Submission to the Joint Standing Committee on Treaties:

Transfer of Nuclear Material to China

by

The Australian Uranium Association,
Melbourne

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Executive Summary

The Australian Uranium Association (AUA) only supports the export of Australian uranium to countries that agree to become parties to bilateral treaties that meet the requirements of Australia's uranium export policy.

The AUA is committed to a uranium export policy that manages and actively minimises the risk of nuclear proliferation. The AUA supports the fuller implementation of the Nuclear Non-Proliferation Treaty (NPT) and its Additional Protocol.

In relation to supplying uranium to China, a nuclear weapons state party to the NPT, the AUA considers the proposed bilateral treaty meets the standards required by Australia's uranium export policy. We also consider the nuclear cooperation agreement a valuable supplement to the treaty.

Adding to the countries that Australia's uranium industry can export to provides new commercial opportunities for Australia's uranium exploration, mining and export industry; and has broader economic advantages for Australia.

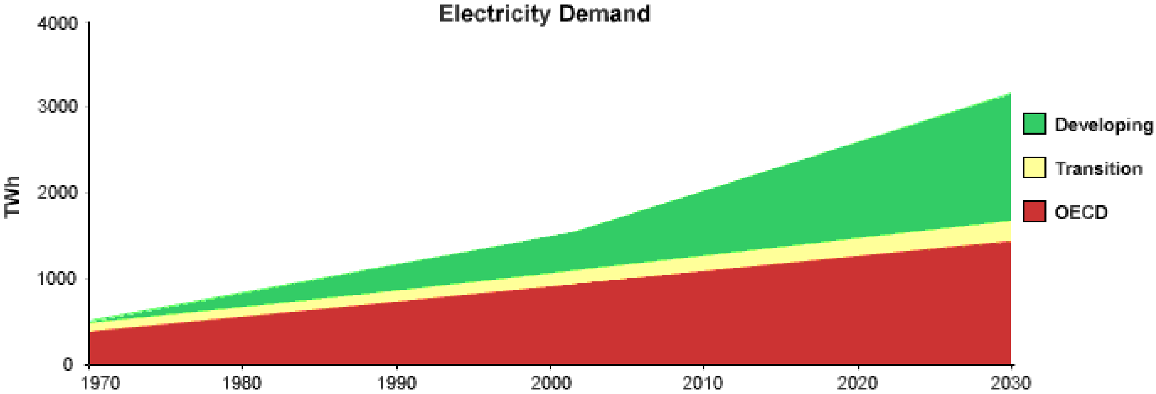
Commercial and economic advantage would, however, be an insufficient reason for additional exports if the treaty did not satisfy the requirement to minimise proliferation risk.

There are several other important reasons why the AUA supports exports in accordance with the treaty. First, power generated by uranium produces virtually no greenhouse gas emissions. In the era of global warming, this characteristic of uranium helps validate its place in the world's fuel mix. Second, given the extent of the world's uranium resources it controls, Australia is uniquely placed to exercise even greater international influence to maintain the safety and security of the nuclear fuel cycle.

Introduction.

The world is facing a significant increase in demand for energy. Chart 1 shows that world electricity consumption is forecast to grow from a current annual 15,000 billion kWh (TWh) to almost 24,000 billion kWh by 2025, with about 3,300 billion kWh of this being nuclear.

Chart 1.

