deliver the objective; that is, it must be designed in a way that it provides an economic incentive for those who can abate emissions to

actually do so. The benefits of participating in the scheme must outweigh the operational costs.

- The coverage of the system should be comprehensive; that is, it should include all six gases covered by the Kyoto Protocol, all sources of greenhouse gases and credits for sinks and sequestration.
- The scheme must be equitable in its operation, that is, all parties must share a fair proportion of any burden including a fair share of the burden over time. New projects should not be disadvantaged.
- The scheme must allow emission abatement achieved in one time period to be banked for trading in future time periods.
- The scheme should not be a de facto revenue raising mechanism for government – permit quotas should be allocated free and not auctioned.
- The scheme must give certainty for ongoing operations and future investments.
- Permits must have a clear statutory backing. Compensation on a just terms basis must be payable for any unilateral withdrawal of permits by government.
- There must be a transparent, credible and effective mechanism for accounting for emissions and for verifying them.
- There should be minimum government bureaucracy associated with trading and verification both domestically and internationally. Market based schemes will be more effective than command and control schemes.
- The scheme must be compatible with other policies and measures both domestically and internationally (in the international context the scheme must be compatible with joint implementation and the Clean Development Mechanism).

APPEA considers that the range of issues associated with addressing each of these principles. They need to be resolved before it is possible to determine whether greenhouse gas emission permit trading on either a domestic or an international scale is workable, equitable and effective. At this stage, a considerable amount of further research and discussion needs to take place before regulatory arrangements are formulated.

The Need for A Scheme Now

APPEA considers that the need to rush to develop and implement a greenhouse gas emission permit trading system in the short to medium term remains to be demonstrated.

There is no pressure from the international negotiating process. The process of developing workable international arrangements is likely to be a protracted one. The issue of avoiding distortions to international trading mechanisms will be particularly difficult. Some USA government sources suggest that it will not be possible until well into the first decade of next century.

Equally, there is no real need domestically to rush into things. The government has stated repeatedly that its existing policies and measures will deliver the outcomes Australia agreed to a Kyoto.

Nationally, greenhouse gas emission permit trading should not be a stand alone additional mechanism to facilitate abatement of greenhouse gas emissions. Policies such as improvements to energy efficiency levels, fuel switching, developing new technologies and creating greenhouse sinks and absorption systems are the essential tools of emission abatement.

Conclusion

APPEA believes that, given the number and complexity of the issues involved, it would be very prudent to proceed cautiously with plans to design a greenhouse gas emission permit trading mechanism either domestically or internationally. Further **planning should involve the active participation of all potential parties to the system from the earliest stages**. In the international context, Australia should be an active participant in the debate with the aim of ensuring that any scheme developed is fully thought through and key issues are understood.

APPEA supports the use of market signals wherever possible as a means of delivering cost effective and flexible approaches to achieving greenhouse gas abatement. Given the complexity of the issues involved in greenhouse gas emission permit trading, it will be essential to ensure that the benefits of any operational system exceed the costs of instituting and operating the necessary legislative, measurement, operational and verification arrangements.

As a consequence, APPEA believes that the best approach for the Committee to pursue is to attempt to define policy principles that a workable, efficient, equitable and certain emission permit trading system must conform to.

Introduction

Who is APPEA?

The Australian Petroleum Production & Exploration Association (APPEA) is the representative organisation of the upstream oil and gas industry in Australia. It has 44 member companies engaged in oil and gas exploration and production activities and a further 104 member companies who provide services to the exploration and production parts of the industry.

The Significance of the Upstream Sector in the Overall Greenhouse Emissions Inventory

The process of exploration, development and production of oil and gas and of producing liquefied natural gas (LNG) contributes 3 per cent of Australia's national greenhouse gas emissions.

Emission Relativities in Australia

Upstream oil and gas production and processing		3.0%
Refining petroleum resources into petroleum product		2.0%
Transport	15.5%	
Land use clearing and forestry	30.4%	
Electricity generation	33.1%	
Sub Total		79%

Source National Greenhouse Gas Inventory 1998-94

However, the markets, which purchase the output of the upstream oil and gas sector, are such that petroleum resources (in the form of oil, liquid petroleum gas {LPG} and natural gas) provide 55 per cent of Australia's basic energy requirements.

Crude oil comprises 37 per cent of energy consumption (mainly in the commercial transport and domestic vehicles sector) and natural gas comprises 18 per cent. The share of natural gas, a relatively benign greenhouse gas emitting fuel, is growing.

LNG exports play a significant role in energy consumption overseas, particularly in Japan.

The Contribution of the Sector to National Prosperity

The upstream oil and gas industry makes a major contribution to national economic and social prosperity. The economic significance of petroleum exploration and production is important in terms of economic growth, the balance of payments, employment and government taxation revenues.

Economic Significance of Upstream Oil and Gas Sector

A 20% rise in production will lead to a GDP increase of 0.4% to 0.5% and an employment increase of 0.2% to 0.4%.

Value of production	about $8.7 billion pa
Net exports	over $1 billion pa
Import Replacement	over $3 billion pa
Net Present Value	$178 billion
Direct and indirect employment	approximately 15,00
Production Taxes	over $1 billion pa
Income tax	$1.2 billion

In 1996/97 the industry contributed 57% of its pre tax profits to government in the form of production and income taxes.

Source ABARE/APPEA

The breath and depth of that contribution is set out in the speech at Appendix I to this submission.

Any policy measure that impacts on the international competitiveness of the sector is therefore a matter of key national concern as well as a matter of industry concern.

In this context it needs to be recognized that:

- the upstream industry is a price taker for its sales of crude oil, condensate, LNG and LPG. The price it faces is set in highly competitive international markets;

- if a policy approach, such as emission permit trading, places a cost burden on Australian oil and gas producers which their competitors do not face, they cannot pass it on to consumers via price increases. The producers must absorb the cost increase. This inevitably means that the attractiveness of Australia as a place to invest is undermined with consequent supply security, budgetary, environmental (fuel switching) and balance of payments implications.
  - Most alternative suppliers of crude oil to Australia and competitors with Australian crude oil exports are not Annex I countries.
  - With the exception of a small plant in Alaska, Australia is the only Annex I country to produce LNG
  - PNG, a major potential natural gas supplier to Australia, is not in Annex I;

- on the other hand, if a policy impacts on energy intensive Australian industries that consume oil, natural gas and/or LPG, to the extent that their competition comes from non Annex I countries, cost competitiveness is undermined, demand for oil and gas is reduced and eventually the benefits of Australian oil and gas production flow to economies other than Australia.

Framework of the rest of this Submission.

Before endorsing emission permit trading as a policy tool that should be adopted in Australia or internationally to facilitate cost effective emission abatement, APPEA believes two broad questions must be addressed.

- Is it possible to develop a workable, equitable and efficient emission permit trading scheme domestically and internationally?

- Is it necessary to implement such a workable scheme at this point of time?

