9 Strategic dimensions of energy competition in Asia

William T. Tow

As part of the world's most dynamic region for projected economic growth and geopolitical change, Asia–Pacific countries will become more import dependent for its energy demands and will require more comprehensive strategies to ensure their future access to energy resources. Among the key issues regarding this requirement are: (1) 'energy nationalism' versus regional and international market co-operation; (2) energy source diversification from fossil fuels to nuclear energy development and coal consumption, with implications for nuclear proliferation and environmental politics; and (3) the intensification of both contingent and structural risks to Asia–Pacific energy security (Koyama, 2001; NBR, 2004). After briefly discussing how 'geopolitics' relates to energy and resource issues in the Asia–Pacific, this chapter will assess each of these three issues. It will integrate each issue into broader considerations of strategic relations between and military capabilities of the region's key energy players (the United States, Japan, China and India) and into an evaluation of possible measures to modify energy competition in the Asia–Pacific's strategic context.

The paper's basic argument adapts a variant of Simon Bromley's model for understanding US energy geopolitics. Geopolitics emphasises the spatial dimension of international relations, including assessing polities who control or aspire to control those material assets that allow them to dominate bodies of land and water at the strategic expense of other polities. Rather than viewing geopolitics as shaped by commercial ventures seeking new energy reserves and markets or by rising concerns about levels of import dependence, it is argued here, one should instead ask how the broader nature of geopolitics shapes energy security policies (Bromley, 2005: 225). Geopolitical competition has been traditionally formed by the inter-relationship 'of trade, war and power, at the core of which were resources and maritime navigation' (Le Billon, 2004: 2). More recently, international relations theory (especially international political economics) has tended to gloss over resource scarcity and competition in favour of emphasising 'resources of economic value'. Neo-liberal institutionalism and globalization theories directly link the growth of capitalism and international trade to the efficiency of resource use and the inherent reduction of interstate 'resource wars' (Peters, 2004: 189–191).

Contemporary Asia–Pacific geopolitics, however, conforms more to the 'traditional' model that anticipates conflicts rising from resource scarcity. East Asia (largely spearheaded by China) and South Asia (mainly led by India) are experiencing an explosion in fossil fuel import demand. Between 1990 and 2003, Asia accounted for approximately 75 per cent of the world's total increased demand for oil consumption (increasing from approximately 8 million barrels per day (MBD) to just below 15 MBD (Herberg, 2005b). While producing just 11 per cent of the world's oil supply it is now consuming 21 per cent of it, importing about 44 per cent of its needs compared to only 7 per cent in the early 1970s (ADB, 2004). The region's import dependence will only grow over the next few decades. International Energy Agency projections estimate that petroleum imports will more than double (to 36 MBD) by the year 2030 and much of this supply will originate from the Persian Gulf. Asia now accounts for 75 per cent of the world's liquid natural gas (LNG) trade – a demand that will treble by 2030 and will be serviced by extra-regional supplies five times as great as they were in 2002 (especially from Russia and the Persian Gulf). Japan, Korea and Taiwan are 100 per cent dependent on LNG imports while China and India are heading toward upward of 50 per cent LNG dependence over the next few years (Herberg, 2005b).

China's growth as an energy consumer is notably spectacular. In 2003, it surpassed Japan to become the world's second largest oil consumer after the United States and is now the world's fifth largest importer of oil. More tellingly, China's energy consumption per unit of gross domestic product (GDP) is five times greater than the US and 12 times greater than Japan (Austin, 2005: x). While its current LNG usage is low (3 per cent of its overall energy consumption), that rate will more than double (to 8 per cent) by 2010. China is moving rapidly to replace coal consumption, which accounts for two-thirds of China's total energy consumption, with cleaner LNG supplies. Overall, as Mikkail E. Herberg has observed, these patterns of energy supply and consumption result in 'a profound and deepening sense of energy insecurity in Asia that promises to have important long-term geopolitical implications for the region ...' (Herberg, 2004: 340).