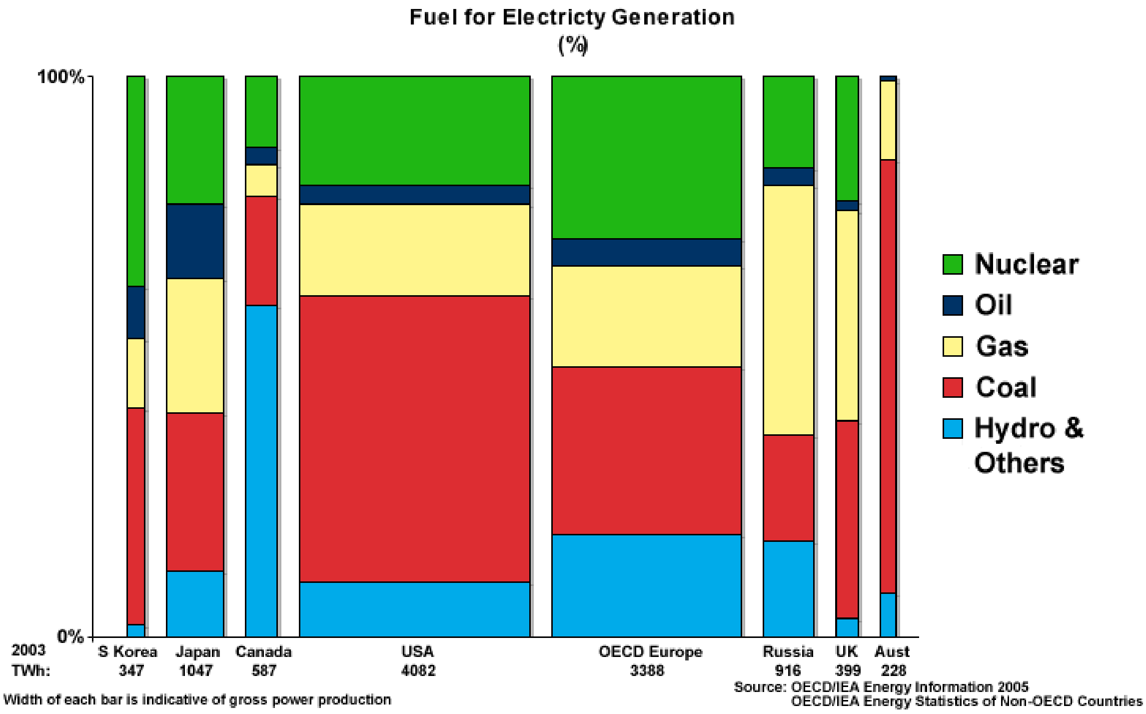


OECD/IEA *World Energy Outlook 2004*

Chart 2 shows the current fuel mix for electricity generation in selected countries. It indicates that:

- Nuclear power is already used widely
- Coal continues to be a major source of fuel for electricity generation
- There is approximately as much gas used as nuclear power.

Chart 2.



Economic development, especially in Asia, is driving large increases in demand for energy from a variety sources. In addition, at least one third of the world's population has no access to reliable and affordable energy. At the same time, greenhouse gas emissions from the traditional energy sources have made global warming a substantial issue for governments around the world. The challenge is to meet these energy imperatives without exacerbating global warming.

Nuclear energy and the environment

Nuclear power plants are the single most significant means of enabling access to economic electricity and providing for energy security, without exacerbating the problem of global warming.

Nuclear power is environmentally benign:

- It releases virtually no greenhouse gases
- In practice, all its wastes are contained and managed
- It is extremely energy effective throughout the fuel cycle. For example, typically, energy input over the life of a nuclear power plant is 2-3% of energy output.[1]

The nuclear reactors currently operating in the world avoid up to 2.5 billion tonnes of carbon dioxide emissions on an annual basis. Every 22 tonnes of uranium used (26 tonnes of uranium oxide) saves one million tonnes of carbon dioxide emissions relative to coal.

Global demand for uranium

The World Nuclear Association's 2005 Market Report (reference scenario) projects global uranium requirements rising to 71,500 tonnes of uranium (84,300 tonnes of uranium oxide) per year by 2010, and to 84,700 tonnes of uranium (almost 100,000 tonnes of uranium oxide) by 2020.[2] These figures are conservative in that they make no allowance for a potential increase in nuclear power generation arising from concerns over greenhouse gas emission issues associated with other forms of electricity generation.

Uranium supplies for nuclear fuel are provided by a mix of primary production and secondary supplies. Primary production will account for an estimated 44,300 tonnes of uranium in 2006. The shortfall of 21,100 tonnes is made up of secondary supplies. In this period to 2020, because of a decline in secondary supply, primary production of uranium oxide will have to rise by nearly 60%, to 70,500 tonnes of uranium, to meet demand.

Economics of nuclear power

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[1] UIC March 2006, Energy Balances and CO2 Implications, briefing paper.
[2] WNA September 2005, The Global Nuclear Fuel Market - supply & demand 2005-2030.

The cost of nuclear power is now competitive in most parts of the world.[3] It is prospectively more so with the possibility of costs being imposed on carbon dioxide emissions from fossil fuel alternatives.

Capital costs are high, averaging around US$ 1500 per kilowatt overnight cost. These high capital costs are sometimes daunting and may be a hindrance to new nuclear reactor investment, since interest rates become a major factor. But it is likely that these capital costs can be driven down to around US$ 1100 per kilowatt with series construction.