In addressing the question of whether it is possible to develop a workable, equitable, efficient and certain emission permit trading system it is necessary to address:

- threshold issues
- design issues; and
- implementation issues.

In addressing the question of the need for a scheme, APPEA believes careful consideration should be given to Australia's national and international economic (competitiveness) interests.

A Workable Scheme

Given the purpose that any greenhouse gas emission permit trading scheme is intended to achieve, namely the most cost effective path to achieving emission abatement, it is essential that the operational scheme be designed in a way that the benefits achieved from the scheme exceed the cost. This is essential if there is to be an economic incentive to trade. If this basic criterion is not met, the scheme has failed in its prime purpose.

Policy Principle

Any scheme must be designed in a way that it provides an economic incentive for those who can abate emissions to actually do so. The benefits of participating in the scheme must outweigh the operational costs.

There are two fundamental reasons why the workability of a greenhouse gas emission permit trading scheme has to be examined in detail.

- While the concept, when it is applied in economic theory, gives a least cost adjustment path for emission abatement, there are large differences in between the assumptions that underlie an economic model and the realities that will apply in the real world, for example:

    - the theoretical world is a competitive one whereas the real life world is likely to have significant elements of market failure in it. Any international scheme will for the foreseeable future be restricted to Annex I countries. Such a scheme is likely to be dominated by two large buyers (Japan and the USA) and one or two large sellers (Russia and the Ukraine). All other buyers and sellers are likely to be price takers. In the domestic market it is possible, depending on the design of the scheme, that large brown and black coal electricity generating companies will have substantial market power.
    - The theoretical world does not have to deal with issues of measurement and verification. The real life world does and, in addition, the state of the science is such that measurement may be imprecise, evolving or impossible in many respects. The major measurement problems relate to diffuse emission sources, sinks and land use clearance each of which plays a significant part in overall national emission levels.

- The most quoted example of a working emission permit trading scheme, namely the scheme in the USA for dealing with SOx emissions, in no way approximates the complexity that would exist in relation to a real life greenhouse gas emission permit trading model, for example:
    - the SOx model does not operate in an international context
    - the SOx model does not cover the range of gases, sources and sinks that would be involved in a greenhouse system.

The basic requirements APPEA would see applying to a real world scheme are that:

- it must be workable e.g. the emissions must be able to be measured in a consistent and transparent manner and there must be a cost effective verification system;
- it must be equitable;
- it must be efficient; that is it must be cost effective in its operation and the benefits of the scheme must outweigh the cost;
- it must give certainty to investors.

In addressing the question of whether it is possible to develop a workable, equitable, efficient and certain emission permit trading system it is necessary to address:

- threshold issues;
- design issues;
- implementation issues.

Threshold Issues

This submission primarily deals with issues relating to a greenhouse gas emission permit trading system in a domestic context. Many of the issues raised in the domestic context are equally applicable to the international context.

The international context

There are however, a number of threshold issues which are unique to/and or arise from the international context. These are:

- which countries are involved in the scheme;
- how will the trades take place internationally;
- the relationship between international and domestic systems;
- the relationship of any international emission permit trading system to other policies.

As is noted below in the discussion of domestic issues, there are a number of threshold issues where it would be desirable to have consistency between a domestic and an international greenhouse gas emission permit trading scheme.

In APPEA's view, the issue of the *international coverage* of the scheme should be governed by four factors.

- Australia's growth potential and economic and social wellbeing depends on maintaining and enhancing the international cost competitiveness of its traded goods sector. Any greenhouse policy that impinges on that competitiveness should be viewed with a great deal of caution and scepticism. If emission permit trading places obligations on Australian industry that its international competitors do not face, then competitiveness is inhibited. This is most easily avoided by having a scheme that covers the greatest possible number of countries (including non Annex I countries).

- Greenhouse is a global problem requiring global solutions. A scheme that operates only within a subset of Annex I countries or only within Annex I will not be addressing the whole or a major part of the issue. The mechanism of trading will, at best, be contributing to a partial solution. Trade distortions and large capital flows to non-Annex I countries will be an inevitable consequence.

- Emission permit trading is a mechanism for achieving cost effective abatement. Since some of the most cost effective emission reduction options exist outside Annex I countries it would not seem to be economically rational to limit trading to Annex I countries or a subset of these.

- The concept of emission permit trading is based on the assumption that there is a competitive market for permits. The greater the number of participants involved the more likely this theoretical precondition will be met. As noted above, a system that only involves a sub set of Annex I countries (which is the most likely outcome) will not be competitive. A few large players will exercise excessive market power. Therefore it cannot deliver the most cost effective emission abatement strategy (see Appendix II).

Policy Principles

No aspect of greenhouse policy (including emission permit trading) should undermine the international competitiveness of the Australian economy.

Any international greenhouse gas emission permit trading scheme must apply to all countries that are major greenhouse gas emitters.

The other aspect of the international context that needs to be considered carefully is *how will trades take place*.

- One option would be to allocate permit quotas between countries and then set up some sort o a clearing house to allow country to country trades. Three key issues arise.
  - What is the target that is to serve as a cap for the system? If it is only a sub set of Annex I that is trading, the overall Kyoto target may not be appropriate.
  - Next, there is the issue of how to achieve an equitable allocation of permits internationally. Australia has consistently argued that one of the basic principles that must underlie any international greenhouse agreement is equitable burden sharing defined as an equal loss of per capita welfare for each country. This principle should apply to the allocation of permits between countries (if this approach is chosen) in any international emissions permit trading system.
  - Finally there is the issue of the design and operation of a cost effective clearing house/trading mechanism.
- The other option would be to have a set of national mechanisms and to allow a global trading market to operate to facilitate trades between firms in different countries: that is, governments would have little or no role in the system

The *relationship between international and domestic systems* is also a critical factor. How this melding of two potential systems can be achieved is unclear.

However, it may be desirable that international emission permit trading not be on a country to country/government to government basis. The analogy of international trading in stocks and shares may be a more appropriate one. Certainly, until design issues (including sovereignty related issues) are worked through in a much more comprehensive manner, any domestic or international system should not rule out the option of international corporations trading amongst their international subsidiaries or of corporations opting for which country they wish to trade in.

It also needs to be born in mind in the international context that greenhouse policy is as much a trade issue as an environmental one and that emission permit trading is only a market mechanism for achieving cost effective abatement. On both grounds it is necessary to bear in mind the totality of the policy suite when designing an emission permit trading system; that is, *the relationship of the international permit trading system to other policies* needs to be constantly born in mind.

An emission permit trading system should not become a barrier to trade or create significant trade distortions. Participation or otherwise must not be accompanied by trade sanctions and the design of the system should not depend on the erection of trade barriers for its effectiveness. In short, the system must be consistent with the WTO principles.

It is also essential that the permit trading system does not operate in a manner that inhibits international flows of capital.

Finally, it is essential that international greenhouse policy mechanisms such as Joint Implementation and the Clean Development Mechanism are able to operate in an integrated manner with emission permit trading. As such the international study of all three mechanisms must proceed hand in hand and one should not be set in place without the other.