Moreover, as asserted above, geopolitics is driving energy security behaviour in the region, not the other way around. New and previously unlikely state-centric alliances and coalitions are now being forged with energy calculations largely in mind. China is courting the Gulf Cooperation Council countries (especially Saudi Arabia, Oman and Yemen) more intensively, visibly enhancing its already key role in supporting Iran's oil industry and orchestrating economic and military *rapprochement* with Russia and various Central Asian states. It is courting Indonesia and Australia heavily to fulfil its future LNG needs, complicating US geopolitical calculations in peninsular South-East Asia and the South-West Pacific. Japan has likewise cemented its oil ties with Iran (particularly with a contract to develop the Azadegan oil field in partnership with Iran's national oil company) and has outbid China for the construction of a large oil pipeline from the East Siberian region of Angarsk to the Pacific coast of Nakhodka (Blagov, 2005).

South Korea and India have also worked to diversify their energy sources in the Persian Gulf, parts of Africa and Central Asia.[1]

Diversification of energy collaborators, and the introduction of massive infrastructure investments to solidify these new links, reflect a growing mercantilist competition that is no less pervasive or ruthless than its historical geopolitical counterparts fuelled by Europe's industrial revolution.[2] Contemporary resource planners, however, have failed to bargain as effectively as their European colonial predecessors on how to divide the spoils of the world's non-renewable energy supply. Resource competition between the Asia–Pacific's rising powers (China and India) and its more established ones (the United States, Russia and Japan) could emerge as a critical source of future regional tension. In this context, energy nationalism, energy source diversification and energy risk assessment warrant greater attention.

Energy nationalism

As Herberg has observed 'energy nationalism' is now becoming predominant in Asia: that is, direct competition between states to control regional energy supplies that leads to a closer integration between energy and strategic relations (Herberg, 2004: 368; Herberg, 2005). This is reflected in Sino–Japanese territorial disputes over offshore natural gas fields in the East China Sea and near the Senkaku/Diaouyu Islands. Russian–Japanese collaboration on energy development could potentially lead to a serious security dilemma emerging in North-East Asia, with China and both Koreas feeling increasingly marginalised or 'contained'. To be sure, institutional efforts by the Asia–Pacific Economic Cooperation (APEC) forum to co-ordinate emergency oil stockpiling in the region, and by the Three-Party Committee, including China, Japan and South Korea that has entered into formal discussions on energy security within the ARF framework, are encouraging (APERC, 2002; Cossa, 2003). But the challenges of economic nationalism will remain formidable in Asia as they continue to be linked with the fundamental national security concerns of the major players there. Over the short-term, three key challenges will accentuate this linkage: (1) de facto dependency on potential security rivals for the stability of energy supplies (especially China's dependence on US naval power); (2) a condition of incessant political security crises in many important energy production locales which accentuate already strained production infrastructures; and (3) the threat of serious interdiction of oil supplies at key transit points between those locales and Asian end-users.

Is China an American energy protectorate?

Although China has moved precipitously to establish energy resource footholds in the Middle East and Central Asia, it remains concerned that US global naval power could be applied to impose energy containment against itself in a future showdown with the United States over Taiwan or elsewhere in the region

(Downs, 2004: 31–32). It is unclear to what extent the current Chinese leadership accepts earlier arguments posited by Western strategists that China should enjoy 'free-riding' on the back of US military power that can secure the region's sea lanes and thus its energy supply access without commensurate Chinese naval capabilities.[3] The US Department of Defense has speculated in its latest annual assessment of Chinese military power (released in late July 2005) that Beijing's cultivation of special relationships with distant energy suppliers in the Middle East, Africa and Latin America could lead it towards increased investments in a blue-water capable fleet. At present, however, most of China's conventional military development appears targeted toward fighting and winning short-duration conflicts along its peripheries (Office of the Secretary of Defense, 2005: 10–13).