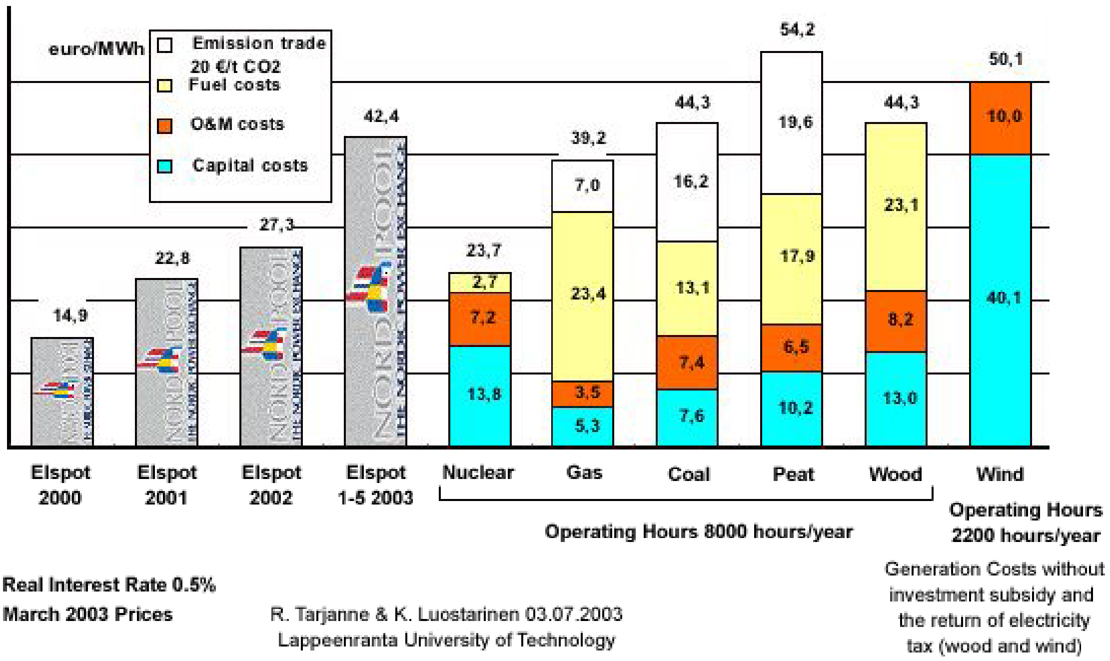
Moreover, the cost of nuclear power plant operation is relatively stable as fuel input prices rise, compared to fossil fuel-fired plants: doubling the cost of gas increases electricity production cost about 70%; doubling the cost of ex-mine uranium increases electricity production cost about 5%.

This is a major economic factor in choosing new plant as future uncertainties are minimised.

Figures from the latest OECD international survey released in March 2005[4] show that, at 5% discount rate, nuclear power is in the range 2-4 c/kWh (US), which is comfortably cheaper than coal in seven of ten countries, and cheaper than gas in all but one.

A case in point is Finland, where the 2003 decision to build a large new reactor costing EUR 3 billion was basically an economic one, a decision which looks even better with today's gas prices. Chart 3 compares the relative costs.

Chart 3.



[3] UIC April 2006, The Economics of Nuclear Power, briefing paper.
[4] OECD/ IEA NEA 2005, Projected Costs of Generating Electricity- update

The potential economic advantages of nuclear power considered here do not take into account environmental effects. As carbon costs are imposed on fossil fuel power generation, such as through the European Emissions Trading Scheme - currently equivalent to about two A$ cents per kWh from coal[5] – the competitiveness of nuclear power improvers further.