Policy Principles

Any national scheme must be capable of integrating into any international scheme including allowing the option for companies to freely trade nationally as well as internationally.

The scheme must be compatible with other policies and measures both domestically and internationally (in the international context the scheme must be compatible with joint implementation and the Clean Development Mechanism).

The domestic context

The setting of a target is an essential pre-requisite to the implementation of an greenhouse gas emission permit trading system.

The Kyoto Protocol of 1997 sets a target for Australia of 8 per cent growth in net greenhouse gas emissions from a 1990 base by the period 2008-2010. It is not clear that this is the appropriate target for a greenhouse gas emissions permit trading system.

- There is still some doubt as to whether the Kyoto Protocol will enter into force. Even if it does enter into force, it will be of dubious validity if the USA has not ratified it. Australia has not as yet ratified the Protocol.

- The target has fundamental trade competitiveness implications since only Annex I countries accepted targets in the Kyoto Protocol.

- Other policies and measures have already been put in place to achieve this target.

There is also a link between the choice of a target and the sector coverage of any greenhouse gas emission permit trading scheme. It should be noted that the issue of sectoral coverage only becomes relevant if there is no conceivable way of meeting the comprehensiveness principle (see below).

- If all sectors, sources and sinks are to be covered the 8 per cent Kyoto target may be appropriate. It is noted that this target represents a reduction in emission growth of about 28 per cent compared to projected emission growth.

- If some sectors (eg the almost 50 per cent of emissions emanating from diffuse sources) are to be excluded from a domestic trading system, then a target that allows more than 8 per cent net emissions growth may be necessary. For example, if the coverage was only the energy sector and the energy intensive manufacturing sector, government forecasts would suggest a target of about 40 per cent growth from 1900 to 2010 should be the cap for emission permit trading.

- If all or some sinks are to be excluded, for example land clearance, government figures suggest a target of 18 per cent growth over the period 1990 to 2010 would be appropriate as a cap for emissions permit trading.

All of these options for a target are based on the assumption that the base line will be 1990 and that the target period will be 2010. If either of these time dimensions changes, there is a need to reconsider the appropriateness of the target options in totality (see the discussion on base lines below).

APPEA believes that there are four reasons why it is essential that all sectors of the economy should be included in any greenhouse gas emission permit trading scheme.

- Greenhouse is not a sectoral issue. It is one that not only affects all nations but also affects all sectors that either produce greenhouse gas emissions and/or use products which are produced as a result of a process that produces emissions. In addition, the inter sectoral distribution of emissions in Australia is such that the exclusion of the emission of one sector from trading would fundamentally compromise the effectiveness of the policy and alter inter sectoral competitiveness.

- Including all sectors should increase the flexibility of policy responses available.

- The broadest possible sectoral participation should improve the capacity to create an efficient market and prevent any one sector from being able to dominate and manipulate emission permit trades. For example, if sectors that have diffuse emissions are excluded it is likely that at least 50 percent of national emissions will be excluded and there will be an increased capacity for a few sectors with high emission levels to distort trades and prices. Many of the sectors with diffuse emissions (e.g. farming) are already collecting and reporting much of the data necessary for their participation in permit trading.

- If sectors are excluded from the coverage of the scheme, there will be significant inter sectoral and inter firm equity issues that have to be addressed. The equity issues will relate not only to the relative profitability of sectors and free riding but also to employment levels and future investment flows.

- All sectors need to be included in the scheme to provide emitters/energy users with an incentive to implement cost effectively energy efficiency and other abatement options.

However it must be recognised that there are significant measurement and administrative difficulties associated with incorporating emissions from diffuse sources in a trading scheme. A number of options exist for dealing with this issue.

The key point is that, if the principle of comprehensive coverage were to be abandoned and some sectors excluded from the coverage of a greenhouse gas emission permit trading scheme, such a scheme would not be acceptable unless the current approach to abatement policy was abandoned and replaced with a new one. A comprehensive suite of alternative policy measures would need to be developed and implemented to achieve demonstrable emission abatement in the excluded sectors. The measures would probably have to be more severe than those required if a comprehensive approach was adopted. These measures would have to come into effect at the same time as the emission permit trading scheme commenced operation.

Equally the choice of target depends on the comprehensive of the gas coverage of the scheme.

- The Kyoto Protocol covers six gases (CO_2, CH_4, NOx, HFCs, PFCs and SF_6). Having the domestic permit trading scheme cover all six gases would facilitate consistency with the design of any international scheme. However since the Protocol allows a different period for the counting of some of these gases, there will be complications in system design.

- The adequacy of data bases and measurement mechanisms differs for some gases. For example, CH_4 emissions for agriculture are not well documented and are difficult to measure.

- The need to achieve the maximum possible policy, operational and/or commercial flexibility for achieving abatement of emissions would suggest that the coverage of gases in a greenhouse gas emission trading system should be a comprehensive as possible.

- The more gases that are traded, the broader and more diverse the market will be and the greater will be the capacity to achieve an efficient competitive market.

It should be noted that APPEA would be totally opposed to a scheme that traded CO2 emissions only. This would be a rejection of the whole approach of comprehensiveness that has governed international negotiations to date and Australia's participation in those negotiations.

Finally, there is a link between target choice and whether trading will be of net or gross greenhouse gas emissions.

- Again issues of compatibility with any international system and the need for operational flexibility suggest that emissions should be able to be traded on a net basis.

- Trading on a net basis suggests that natural carbon sinks and other methods of carbon fixation must be included in the scheme.

- The broadest possible basis for trading will help facilitate an efficient market by increasing the scope for competition and trades.

Once a target has been chosen it is necessary to decide the basic mode of operation of the system. The system will need to operate on the basis of some sort of allocation of permits. These permits would then be traded to facilitate a cost-effective approach to achieving a future emission cap.

Policy Principle

The coverage of the scheme should be comprehensive; that is, it should include all gases covered by the Kyoto Protocol, all sources of greenhouse gases and credits for sinks and sequestration of emissions.

Another key threshold issue is how will allocations of permits be made.

There are fundamental equity issues that need to be considered in relation to this issue.

- The basic principle that should be applied to the allocation of permits is that there should be equality of net welfare gains and/or losses for each party as a result of the allocation. Perverse costs and incentives should be avoided or minimised.

- There will be a need to ensure that windfall gains are avoided or minimised.

- Permits should be allocated so as to have zero or minimal financial and competitiveness distortions. This is probably best achieved by making any initial allocation of permits free. Any scheme to auction permits would in effect be a carbon tax and would have all the well known distortions associated with that policy tool (see Appendix III).

There are key inter-generational and investment issues.

- New projects should not be put at a disadvantage to existing projects. Possibly the government should retain a pool of permits to allocate to new projects.

- There will have to be a capacity to bank emission abatement gains now so that they can be applied in the future eg. to new investments or to existing projects that become less energy efficient over time.

- There must be a capacity to accommodate changes in the level of scientific knowledge.