For the time being, however, China's maritime power remains focused on sea denial rather than on broader sea control and SLOC protection missions. This raises what Chinese president Hu Jiantao referred to in late 2003 as the 'Malacca Dilemma'. Eighty per cent of China's oil imports pass through the Strait of Malacca but Chinese surface combatants cannot project power there. Moreover, 'its limited organic defence capability leaves [its] surface ships vulnerable from attack from hostile air and naval forces' (Office of the Secretary of Defense, 2005: 33–34). Until it is able to project more long-range and sustainable air support capabilities to support its few destroyers and submarines capable of operating beyond the South China Sea, the security of China's oil supplies remain largely in the hands of the United States Navy.

China is taking some limited steps to set up a blue-water operating capability. In April 2005, Chinese Prime Minister Wen Jiabao opened the Pakistani port of Gwardar which sits at the entrance of the Strait of Hormuz and will host Chinese submarines as part of Beijing's 'string of pearls' strategy to secure naval or intelligence access in regional states (Chellaney, 2005).[4] Speculation abounds that Gwardar will be converted into a transit terminal for Iranian and African crude oil exports finding their way to China. But such ports and facilities are highly vulnerable to highly mobile, offshore precision strike assets such as standoff cruise missiles, extended-range unmanned combat vehicles, deep strike brigades or even sophisticated terrorist and insurgency strikes.[5] Given these scenarios, China would be pursuing a high-risk strategy if it continues to invest heavily in such highly vulnerable maritime strategic assets.

A secondary, but important, factor relating to China's present naval/energy security weakness is that Beijing would presently have difficulties holding its own in any maritime confrontation with other regional powers such as India or Japan in future resource 'wars'. The PLA Navy is ranked as the world's sixth most powerful (after the United States, Russia, the UK, France and Japan) but is relatively obsolete compared to regional counterparts (Nolt, 2002: 325).[6] By 2010, India will have three fully operating aircraft carriers; despite recent rumours to the contrary, China will not yet have any operational equivalent. Japan's Maritime Self-Defence Force is now regarded by many observers to be the region's most powerful navy, apart from the US Seventh Fleet, with modern destroyers, formidable naval air defence capabilities and increasingly impressive

surveillance assets that can track and, if need be, could neutralise Chinese submarines conducting incursions into Japan's economic enterprise zones.[7]

Safeguarding against energy supply disruptions

With the reality that US and allied naval power will remain the primary guardian protecting key energy SLOCs and crucial Middle Eastern oil supplies over the foreseeable future, China and other Asian states are weighing alternative strategies to hedge against interruptions in national energy supplies. These include the establishment of strategic petroleum reserves (SPRs), investing in transnational oil and gas pipelines, and diversifying fossil fuel supply sources.

The SPR issue is surprisingly intense in China, given its overall energy vulnerability problems. Opponents of establishing such a reserve argue that China cannot afford to build a SPR large enough to be effective relative to China's vast population and rapidly growing economy. They also assert (perhaps not anticipating China's exploding transport needs) that China's heavy reliance on coal negates the need to implement expensive measures for stockpiling oil or that it encourages excessive oil dependence relative to other energy alternatives (Downs, 2004: 33–34). Nevertheless, the Chinese Government's tenth five-year plan has directed that an SPR build-up in China be initiated by the end of 2005. Japan started its SPR in 1978 and has established an 'obligatory inventory' of 70 days and a de facto stockpile of approximately 166 days. South Korea commenced strategic oil stockpiling in 1980 and had built up 107 days of emergency oil stocks by 2003 (Shin, 2005). The Asia Cooperation Dialogue Energy Working Group, which includes most other small oil-consuming Asian states, has targeted a 30-day emergency reserve for most participating countries. The extent to which this is met, however, will largely depend on the degree of co-ordination that is achieved in ongoing collective regional efforts to build such a reserve.