The safety record for nuclear power

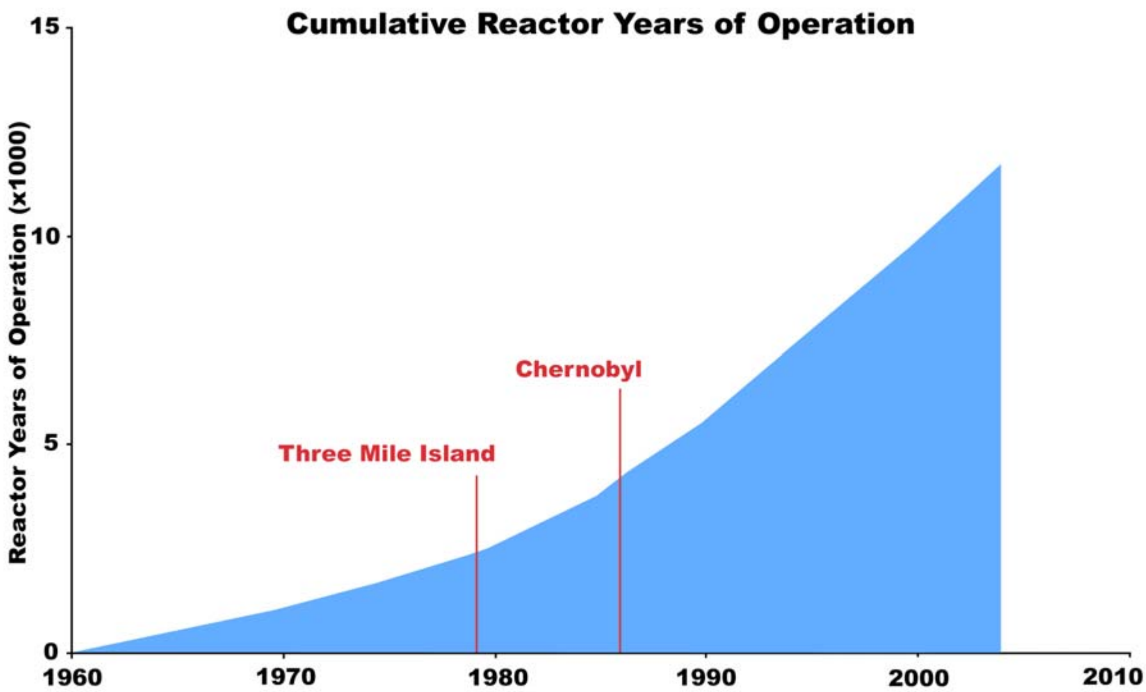
Over thirty countries have been using nuclear power to produce electricity for almost fifty years. The safety record, compared with other energy producing industries, is outstanding.

There has never been any major public harm from any western-type reactor and as with most technologies, operations today have generally much enhanced safety margins compared with decades ago. This includes resistance to terrorism and to any adverse local effects arising from it. Nuclear power reactors are very robust steel and concrete structures. Materials arising from nuclear power are intrinsically unattractive for "dirty bombs" compared with radioactive material from elsewhere.

The nuclear industry has had only one accident causing public harm in more than 12,000 reactor-years of civil experience (Chart 4) and that was of little applicability to any reactor licensable in the West. Chernobyl in 1986, disastrous as it was, is not a guide to nuclear reactor performance or safety. Its design was not licensable elsewhere than the Soviet bloc. It tragically underlined the reasons why such plants could never be built outside the Soviet Union. The US Three Mile Island accident in 1979 was the one most relevant for ongoing safety and much was learned and applied. No-one was harmed by it, due to the way the plant (as with all plants in the West) was designed and constructed.

Chart 4.

[5] http://www.pointcarbon.com/



Source: UIC *Safety of Nuclear Power* briefing paper

Importance of the treaty to Australia

As uranium's potential as an alternative and greenhouse-gas-friendly source of energy generation is increasingly understood in developed and developing nations, its significance for Australia becomes even greater.

China is one country that has ambitious plans to increase electricity generation, including that from nuclear power. It credibly plans a fivefold increase in nuclear power capacity, to 40 GWe, by 2020. These plans underline the potential export opportunities available to Australian uranium exploration and mining companies.

Apart from the direct export benefits, these agreements will enhance Australia's trade and investment relationship with China, expanding the growing range of mineral and energy exports and related technology and services to China; and adding further weight to the conclusion of the free trade agreement between the two countries.

The nuclear cooperation agreement will enhance the potential of Australian mining and technology service industries to develop more fully through partnerships with Chinese counterparts. It will also be a valuable enhancement of the existing relationship between Geoscience Australia and CNNC involving technical exchanges on geological and exploration techniques.

The demand for electricity in China

Nationally about 508 GWe of electric generation capacity is installed, and 2475 billion kWh was generated in 2005.[6] Demand growth has been over 10% per year since 2001.

In the OECD/IEA *World Energy Outlook 2004* electricity demand growth was expected to be over 6% pa in this decade, with more than half of the increment being in residential and serviced sectors. Demand was expected to more than double by 2030, and per capita electricity consumption was expected to almost triple over the period 2002-2030. Overall demand will more than double by 2030. However, these projections have been overtaken by events - demand growth being higher than expected - and 2006 electricity generation is likely to exceed IEA's projection for 2010 (2653 billion kWh).

While coal is the main energy source in China, most reserves are in the north or northwest and present an enormous logistic problem n relation to the main demand, which is mostly in the southeast.

Most electricity in China is produced from fossil fuels (about 80%, mainly coal) and hydro power (about 18%). Two large hydro projects are under construction: Three Gorges of 18.2 GWe and Yellow River of 15.8 GWe. Rapid growth in demand has given rise to power shortages.