- Equally, projects are likely to have an economic life beyond the period of current international treaties (eg. the Kyoto Protocol only runs to 2112). Often projects are fundamentally redesigned to extend their operating life almost indefinitely. There needs to be a capacity to accommodate changes in international policy over time. Permits may have to be issued in perpetuity to give certainty to project operators.

It needs to be noted that there are also equity considerations that will arise depending on how these inter-generational and investment issues are addressed.

Finally in relation to allocating permits, there is the question of which government should do the allocation. The obvious answer is that the allocation should be done at the Commonwealth level since:

- the scheme needs to be uniform nationwide (a sub national scheme could constitute an impediment to free interstate trade under the constitution);

- the scheme is basically being introduced as a result of an international treaty;

- many corporations carry out their business activity on a nation wide basis and would wish to undertake greenhouse gas emission permit trading on the same basis.

However, it needs to recognised that matters such as land use clearance and control of airborne emissions are matters that have traditionally been in the domain of the States and Territories. Sovereignty issues may possibly arise.

Policy Principle

The scheme should be equitable in its operation; that is all parties must share a fair proportion of any burden including any burden over time. New projects should not be disadvantaged.

A sub national scheme or set of schemes is unacceptable.

The scheme must allow emission abatement achieved in one period to be banked for trading in future periods of time.

The scheme must not be a defacto revenue raising mechanism for government – permit quotas should be allocated free not auctioned.

The next key threshold issue is determining the base year. A wide range of options exist for approaching this issue. Again, fundamental equity issues are likely to arise in choosing between these options.

One option is that 1990 should be the base year for allocation of permits since this is the base year specified in relevant international treaties. To choose another base year may make it difficult to match a domestic and an international scheme. However, a number of methodological issues immediately arise.

- We need to be able to accurately measure emissions in the historical base year and to verify these emission levels.

- A way has to be found for handling projects that have come into operation (or grown significantly) in the period of time between the base year and the year of commencement of the scheme eg between 1990 and 1998 say. It would be totally inequitable to exclude firms established in any intervening period from an initial allocation of permits or to allocate permits to firms established in this period on a different basis than that used for allocating to firms that existed in the base year.

- A way also needs to be found to handle equitably emission abatement gains made in any intervening period between the base year and the start year. An entity should be able to claim credit for these gains especially (but not exclusively) if they arose as a result of voluntary action flowing from another government greenhouse policy: eg emission abatement gains as a result of action under an agreement under the Greenhouse Challenge Program or a voluntary move to world's best practice as a result of the benchmarking initiatives announced by the Prime Minister in November 1997.

If a year other than 1990 is to be chosen (or an average of a number of years is adopted) then the key issue is which criteria will be applied to making the final choice.

Once a base year is chosen two methods of allocation appear possible. One option is to effectively grandfather emissions at the base year level; that is, each entity would receive an emission permit allocation that equates to its emissions in the base year. There are a number of practical difficulties with this concept.

Grandfathering is only possible so long as the base year emission level is less than the emission level resulting from the proposed target; that is, a 1990 or a 1998 base line would meet this criteria with respect of a target of 8 per cent (or more) growth in emissions by 2010. Also, grandfathering assumes some degree of constancy of production processes. If emission levels from production vary for natural reasons, it may be that grandfathering on a particular year's level of emissions may under or over compensate.

If an emission level that is less than the base year level is chosen as the basis for making an allocation of permits, critical equity issues will arise. There must be a clear and transparent way of choosing a lower level of emissions and identifying the consequences of doing so.

If the government decides to reserve some part of the permit allocation for distribution in a future period, there will again be significant equity issues. How the future allocation is determined and its subsequent distribution must be the subject of clear and transparent processes.

The final threshold issue is that of creating certainty. Certainty is necessary both for current and future investors and for transparency and efficiency of any trading mechanism.

Certainty with respect to handling changing scientific knowledge and changing domestic and international policy has already been mentioned.

Certainty must also be given against expropriation of permits. Permits must be treated as a property right. They must be given legislative protection and must be subject to the payment of just terms compensation if cancelled by government.

Also, since permits will be a valuable property right, the accounting profession will have to decide how to treat sales in corporate profit and loss accounts and how to treat permit allocations and banked savings in corporate balance sheets.

Policy Principle

The scheme must give certainty to ongoing operations and to future investments.

Permits must have a clear statutory backing. Compensation on a just terms basis must be payable for any unilateral withdrawal of permits by government.

Design Issues

As they have dominated the discussion of threshold issues two key criteria dominate design issues, namely:

- the international competitiveness of the Australian economy should not be impaired;

- the benefits flowing from the scheme (in terms of incentives to take abatement action and trade) must not exceed the cost of administration and compliance.

APPEA is firmly of the view that a greenhouse gas emission permit trading system must be comprehensive (all gases, all sources, all sinks). If a comprehensive system is to operate, then it is necessary to decide on a basis for converting all emission abatement actions to a common basis. For consistency between the domestic and international systems and also for consistency with the current state of the science, APPEA considers that there is no alternative other than to establish trading on the basis of CO2 equivalents determined on the basis of the global warming potentials of the gases. However, the likelihood that these global warming potentials may be further refined needs to be born in mind.

Determining common methodologies for measurement will be an essential element for the design phase. It will be necessary to ensure that all entities measuring emissions are doing so in consistent manner. Some of the inventory handbooks that have been developed for the Australian National Greenhouse Emissions Inventory will be a basic starting point. Some clear rules will have to be developed about issues such as whether measuring equipment has to be installed or can estimates be made on the basis of energy consumed or output produced.

Complicating the estimation process will be the advent of the national energy market. With trades in electricity and gas consumption likely to progressively be taking place on a spot basis, it is likely that it will become increasingly difficult, even for large scale gas and electricity users, to estimate emissions from gas and electricity consumption. Rather than a complex process of attempting to track individual purchases to individual generating points, surrogate measures may have to be adopted such as those used in the Greenhouse Challenge Program.

There are still significant unresolved measurement issues internationally and domestically about absorption of emissions into forest sinks and the emissions associated with land use clearance and agricultural practices.

The cost of estimation and of equipment for metering emissions is also a factor that has to be considered in gauging the overall benefits and costs of the system.

A second factor in relation to design is the determination of the entity to receive an allocation of emissions and to report trades. The upstream oil and gas industry will present a number of complexities in this regard.

Most oil and gas production fields in Australia are operated on a joint venture basis; that is, while a number of companies own the oil and gas resources being produced one company is the overall operator of the field. The operator will have all the information on emission and production rates but not final accountability for policy and actions. It will be necessary to resolve whether the operator or the owners get an allocation of permits, and if owners get the allocation, a transparent basis for allocating permits and emissions within the joint venture and for trading will have to be determined.

Also most upstream oil and gas production companies are international in their nature. If companies get an allocation of permits nationally, will they be restricted to trading within their national subsidiary or will they be allowed to trade internally within the international company? The outcome of this issue has implications for the efficiency and competitiveness of domestic markets and for the relationship between domestic and international permit trading. There are also transfer pricing, transparency and national reporting requirements to be considered.