Constructing new transnational oil and gas pipelines is a second way for Asia–Pacific states to maintain the flow of energy supplies but this is not necessarily more secure than transporting them by sea and may be less profitable. The Central Asia Pipeline project, for example, envisions piping natural gas originating in Turkmenistan through Afghanistan to Pakistan with a possible extension to India. It would be established in conjunction with oil pipelines beginning in Kazakhstan and Turkmenistan through Afghanistan to Pakistan and India. Additional gas pipelines are also projected to be built both between Kazakhstan and China, extending to Japan and Korea, and Turkmenistan and China.[8]

Supply interdiction risks

In all these cases, however, the security risks and commercial costs involved in pipeline construction and maintenance are substantial. These include the relative availability of sufficient oil and gas deposits to justify multi-billion dollar infrastructure costs for pipeline construction and maintenance, prospects for terrorist attacks against these facilities (with recent attacks on pipelines in Iraq and Saudi

Arabia serving as precedents), and the replacement of current regimes in Islamic oil-producing states with more radical governments less prone to dealing with Western and Asia–Pacific markets cancelling contracts or nationalising company assets. For both China and Japan, Iran remains a lucrative, long-term energy collaborator. Iran's own strategic behaviour, however, posits a comparatively high risk of US military interdiction of pipeline routes or the blockade of commercial, energy-related maritime traffic. Such a blockade would present North-East Asian oil consumers with very hard choices in regard to their security relations with Washington.

Two other factors influencing Asian perceptions of energy supply reliability should be noted. Both of these entail disruptions or interdictions to energy supplies that may be largely beyond the control of Asian security elites to contest. First, major Asian governments have only just begun to trust the international energy marketplace and the private ventures that shape it to provide the energy resources needed for national security. Although Japan, South Korea and selected ASEAN states have been involved in energy market liberalisation for some time, China and India, as the two giant regional energy consumers, have just begun shifting their own energy infrastructures from government to private sectors. A study prepared for the Asia–Pacific Center for Security Studies recently encapsulated this problem:

> Although there was general consensus about capital-poor states like China, India, and some ASEAN states adopting more market-based solutions for their energy needs, skepticism persists regarding the possibility of a rapid, regionwide trend toward liberalization of energy sectors ... In essence, those economies that are most resource-dependent on foreign sources are more inclined to be reluctant about market-based solutions, yet these are the states that would benefit most from liberalization and deregulation.
>
> (APCSS, 1999)

Moreover, various 'wild card' events could seriously disrupt supplies for weeks or months before Asian governments were able to coalesce with the United States or other OECD states to modify their effects. These may include (but not be limited to) a steep and sudden decline of oil or gas production capacity triggered by terrorist attacks on production capacities in the Middle East, Central Asia or in other energy production centres; the rapid ascendancy of corruption in the extra-regional distribution of oil income (possibly implicating Asian states' own commercial enterprises in the process); or a global economic recession wreaking havoc on energy-producing countries by slicing revenues and creating domestic political instability (Umbach, 2004: 144–145). These contingencies suggest that while globalization does blur the lines of division between domestic stability, national security and international political economics, it is the geopolitical ramifications of events that are often beyond the control of its key players that could shape and traumatize the Asia–Pacific and its energy systems. 'Energy nationalism' is best checked by the identification and application of effective crisis management instruments (such as stockpiling regimes or regional energy consortia arrangements that promote inter-state energy co-operation) that underwrite regional and international resilience during supply disruptions. When such instruments are in place, repeat or more serious episodes like the panic buying of oil by China, India and other Asian states prior to the outset of the 2003 Iraq War are less likely to occur (Herberg, 2004: 371).

Energy source diversification: strategic complications?