China is the second-largest contributor to energy-related carbon dioxide emissions after the USA. The IEA (2004) predicted that its share in global emissions - mainly from the power sector - would increase from 14% in 202 to 19% in 2030, but this now looks conservative.

Nuclear power in China[7]

Mainland China has nine nuclear power reactors in commercial operation (Table 1), a further two units grid-connected or with construction well-advanced (Table 2), and four more under construction. Additional reactors are planned, to give a fivefold increase in nuclear capacity to 40 GWe by 2020.

Moves to build nuclear power commenced in mainland China in 1970 and the industry has now moved to a steady development phase. Technology has been drawn from France, Canada and Russia, with local development based largely on the French element.

Nuclear power has an important role, especially in the coastal areas remote from the coalfields and where the economy is developing rapidly. In 2005, it provided 52.3 billion kWh, 2.1% of total; and there is now 7.6 GWe installed.

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[6] UIC October 2006, Nuclear Power in China, briefing paper.

[7] UIC October 2006, Nuclear Power in China, briefing paper.

Table 1: Operating nuclear power reactors

Units	Type	MWe net each	Start up*
Daya Bay 1 & 2	PWR	944	1994
Lingao 1 & 2	PWR	935	2002, 03
Qinshan 1	PWR	279	1994
Qinshan 2 & 3	PWR	610	2002, 04
Qinshan 4 & 5	PHWR	665	2002, 03
Tianwan 1	PWR	1000	(2007)
total (10)		7587 MWe	

* dates are for start of commercial operation.

Table 2: Nuclear reactors under construction

Units	Type	MWe net ea	Start const	Start up*
Tianwan 2	PWR (VVER)	1000	2000	2007
Lingao 3 & 4	PWR	935	2005	2010 2011
Qinshan 6 & 7	PWR	650	2006	2010
Total (5)		4170 MWe		

* Latest announced commercial operation

China's tenth Economic Plan (2001-2005) incorporated the construction of eight nuclear power plants, though the timeline for contracts has been extended.

In May 2004 the China National Nuclear Corporation (CNNC) applied to build four pairs of large new reactors:

- **Lingao phase 2 (Lingdong)** in Guangdong province, to duplicate the Lingao nuclear plant, based on the same Framatome technology as phase 1;
- **Qinshan phase 4** in Zhejiang province, duplicating the indigenous phase 2 CNP-600 units, upgraded to 650 MWe;
- **Sanmen**, in Zhejiang province, using advanced foreign technology; and
- **Yangjiang**, in Guangdong province, 500 km west of Hong Kong, similarly.

The State Council formally approved the two units at Lingao and two smaller ones at Qinshan. It then approved the two units at Sanmen, followed by six units at Yangjiang (two to start with), these to be 1000 or 1500 MWe reactors subject to an open bidding process for third-generation designs, with contracts to be awarded in mid 2006 - now late 2006.

Three bids were received for the four Sanmen and Yangjiang reactors: from Westinghouse (AP1000 reactors), Areva (EPR) and Atomstroyexport (V-392 version of VVER-1000). The State Nuclear Power Technology Corporation (SNPTC), directly under China's State Council, is in charge of technology selection for new plants being bid from overseas.

The US, French and Russian governments were reported to be giving firm support as finance and support arrangements were put in place. Bids for both 2-unit plants were received in Beijing on behalf of the two customers: China Guangdong Nuclear Power Co for Yangjiang, and CNNC for Sanmen (in Zhejiang province). Bids are for the nuclear portion of each plant only; the turbine tenders will be called for subsequently.

Bids were assessed on level of technology, the degree to which it is proven, price, local content, and technology transfer. It is reported that Areva and Westinghouse are short-listed, with their third-generation technology. However, the decision on reactor type has been delayed, and is under review at the highest political level, with CNNC evidently pushing for the use of indigenous second-generation designs for both sites.

Meanwhile the Guangdong Nuclear Power Group signed contracts with Chinese designers and manufacturers for two 1000 MWe reactors as phase 2 of the Lingao power station. Construction started in December 2005 and the 1000 MWe units (based on Lingao phase 1 designs) are due on line in 2010 and 2011. Lingao phase 2 (Lingdong) will be at least 70% localised, under the project management of CNPEC.

Construction of Qinshan phase 4 (or second stage of phase II) was formally inaugurated at the end of April 2006, though first concrete had been poured for unit 6 in March. Local content of the two 650 MWe reactors will be more than 70%.

Further developments proposed in the **Eleventh 5-year plan 2006-10** include two 1000 MWe units planned for Haiyang, Shandong province, two at Hongyanhe, Dalian in Liaoning province (NE), two at Tianwei, Lufeng in Guangdong province and two at Hui'an, Fujian province.