If a company comprises several large scale production units, it is also necessary to consider whether emissions will be on a whole of company basis or on a point source basis. If allocations are on a point source basis will plants be able to trade within the company (and if so at what price and how will transparency be ensured) or must all trades be external to the company?

Further, the issue of whether permits will be allocated at the production or the consumption stage of the fuel cycle will have to be considered.

Another key design issue is the treatment of emissions resulting from the production of energy intensive exports. If production of the energy intensive export results in emissions being generated in Australia but its consumption generates significant emission abatement overseas it is reasonable to argue that the Australian production entity should not bear the full burden of accounting for the production emissions. Possibly credits can be allowed for trading in the Australian greenhouse gas emission permit trading system or operations generating these exports could be excluded from the scheme.

A complication in this debate is production facilities that produce for both the domestic and the export market. A ring fence will have to be determined between the two production streams.

For new projects, a decision will have to be made as to whether an allocation of permits will occur at the design stage of a plant, at the commissioning stage or at the fully operational stage. Allocation at the design stage creates the possibility that the designed emission level will differ from the actual emission level. However, allocation at the start up or operational phase means that a new risk element is introduced into investment decision making. Since permits will be a tradeable property right, potential trades will have to be incorporated into the investment decision. Assumptions will have to be made about potential trading over the life of a project without a permit allocation having been received. It also has to be recognised that there may well be different emissions levels between the start up phase and the fully bedded down

operational phase of a project. There may be windfall gains or losses depending on when a permit allocation is made.

The actual design of a trading mechanism will have two operational components:

- the allocation process;
- the trading process.

Who actually operates and controls each stage can differ.

The *allocation of permits* is a matter that needs to be done by government but on a whole of government approach. Because of the fundamental international competitiveness, equity and investment implications that flow from the allocation decision it is not just a matter for the environment portfolio. Greenhouse is as much a trade and a growth issue as it is an environmental one. However, as noted previously allocation must not be a revenue raising exercise. The process of allocation needs to be open and transparent.

A key link between the allocation process and the actual trading system is how will information on allocation of permits and the availability of permits for trading be put into the public domain. A competitive trading market in permits not only needs a significant number of buyers and sellers but it also requires a high degree of information availability. This is not an insurmountable problem in an era of electronic data availability, but it is one which must receive attention at the earliest stages of system design.

The allocation process (who gets permits: on what basis: how many) should be the sole involvement of government in the operation of the greenhouse gas emission permit *trading system*. To have a cost effective trading mechanism it is essential the bureaucratic involvement be minimal and that trading costs be kept as low as possible. The actual mechanism for trades should be left up to markets. The stock exchange and/or commodity traders may handle it. There may need to be the capacity for secondary markets, hedging and/or futures trading to ensure that risks can be minimized and market mechanisms operate flexibly.

Policy Principle

There should be minimum government bureaucracy associated with trading and verification both domestically and internationally. Market based schemes will be more effective than command and control schemes.

Implementation Issues

Implementation issues relate primarily to the areas of verification and enforcement and the institutional mechanisms that will maximize market flexibility.

Verification will have to occur in three areas.

- Since it is almost certain that any initial allocation of permits must relate in some way to a base line level of emissions, it will be necessary to have independent certification of base lines. This sort of certification will also be a pre condition for measuring the impacts of abatement actions and thus determining the availability of permits for trading.

- Secondly emission savings as a result of abatement actions will need to be verified whether the savings are to be used/traded immediately or banked for some period.. This will require certification of the actual level of saving as well as the base line certificate. This will be an essential precondition to determining that permits are available for trading and the "value" of the permits.

- Finally, credits for sink enhancement of gas absorption will have to be certified. For example if a farmer establishes a forest, the farmer may earn a greenhouse credit that can be traded. The size of this credit will have to be verified.

There is no need for government involvement in the verification process. The sole requirement should be for *independent and credible* verification of base lines, abatement savings, credits and trades.

How trading entities establish an appropriate degree of independence for their own verification processes should be a matter for internal governance. How the market based trading mechanisms seek verification of permits being traded, is a matter for the controlling body for the market mechanisms. If a permit is not accompanied by certification (or is accompanied by inadequate certification) presumably the market will trade it at a discount to one that is accompanied by adequate certification; that is there will be a financial penalty for inadequate certification not a regulatory one.

There is a link between the comprehensiveness of a trading system and the cost of verification. The cost of verification is probably lower if non-carbon greenhouse gases and sinks are excluded from coverage. However comprehensive, competitiveness, equity and flexibility would be seriously undermined by such a decision.

Consideration will need to be given to enforcement mechanisms if fraudulent trading is detected.

Policy Principle

There must be a transparent, credible and effective mechanism for accounting for emissions and for verifying them.

Institutional arrangements will need to be:

- independent of government;
- supported by statutory underpinning of property rights being traded; and
- supported by credible, independent verification and compliance mechanisms.

Is a Scheme Needed Now?

APPEA considers that the need to develop and implement a greenhouse gas emission permit trading system now, or in the near future, needs to be carefully evaluated against Australia's national and international economic interests. The costs and benefits need to be clearly identified. The complexity of the issues that need to be resolved (as discussed above) suggest a strong motive for caution.

It is absolutely clear that a badly designed greenhouse gas emission permit trading system would impose more costs than benefits on the Australian economy.

Importantly, it is not clear Australia's current international commitments cannot be met by the implementation of the measures in the Prime Minister's policy statement of November 1997.

In this context, the uncertainty factors relating to Australia's capacity to meet its current commitments relate much more to the areas of forests as sinks and the impacts of changing the rate of land use clearance than they do to policies relating to energy efficiency and the carbon intensity of the fuel mix in Australia. These land-related policy areas are those that it will be most difficult to facilitate by an emission permit trading system. Yet having the flexibility provided by these measures within a permit trading system is essential.

Further, the process envisaged for ongoing international negotiations on greenhouse do not lead to the conclusion that there is any sense of urgency to rush to develop a domestic greenhouse gas emission permit trading scheme.

- It will be at least twelve months before even the broad principles to govern an international trading mechanism are agreed. Then nations must get down to the detailed negotiating process of determining allocation of permits, base lines, administrative mechanisms and verification and enforcement mechanisms. This will not be an easy negotiating task. The international equity and competitiveness implications will be very complex and extremely difficult to resolve. Final agreement on the details of an operational international system, if it proves workable to establish one, do not need to be resolved until at least 2005 and possibly later.

- An effective international scheme must involve a commitment to participate from key non-Annex I countries (eg. China, India, Brazil). Given the views expressed by these countries at Kyoto, it is difficult to see this commitment being forthcoming in the short to medium term. The downturn in the Asian economies will not be a positive force in gaining this commitment.

In the light of all the circumstances, APPEA believes that there is nothing to prevent further study of all the issues related to the development and operation of a domestic greenhouse gas emission permit trading scheme. In fact, everything suggests that further study is an essential before a decision to implement is taken.