Ongoing events in North Korea, Pakistan and other currently or recently designated 'rogue states' highlight the problem of separating national energy diversification strategies from trends in nuclear proliferation, arms sales, environmental security and other developments that may threaten international security and arms control. The political prestige that Asian governments often affiliate with initiating nuclear power programs can lead to powerful incentives to disdain non-nuclear energy solutions (Kessler, 2004). Asian energy involvement with the weapons programs of such 'rogue states' as the Sudan and Burma effectively circumvent US and Western sanctions directed against these countries. Arms control can be undercut by exporting nuclear and missile technology to oil exporters or other energy collaborators. China's sale of DF-3 missiles to Saudi Arabia in 1987 and its subsequent sales of nuclear reactors and M-11 missiles to Pakistan are illustrative; so too is the United States' willingness to lift previous sanctions directed toward India and to provide it with nuclear fuel in return for Indian assurances that it will behave as a 'responsible' nuclear power by 'separating' military from civilian nuclear fuel in its own program. China's and India's relentless consumption of coal and increasing transportation grids have given them the dubious honour of being among the most polluted countries in the world and major contributors to global warming.

Growing fluctuations in the energy diversification strategies of China and India have created largely anarchical and increasingly volatile Sino–Indian relations. China's energy policy toward India is a dichotomous posture: to compete with the Indians for control over key energy supplies while remaining open to co-operative arrangements in other sectors where it deems Indian involvement to be advantageous to holding down its own costs. In October 2004, for example, China outbid India for oil exploration rights in Angola and it has successfully blocked Indian overtures to penetrate Burma's energy sector. However, while China holds a 50 per cent share in Iran's Yadavaran oil field, India holds 20 per cent. Sino-Indian collaboration is also ongoing in the Sudan. China is also sympathetic to India's proposal to create a 'pan–Asian gas grid' – to what extent joint energy collaboration can overcome their legacy of geopolitical competition remains unclear (Hyder, 2005).

Japan's recent energy diversification legacy has not been problem-free but is among the most impressive in the industrialised world. It had reduced petroleum as it primary energy source from 70 per cent in 1970 to just over 50 per cent in 2001 and now uses nuclear energy to generate about one-third of Japan's electricity

(Chanlett-Avery, 2005: 4; see also Kelly, 2005: 278–327. Natural gas consumption provides 13.5 per cent of its energy, with supplies imported largely from South-East Asia but projected to come increasingly from Sakhalin when a joint development project commences with Russia. Its per capita energy consumption is one of the world's lowest for developing nations (using about half the British thermal units, Btu's, per capita than the United States). It has committed substantial funding to develop solar, hydro and other forms of carbon-free, renewable, energy sources (Chanlett-Avery, 2005: 4–5).

South Korea's energy diversity is similar to Japan's but less efficient and more uncertain due to the North Korean factor. Oil provides 55 per cent of its total energy supply, coal 21 per cent and natural gas 10 per cent. The Middle East provides a far greater percentage of LNG exports to South Korea than to Japan. South Korea's nuclear industry is substantial (it has 19 nuclear reactors) but not on the same scale as its Japanese counterpart. Those who support greater engagement with North Korea view favourably the construction of gas pipelines through the DPRK to access Russian and Central Asian energy sources (Calder, 2004). However, the failure of the Korean Peninsula Development Organisation, and the pending status of the Six Party Talks to resolve the North Korean nuclear problem, make such collaboration doubtful. As Kent Calder has observed, 'In the absence of a verifiable nuclear non-proliferation agreement with the DPRK, it is obviously premature to move toward agreement on a trans-North Korea pipeline, from any of the ... prospective sources of Russian gas, even though it would be cheaper than alternatives ... ' (Calder, 2004: 15–16).

Diversification of energy supplies will continue to pose a major strategic challenge for Asian importers. Because the Persian Gulf holds two-thirds of the world's oil reserves to meet global demand over the next quarter century, and may supply up to 90 per cent of the Asia–Pacific region's oil supply by 2010, the dangers of ignoring or not adjusting to the domestic political, economic and social dimensions of energy geopolitics in that part of the world are particularly acute.[9] Yet these dimensions cannot be separated from the international system's overarching and rapidly changing strategic landscape. That landscape must ultimately shape the will and capabilities of Asia–Pacific states to create alternative energy infrastructures to avoid future 'oil shocks' and related energy shortages. Continuing or intensifying dependence by Asia–Pacific states on primarily Middle Eastern oil supplies cannot be justified as a long-term strategy or one that adequately hedges against strategic developments there.