China Power Investment Corporation (CPIC) has announced that it expects to start construction of the first plants in 2006.

In February 2006 an agreement was signed between CNNC and China Huadian Corp for the first two units of Hui'an/Fuqing plant in Fujian, costing US$ 2.8 billion. In July 2006 site works started at Hongyanhe, with first concrete scheduled September 2007 and the cost of two 1080 MWe units put at $2.88 billion. Commercial operation is planned for 2012.

Table 3: Nuclear power units planned & proposed

Plant	**Province**	**MWe gross**
Hongyanhe,Dalian	Liaoning	2x1080
Haiyang	Shandong	2x1000
Hui'an / Fuqing	Fujian	2x1000
Tianwei, Lufeng	Guangdong	2x1080
Weihai	Shandong	1x200
Subtotal		9 / 8520

Bailong	Guangxi	2x1000
Ningde	Fujian	2x1080
Tianwan-2	Jiangsu	2x1060
Yaogu, Taishan	Guangdong	2x1080
Qinshan-5	Zhejiang	2x1000
Hongyanhe-2, Dalian	Liaoning	2x1000
Weihai	Shandong	18 x 200
Haiyang -2	Shandong	4x1000
Tianwei - 2 Lufeng	Guangdong	4x1000
Bailong -2	Guangxi	4x1000
Hui'an /Fuqing- 2	Fujian	4x1000
Yangjiang-2	Guangdong	2x1000/1500
Yangjiang-3	Guangdong	2x1000/1500
Subtotal		50 / 35,880
Haijia	Guangdong	2x1000?
Jinzhouwan	Liaoning	2x1000
	Jiangsu	2x300
	Hainan	2x300
Taohuajiang, nr Yiyang	Hunan	2x600
Fuling	Chongqing	2x900
	Anhui	4x1000
	Jilin	4x1000
Total: 79		60-65,000

all PWR except Weihai HTR. Numbers = phase

More than 16 provinces, regions and municipalities have announced intentions to build nuclear power plants in the twelfth 5-year plan. These include Henan, Hubei, Sichuan and Guangxi, as well as those tabulated above. Most of these have preliminary project approval by the central government but are not necessarily scheduled for construction. Provinces will put together firm proposals with reactor vendors by 2008 and submit them to the central government for approval before 2010.

In July 2006 a US$ 3.1 billion agreement for construction of the first two units of the Bailong nuclear plant in Guangxi autonomous region of south China was signed, with construction expected to start by 2010.

CNNC has pointed out that there is room for 30 GWe of further capacity by 2020 in coastal areas and maybe more inland "where conditions permit".

In October 2006 it was reported that an agreement for construction of two further 1060 MWe VVER-1000 reactors at Tianwan was signed with Atomstroyexport. Construction is to start when both the first units are commissioned.

This review illustrates the serious intent with which China is approaching the development of its energy resources. The next section illustrates the difficulty it will have meeting that demand from its indigenous uranium resources.

China's uranium resources

China's known uranium resources of 70,000 tonnes of uranium are theoretically sufficient to fill the requirements for the mainland nuclear program for the short-term. Production of some 840 tonnes per year - including that from heap leach operations at several mines in Xinjiang region - supplies about half of current needs. The balance is imported, reportedly from Kazakhstan, Russia, and Namibia.

The Fuzhou mine in the south-eastern Giangxi province is in a volcanic deposit. Xinjiang's Yili basin in which the Yining (or Kujiltai) ISL mine sits is contiguous with the Ili uranium province in Kazakhstan, though the geology is apparently different. The other three mines are in granitic deposits.

There are plans to bring into production a new mine of 200 tonnes of uranium per year at Fuzhou, and expand the Yining ISL mine to 300 tonnes of uranium per year. Pilot ISL tests have been under way on the Shihongtan deposit in the Turpan-Hami basin of Xinjiang. In addition, the Hengyang underground uranium mine is on stand-by. The mine, which started up in 1963, has a nominal production capacity of 500-1000 tonnes of uranium per year.

CNNC's Bureau of Geology and the Beijing Research Institute of Uranium Geology are the key organisations involved with a massive increase in exploration effort since 2000, focused on sandstone deposits amenable to ISL in the Xinjiang and Inner Mongolia regions.

In 2010 China will need 3600 tonnes of uranium and 2.5 million SWU of enrichment.[8] In 2020 it expects to need 10,000 tonnes of uranium and 7 million SWU. On current indications, relatively little of the uranium can be provided indigenously.