Conclusion

Greenhouse gas emission permit trading is part of a whole suite of measures and policies that may be pursued in a coordinated manner to abate emissions. Permit trading is a vehicle for encouraging those who have the capacity to take cost effective abatement actions drawn from this suite of measures to do so.

Nevertheless, it is till only a theoretical concept. There are clearly huge and complex threshold and methodological issues that need to be resolved before a greenhouse gas emission permit trading system can be transformed into a practical reality. Many of these issues are interrelated and resolution of them will involve complicated, and potentially costly, tradeoffs. A significant amount of further study of these issues needs to be undertaken.

APPEA believes that, given the number and complexity of the issues involved, it would be very prudent to proceed cautiously with plans to design a greenhouse gas emission trading mechanism either domestically or internationally. Further planning should involve the active participation of all potential parties to the system from the earliest stages.

- To rush the implementation of a scheme would have no demonstrated benefit for Australia (or the world) in terms of achieving its Kyoto Protocol emission abatement targets.

- There is a strong probability that the rushed introduction of a scheme would impose significant net economic and social costs on Australia. While these net costs would impact more severely on some regions than on others they would be felt to some extent across the board due to the key role that energy and energy intensive industries play in underwriting national prosperity.

As a consequence, APPEA believes that the best approach for the Committee to pursue is to attempt to define policy principles which are workable, efficient, equitable and certain emission permit trading system must conform to.

This submission sets out such a set of principles. They are:

- Any scheme must not undermine the international competitiveness of the Australian economy.
  - ♦ Any international scheme must apply to non-Annex I countries to minimise international trade distortions.
  - ♦ A sub national scheme or set of schemes is unacceptable.
- Any national scheme must be capable of integrating into any international scheme including allowing the option for companies to freely trade nationally as well as internationally.
- The scheme must be able to deliver the objective; that is, it must be designed in a way that it provides an economic incentive for those who can abate emissions to actually do so. The benefits of participating in the scheme must outweigh the operational costs.

- The coverage of the system should be comprehensive; that is, it should include all six gases covered by the Kyoto Protocol, all sources of greenhouse gases and credits for sinks and sequestration.
- The scheme must be equitable in its operation, that is, all parties must share a fair proportion of any burden including a fair share of the burden over time. New projects should not be disadvantaged.
- The scheme must allow emission abatement achieved in one time period to be banked for trading in future time periods.
- The scheme should not be a de facto revenue raising mechanism for government – permit quotas should be allocated free and not auctioned.
- Permits must have a clear statutory backing. Compensation on a just terms basis must be payable for any unilateral withdrawal by government
- The scheme must give certainty for ongoing operations and future investments.
- There must be a transparent and effective mechanism for accounting for emissions and for verifying them.
- There should be minimum government bureaucracy associated with trading and verification both domestically and internationally. Market based schemes will be more effective than command and control schemes.
- The scheme must be compatible with other policies both domestically and internationally (in the international context the scheme must be compatible with joint implementation and the Clean Development Mechanism).

APPENDIX I

CHAIRMAN'S ADDRESS - 1998 APPEA CONFERENCE

Introduction

Senator Parer, distinguished guests, ladies and gentlemen, it is a pleasure to be here in Canberra for this, the 1998 APPEA Conference.

In 1973 we gathered here for the 13th APPEA Annual Conference. The theme at that time was "Petroleum and the Energy Crunch". The fundamental role petroleum plays in determining global and our national prosperity was about to be demonstrated so graphically. In October that year, the first oil shock plunged the world into a serious economic downturn.

Twenty-five years later our conference returns to Canberra. Fittingly, the conference theme is "Delivering National Prosperity".

The 25 year period from 1973 to 1998 has seen the upstream oil and gas industry make a massive contribution to the prosperity and well being of this nation. It has enriched the nation's lifestyle. The wonder of this contribution is not only its great size but also its breadth and its diversity, which can be captured under a number of headings.

The development of Australia's oil and gas resources by APPEA members has involved huge capital investments in resource developments which have important national economic benefits.

Over the period since 1973, upstream oil and gas developments have changed the face of the national accounts. They have contributed greatly to underwriting the trade balance of this country, both by import replacement and by generating export income. They have led to a massive direct contribution to the national and state budgets.

The developments launched by APPEA members have changed regional Australia. They have created jobs, helped boost the viability of the manufacturing sector and created a whole new range of service industries.

APPEA member company's operations have enriched the nation's lifestyle. They have helped preserve the national environment. They have broadened the nation's innovative base. They have helped in the wider community and have brought cultural benefits and enhanced diversity. Hundreds of Australians who have learned their skills in our industry now share their talents across the globe.

This is a proud record. It is proof, if ever it was needed, that we are truly delivering national prosperity.

Prosperity Delivered - The Contribution of the Past 25 Years

I want to take a few moments now to look in a bit more depth at each of these broad areas.

Firstly, lets look at the contribution to national prosperity via capital investment.

The current icon of the industry, and for that matter the outstanding image that has captured the minds and imaginations of government and the general public, is the $12 billion North West Shelf project. As a major source of natural gas it has great regional importance.

This Woodside operated project has seen two offshore production platforms constructed, gas and condensate gathering and transmission infrastructure completed and a marine supply base established at King Bay. Three LNG trains, a domestic gas processing facility and an LPG processing facility have been brought into production on the Burrup Peninsula. An LNG export terminal has been constructed and a fleet of eight LNG export vessels built to access the markets. And this is only the start.

What the community sometimes forgets is that this project is the youngest of three huge resource developments which the upstream oil and gas industry has undertaken in Australia. The other two jewels in the crown are the Gippsland Development and the Cooper/Eromanga Development.

The Esso operated Gippsland Development involves an investment with a current value in the order of $12 billion. A massive oil and gas extraction and gathering infrastructure has been built up over 30 years. Offshore, 18 production platforms have been constructed together with a number of sub sea completions. Additional sub sea completions are to be installed soon in water with a depth of 400m**.** A marine supply base has been built at Barry Beach. A gas processing and crude oil stabilisation plant has been constructed at Longford. Transmission pipelines have been constructed to refineries, a petrochemical complex and to the domestic retail gas market. A crude oil and LPG export terminal has been built on Westernport Bay.

In central Australia, the current value of the investment of the Santos operated Cooper/Eromanga Development is in the order of $7-9 billion. A huge gas extraction and gathering infrastructure has been established in a very remote environment. The Moomba and Ballera gas processing facilities have been built, gas transmission pipelines have been laid to major markets and export facilities for liquids constructed at Port Bonython. The Cooper/Eromanga is now the hub of a huge gas pipeline system with spokes radiating to Mt Isa, Gladstone, Brisbane, Sydney, Adelaide and soon Melbourne!

These, of course, are the superstars of the upstream oil and gas industry. No other resource industry in Australia can match this trifecta.

They do not stand alone however. There have been a number of other important developments both offshore and onshore. While these developments have not been of the magnitude of the three superstars, collectively they have made a profound contribution to regional and national prosperity.

Nor is the process one that ends. For example, huge developments are underway or in the advanced planning stage in the Timor Sea. Over the last five years, total capital investment by the industry has averaged $3.6 billion per annum.

Few industry sectors could sustain annual capital investment figures of this magnitude.

The spin-offs to the national economy and hence to national prosperity have been huge and continue to be so.

The industry contributes more than $8.7 billion per year to the value of national production.

It directly and indirectly generates employment for about 15,000 people. Each billion dollars spent by the industry has flow on effects to the rest of the economy of from $1.8 to $2.4 billion. One only has to look at the diverse range of industries represented in APPEA's associate membership or listed in the APPEA services directory to see where these spin-offs to the broader economy occur. The Australian Competitive Energy Workshop on Tuesday afternoon will show how APPEA members are working to maintain and expand this economy wide flow on.

The contribution of local production to the balance of payments is enormous. The industry generates export revenue in the order of $4 billion per annum. The industry's contribution to export income places it in the top four export income earners along with coal, gold and wheat. The value of oil exports alone is larger than that for aluminium, iron and steel, nickel, copper, sugar, beef and dairy products.

However, it is when we look at the contribution to the national budget that the picture becomes truly impressive. Since 1973, in real dollar terms, the industry has paid more than $70 billion dollars to the Commonwealth government in the form of secondary taxation alone. In addition to these payments, there have been royalties to the States, major payments of taxes on business inputs and huge company tax payments.

In the nine years since 1988/89, the industry's share of total company tax payments has risen from 3.8 percent to 8.1 percent.

In the last financial year the industry contributed $3.04 billion or 57 percent of its pre-tax profits to government in the form of income and resource taxes.

Well, so much for the big figures. Let me connect this contribution to individual prosperity and welfare.

The upstream oil and gas industry's contribution to the Commonwealth budget in 1996/97 would have funded 87 percent of Commonwealth expenditure on schools, 66 percent of higher education expenditure or 54% of hospital funding.

Let's now consider the breadth and depth of that contribution to prosperity.

By developing security of energy supply, major economic dislocation has been avoided

or minimised. What would have been the consequences for employment and inflation in Australia in 1973, 1978, 1980 and 1990 if Australian had been reliant on oil imports for its liquid fuel supplies?

Let's not forget that growth of gas in the Australian energy market has changed our domestic lifestyle, adding value and benefiting the environment. Home heating and cooking patterns have changed fundamentally. A major gas appliance industry has evolved. The viability and growth of the petrochemicals industry has been enhanced, and advanced minerals processing facilitated. Imagine what the greenhouse debate in Australia would look like today if there had been no commercial exploitation of Australia's gas resources. The 40 percent of energy consumption that is currently sourced from coal would probably be closer to 60 percent. Greenhouse gas emission levels would be considerably higher and the fuel switching option would not exist.

Changes brought by our industry at the State and regional levels have been extensive.

Over half of Australian oil and gas production is now produced in Western Australia. Oil and gas are the most valuable resource commodities produced in the state. They make the largest contribution to state royalty revenues. [The industry's royalty payment of about $230 million in 1996/97 represented 42.9 percent of total State royalty revenues.]

Enhanced gas supplies have created the opportunity for minerals processing related to bauxite and iron ore. They have led to reduced energy costs for industries such as gold and nickel mining, and they have created the opportunity for major value adding in the field of petrochemicals.

Major service companies have located in the west. The North-West Shelf project contributed $300 million of regional infrastructure and cultural facilities in the Pilbara. There have been major flow ons to the food preparation industry, the marine transport and service industries, the air transport sector, the accommodation sector and the real estate sector - just look at Perth.

Western Australia is the most obvious case but, as my comments on the Gippsland and Cooper/Eromanga developments illustrate, there have also been major impacts in all states except perhaps Tasmania.

In Queensland, we are about to witness a major step forward as natural gas supply boosts the value of the huge minerals extraction projects in the Carpentaria region around Mt Isa. Gas has already made a major contribution to minerals processing projects at Gladstone and could play a large part in the further expansion of these projects.

Right through this period of growth, the industry has been using cutting edge technology to boost productivity and access ever smaller and more costly resources. Developments in Bass Strait and the north-west were, and are, world leaders, using the best technology. The basic research undertaken by AGSO, other government agencies and APPEA member companies has laid the foundation for successful offshore exploration programs and also fundamentally enhanced our knowledge of this ancient

continent.

There are many areas where Australia continues to make valuable research contributions. In conjunction with APPEA, the Australian Institute of Marine Science is making a fundamental contribution to understand the effects of oil spills on the environment and of the dispersion in the ocean of formation water. We will hear more of these projects and the work being undertaken at the Curtin University regarding the effects of seismic surveys on marine life in the Environment Seminar at the Academy of Science on Thursday. I would encourage you all to attend. Importantly, APPEA has recently signed a new agreement with the CSIRO and the Adelaide, New South Wales and Curtin Universities for the continuation of the Australian Petroleum Co-operative Research Center which serves as a key resource for industry research needs.

APPEA is looking to develop processes to better co-ordinate industry support for research. We need a cost effective centralised approach for matching industry research requirements and funding with available institutional capabilities. If we achieve our aim, we may well contribute significantly to establishing Australia as the research provider of choice for the Indian Ocean and South East Asian regions.

The industry's pursuit of the highest standards of environmental management and safety performance have constituted a leadership role in maintaining and improving the quality of life for all Australians and for our industry workforce in particular. APPEA was one of the first organisations to develop a Greenhouse Challenge agreement with the Commonwealth. In terms of the comprehensive nature of its inventory and forecasts and its industry wide approach to identifying actions to abate greenhouse gas emissions, this agreement is a national if not a world leader.

The example of Barrow Island as a high-grade nature reserve as well as a major oil production field is well known. APPEA has recently submitted a proposal to the Western Australian government for the development of a major Marine Management Area in the region encompassing the Montebello, Barrow and Lowendal Islands. These are real life examples of ecologically sustainable development at work, and sponsored by our industry.

The industry has not been unaware of its broader community responsibilities either, and has used its share of the fruits of prosperity to further enrich the national lifestyle. I cannot comprehensively list the industry's contributions but suffice it to say that APPEA member companies have been major contributors to a wide range of important community activities including the Royal Flying Doctor Service, medical research, various areas of music, the Australian Opera, several symphony orchestras including the Western Australian Youth Orchestra, the Australian Ballet, the Museum of Western Australia, the Year 2000 Olympics, sports such as swimming, and in case you were not in Melbourne yesterday, motor racing in all its forms.

Well so much for the past and the wealth, vitality and variety that the upstream oil and gas industry has delivered to this nation over the past twenty-five years.

Continuing to Deliver Prosperity

The challenge that now faces APPEA members and government is to work together to create the climate that will allow the upstream oil and gas industry to continue this vital and diverse contribution to national prosperity into the future.

In some respects, the signs are good.