With the prospective need to import much more uranium, CNNC is also keen to participate in exploration and mining abroad, and in 2006 bought into a small Australian uranium prospect.

Organisation of China's nuclear industry

Under the State Council, the China Atomic Energy Authority (CAEA) is responsible for planning and managing the peaceful use of nuclear energy and promoting international cooperation. The CAEA is the key body planning and

[8] A SWU is a unit of measurement of the effort needed to separate the U-235 and U-238 atoms in natural uranium in order to create a final product that is richer in U-235 atoms.

managing civil nuclear energy and reviewing and approving feasibility studies for new plants. However, the National Development and Reform Commission (NDRC) as the economic planning agency is finally responsible for project approval, and since it was split of from CNNC in late 1990s it has reported to the Committee for Science, Technology & Industry for National Defence under the State Council.

The National Nuclear Safety Administration (NNSA) under CAEA was set up in 1984 and is the licensing and regulatory body which also maintains international agreements regarding safety. It now reports to the State Council directly. The State Environment Protection Administration (SEPA) is responsible for radiological monitoring and radioactive waste management. A utility proposing a new plant submits feasibility studies to the CAEA, siting proposals to the NNSA and environmental studies to SEPA.

The China National Nuclear Corporation (CNNC) controls most nuclear sector business including R&D, engineering design, uranium exploration & mining, enrichment, fuel fabrication, reprocessing and waste disposal. It also claims to be the major investor in all nuclear plants in China. It designed and built Qinshan 1-3 and controls the full Qinshan power plant. In particular it is a champion of local designs.

China Power Investment Corporation (CPIC, formed from the State Power Corporation and inheriting all its nuclear capacity) is a major power generator and is the largest state-owned nuclear power investment and operating organisation. At the end of 2004 it was reported to have assets of US$ 12.8 billion. It is at the forefront of discussions on plants for the 11^{th} five-year plan, and as of mid 2005 had submitted power projects with the total capacity of 31,460 MW to the State Development and Planning Commission for approval.

In Guangdong province the China Guangdong Nuclear Power Group (CGNPG) plays the leading role. China Guangdong Nuclear Power Holding Company (CGNPC) leads this and is responsible for Daya Bay, Ling Ao, and Yangjiang power stations as well as further projects in the province and outside it. CGNPC is 45% owned by the provincial government (via Guangdong Nuclear Power Co), 45% by CNNC and 10% by CPIC. There is 25% Hong Kong equity in the Daya Bay plant.

The State Nuclear Power Technology Corporation (SNPTC) is in charge of technology selection for new plants being bid from overseas, through its Preparatory Office/Committee which is drawing expertise from other organizations such as CGNPG. SNPTC is directly under China's State Council.

In short, China has a well-developed business and regulatory infrastructure to manage the growth and development of its nuclear power generation ambitions.

Australia's uranium industry[9]

Uranium for electricity generation is one of Australia's most important and strategic energy and export assets.

Australia has the reserves and the capability to take advantage of the expected growth in demand for uranium and the expected increase in uranium prices. Australia has about one third of the world's economically recoverable resources of uranium. Seven of the top twenty known uranium deposits in the world are in Australia.

Even the significant extent of Australia's known uranium resources probably understates the potential because of the limited amount of exploration that has been undertaken over the past two decades due to policy constraints on the ability to develop a discovery into a mine.

Uranium already comprises about 40% of Australia's energy exports (4800 PJ in 2004) in thermal terms. With more economically recoverable uranium than any other country, Australia has the potential to become an even more significant provider of energy to a world already reliant on nuclear power to supply 16% of its electricity.

At present the three Australian uranium mines employ about one thousand people in uranium-related activity. There is significant potential for expanding this employment long-term, both from expansion of present mines and the establishment of new ones. There is a substantial number of companies exploring for uranium in Australia.

In 2005-06 the export of 10,252 tonnes of uranium oxide concentrate yielded $545 million, on the basis of contracts written when prices were much lower. That amount of uranium export at current spot price would be worth $1.7 billion, and new contracts will be closer to that than the lower figure. Coal exports amount to about $18 billion.

Growing global demand for uranium, particularly from Asia, will play an increasingly significant role in Australia's economic and export future. However, the economic case alone does not justify exports of uranium from Australia. Australians need to be satisfied that exports of uranium will not be used for unintended purposes. In that regard, the treaty arrangements for supplying Australian uranium exports need to be robust.

Treaty arrangements for supplying Australian uranium

Australia was a member of the preparatory commission which established the International Atomic Energy Agency in 1957. In more recent years, the

[9] UIC August 2006, Australia's Uranium and Who Buys It, briefing paper.

stringency of Australian safeguards against diversion of uranium for military purposes has been internationally recognised.