Global perceptions of prospectivity of our region are positive. In recent years Australia has consistently ranked in the top ten countries that are perceived to be most attractive for new exploration ventures. Australia is also perceived as providing opportunities that are not common elsewhere in the world for small and medium companies to take a quantum leap in size.

A recent survey of the industry listed four other positive factors that continue to attract investment in the upstream oil and gas sector in Australia. These were the ease of doing business, the perceptions of limited sovereign risk, the comparatively fair taxation regime for oil in shallow water and the regulatory regimes governing access to acreage.

These factors partly explain the expectations for continuing high levels of expenditure on exploration activity which, at a national level, is forecast to increase by about 50 percent to between $1.2 and 1.6 billion in 1998.

In 1998, the number of exploration wells spudded is expected to be up by 13 percent on 1997 levels. Expenditure on development activity in 1998 is expected to continue at high levels with anticipated national expenditure in the range of $1.4 - $1.7 billion.

The Canarvon Basin in Western Australia continues to show the strongest levels of activity offshore. Approximately 50 percent of offshore exploration expenditure and between 36 percent and 60 percent of offshore development expenditure are projected to be spent in this basin.

The Cooper/Eromanga Basin in south-west Queensland and north-east South Australia continues to be the strongest performing onshore area. Up to 59 percent of onshore exploration expenditure and approximately 80 percent of onshore development expenditure is expected to occur in this basin in 1998.

But make no mistake, along with these numerous opportunities, there are challenges to be met.

We face problems of distance and operating costs. Construction barge or drilling rig mobilisation are particular examples. There is also a comparatively complex, and therefore costly, regulatory regime.

There is the never-ending challenge of pursuing the highest standards of safety. There is still a long way to go in developing objectives based safety regulation rather than an approach based on prescription. The industry has decided to make a huge financial outlay over the next couple of years to meet this challenge. This effort will have to be matched by new, innovative and complementary approaches to safety management in the State, Territory and Commonwealth governments. We are working closely with

governments to achieve this end.

Access to resources remains a problem both onshore and offshore where barriers continue to grow in relation to both native title and the environment.

The uncertainty associated with the Native Title issue is stunting our growth and must be addressed. Equitable, practical and workable approaches to land management where Native Title and development co-exist, must be implemented. The industry has played, and will continue to play, a constructive role in its relations with aboriginal communities. It will ensure aboriginal workers and aboriginal service companies have full and fair opportunity to participate commercially in industry developments. However, as a matter of principle, the industry must not be treated as a funding source for aboriginal advancement that would normally be provided by governments.

If the Native Title debate remains unresolved and the legislation unworkable, perceptions of risk levels associated with oil and gas development in Australia will be heightened with consequent negative implications for investment. This will in turn impact on the capacity of the industry to fuel national and regional economic growth and to facilitate environmental improvement.

The principles of sequential and multiple access must be at the core of environmental regulation. There is a concern that with increasing political interference the environmental regulatory process could undermine current industry assessments of relative low sovereign risk levels in Australia.

The oceans policy that is presently under development by the Commonwealth government is one area where the clear and transparent application of sequential and multiple resource use principles has to be adopted. Unnecessary and duplicative regulation and management regimes must be avoided. They only create costly delays and undermine competitiveness.

The reform of energy markets is not complete. However, those regulators and states that wish to push the reform process in the direction of developing new, intrusive and non-commercial regulatory approaches to the upstream of the gas industry need to be rebuffed. People who make assertions that the upstream gas sector relies on non-competitive market arrangements or dampens competition by manipulating access to upstream facilities have made no attempt to understand how this globally competitive industry really works.

Greenhouse policy makers who are seeking to distort national and regional energy markets by mandating usage levels for renewable energy, and efficiency benchmarks for power stations need to be strongly opposed. This is not the way to achieve cost-effective greenhouse gas abatement or fair, open and competitive energy markets for gas and electricity.

Furthermore, it is essential that our taxation system is internationally competitive. For example, the responsiveness of the secondary tax regime (including the petroleum resource rent tax) must be periodically examined to ensure that it meets the changing nature of industry operations. The dialogue that has been established between the

industry and the Commonwealth government in relation to this issue will, hopefully, ensure that the industry's desire for a competitive taxation system is being translated into a reality.

Similarly, on the broad question of overhauling the whole tax system, tax reform, particularly as it applies to crucial industries such as upstream oil and gas, must be addressed by government in a manner that leads to sensible and responsible outcomes. By the same token, the industry must be prepared to examine the issue of taxation reform from the point of view of the efficiency and equity of the overall system rather than from a narrow vested interest point of view.

Separate from the broad issue of tax reform is the issue of the effectiveness of tax administration. Most of you here today will be aware of the ongoing administrative and legal debate in relation to diesel fuel rebate payments. A less well known issue is in relation to tariff duties that are applied to equipment that APPEA member companies import. The complicated, inefficient and bureaucratic mechanisms applied by the Australian Customs Service to the application of the tariff system to equipment and service imports continues to be a frustration to business.

The final challenge listed here relates to Australia's role as a member of the Asian economic community. The past six months have demonstrated what a key role Asian economies have in global oil, LNG and petroleum product markets. The fundamental structural problems in the Asian financial sector that have led to the current instability must be addressed with Australian help. This has to be a priority for APEC and for our bilateral relations.

At the same time Australian government policies at home, such as those relating to secondary tax, have to reflect the risk factors that face an industry like ours operating in uncertain global markets. The recent collapse in oil prices is a stark reminder of the business risks we face.

Conclusion

In conclusion, APPEA member companies look forward to meeting successfully the many challenges involved in maintaining and growing a vital national industry. With government, customers and the wider community, we have an important role to play in delivering national prosperity.

Given the chance, I am confident that we have the capacity to deal with this range of challenging issues. In twenty-five years time we will still be able to reflect the message of the opening video for this Conference. Australians let us all rejoice for the upstream oil and gas industry has continued to be a fundamental factor in delivering your national prosperity in a safe and environmentally sustainable manner.

APPENDIX II

The Kyoto Protocol limits emission permit trading to Annex I countries.

The protocol also constrains participation by the European Union in and Annex I wide permit trading scheme. If a member state of an emission bubble (that is of the European Union) trades emission permits outside the bubble, the bubble target must increase.

Effectively we are probably looking at two emission permit trading schemes – one in the European Union (15 countries) and one that is potentially open to the remaining countries of Annex I (22 countries including Australia).

However, in the immediate future there will be leakage from the second group to the European Union (Poland, Hungary, the Czech Republic for example have applied for membership of the EU as has Turkey). This potentially drops the second group to 18 or 19.

In the second group trading will be dominated by four countries – Russia and the Ukraine will be the big sellers and the USA and Japan will be the big buyers.

This potentially becomes a market where the four big players exert undue market power and all other participants, including Australia, become price takers (at a price that is likely to be higher than a real competitive market price).

In the situation where Australia is a buyer of permits, this price taker situation becomes a major problem for the competitiveness of Australian industry and for the balance of payments.

APPENDIX III