Since the advent of Nuclear Non-Proliferation Treaty (NPT) in 1970, Australia has been an important international influence in ensuring that uranium has been used only for peaceful purposes. In the last 15 years Australia has led the way in adoption of the Additional Protocol as a standard part of the NPT comprehensive safeguards. It will enable the IAEA to report that there is no undeclared nuclear material or activities in the countries concerned.

The policy put into place in 1977 and enjoying strong bipartisan support since is that not only should Australia's uranium exports be subject to international safeguards arrangements under the NPT but they should also be subject to more stringent and enduring safeguards under bilateral treaties negotiated with customer countries. Australia's nuclear safeguards policy is summarised in the box below.

Australian nuclear safeguards policy

Item 1. Selected countries

- a) Non-weapons states must be party to NPT and must accept full-scope IAEA safeguards applying to all their nuclear-related activities. They must have ratified the Additional Protocol to their safeguards agreement with the IAEA
- b) Weapons states to give assurance of peaceful use; IAEA safeguards to cover the material.

Item 2. Bilateral agreements are required

- a) IAEA to monitor compliance with IAEA safeguards requirements
- b) Fallback safeguards, that is, if NPT ceases to apply or IAEA cannot perform its safeguards functions, safeguards conforming with IAEA standards will apply
- c) Prior consent to transfer material or technology to another country
- d) Prior consent to enrich above 20% U-235
- e) Prior consent to reprocess
- f) Control over storage of any separated plutonium
- g) Adequate physical security

Item 3. Materials exported or re-exported to be in a form attracting full IAEA safeguards.

Item 4. Commercial contracts to be subject to conditions of bilateral agreements.

Item 5. Australia will participate in international efforts to strengthen safeguards.

Item 6. Australia recognises the need for constant review of standards and procedures.

Both of the agreements being considered by the Standing Committee give reassurance that longstanding Australian concerns regarding non-proliferation and the arrangements set up to address these concerns will continue in this instance. In particular, we note, with reference to Australia's safeguards policy set out above, that:

- Item 1(b): The treaty requires China, as a weapons state, to give assurances as to peaceful use (Article V)
- Item 2(a): The IAEA is to ensure compliance in accordance with its safeguards requirements (Article VI)
- Item 2(b): There are fall back safeguards (Article VII)
- Item 2(c): The prior consent of Australia is required before transfer of nuclear material to another country (Article IX(1))
- Item 2(d): The prior consent of Australia is required before nuclear material can be enriched above 20% U-235 (Article IX(2a))
- Item 2(e): The prior consent of Australia is required before nuclear material can be reprocessed (Article IX(2b))
- Item 2(f): Control over storage of any separated plutonium (Article IX(2) and Annex C
- Item 2(g): Adequate physical security (Article VIII).

In short, the proposed treaty fits the requirements of Australian policy and can credibly assure that Australian uranium is used only for its intended peaceful purposes - power generation.

The bilateral treaty will complement 19 other such agreements covering 46 countries.

The remaining issue is whether the safeguards policy is sufficient. The best guide to this is the evidence of its operation over the last, nearly 30 years. The experience shows that no Australian or other traded uranium has contributed to weapons programs.

China's international non-proliferation situation

China is a nuclear weapons state, party to the Nuclear Non-Proliferation Treaty (NPT) under which a safeguards agreement has been in force since 1982, with the Additional Protocol in force since 2002. It has signed the Comprehensive Test Ban Treaty. In May 2004 it joined the Nuclear Suppliers' Group.

China has Peaceful Use agreements for nuclear materials with Canada, USA, Germany and France. The Canadian one is very similar to Australian bilateral safeguards agreements.

All imported nuclear power plants - from France, Canada and Russia- are under IAEA safeguards, as is the Russian centrifuge enrichment plant.

Conclusions

The AUA's review of the treaty and the context in which it would operate leads us to the following conclusions:

- There is a growing demand, including in China, for electricity sourced from nuclear material

- Nuclear power is an environmentally desirable way to meet this demand
- Australia has the uranium resources to meet that demand
- Doing so would bring Australia and the Australian uranium industry economic and commercial advantages
- There advantages would be insufficient to justify export to China unless the treaty under which the exports took place minimised the proliferation risk
- The proposed treaty meets the standards set by Australia's uranium export policy
- The evidence is that these standards and the treaties made in accordance with them minimise proliferation risk.

In light of those conclusions, the AUA commends the proposed treaty to the Committee.