Greater institutional collaboration in confronting energy issues would be a major breakthrough. In this regard, the Association of Southeast Asian Nations' (ASEAN's) Petroleum Security Agreement, requiring ASEAN member states to provide crude oil and/or petroleum products for countries in short supply can be viewed as an instructive precedent (Guoxing cited in Giragosian, 2004). So too would greater joint investment in emerging production locales including West Africa (Nigeria and Angola), Sakhalin and Central Asia, applying formulas designed to minimize the nationalist competitive aspects of such investment. Most importantly, any such collaboration needs to be co-ordinated closely with

the world's other great oil consumer, the United States. Excessive dependence on Middle East oil by both the US and Asia–Pacific countries, and the absence of forward-looking mutual strategies forged in appropriate institutions or forums for dealing with this prospect, is a dual recipe for geopolitical disaster. The co-ordinated development of markets and pooling of investments toward long-term, well-considered strategic resource diversification is urgently required to meet the prospect of looming oil shortages (Salameh, 2003: 1085–1091).

Dealing with contingent and structural risks

In the absence of long-term collective strategic planning, Asia–Pacific states will incur a number of contingent and structural risks to their energy supplies that could significantly worsen their strategic positions. *Contingent risks* are unpredictable events that could directly threaten energy supply security: political and military upheavals and accidents at energy production facilities or along energy transportation routes. *Structural risks* include producers' embargos imposed for political or economic reasons, the strengthening of producers' marketing control, environmental ramifications of excessive fossil fuel consumption and lack of energy infrastructural development (Koyama, 2001: 3). The demarcation of contingent and structural risks, however, draws attention to the need for responding to both unanticipated and predictable threats with a sufficiently coherent energy strategy that can realize long-term energy security while reacting quickly and effectively to short-term surprise.

Contingent risks

Political and military risks constitute the most obvious energy security contingency scenarios. Risk assessments must be applied in assigning national security resources and policy to those contingencies deemed to be most likely to threaten supplies. Obvious areas of policy focus include the logistical disruption of oil supplies by terrorism at production sites or along fuel transportation infrastructures and chokepoints; civil unrest or war in producing states; inter-state wars with ramifications for fuel production; explosions or meltdown at production sites; or embargos by other consumer states against designated supplier countries.

Approximately two-thirds of all petroleum produced is shipped by maritime transportation; the remainder is transported by pipelines or by trains and trucks over shorter distances (Rodrigue, 2001: 9). Most of the maritime trade between Europe and the Asia–Pacific passes through the Malacca Strait chokepoint. including one-half of the world's oil and two-thirds of its LNG. Yet its physical features would appear to preclude such traffic. Its egress points are shallow and narrow, impeding navigation as increasingly large ships are employed for oil transport and inviting easy interdiction by hostile elements. Co-ordinated naval patrols have been initiated by Indonesia, Malaysia and Singapore (Operation MALSINDO) in lieu of an offer in mid 2004 by the US Navy to lead a Regional Maritime Security Initiative and another offer by Japan in March 2005 to con-

tribute Japanese Coast Guard patrol boats for strait surveillance and patrolling. Both offers were rejected by the Indonesians and Malays on nationalist grounds (IAGS, 2004; IISS, 2004; Percival, 2005). The effectiveness of current MALSINDO patrolling arrangements, however, is questionable as patrols from one participant state are generally not allowed to cross another state's sovereign waters. Moreover, terrorist groups such as the Philippines' *Abu Sayyef* and Indonesia's *Jemaah Islamiyah* are reportedly showing increased interest in attacking commercial shipping as an easy 'soft target'. In March 2003, ten armed men hijacked the Indonesian chemical tanker, *Dewi Madrim*:

> ... apparently for the purpose of learning to steer it. After operating the ship for an hour through the strait, which narrows to 30 miles in some places, they left with equipment and technical documents. This might be the Maritime equivalent to the Florida flight school where the September 11 terrorists took their flying lessons. (IAGS, 2004)

Combined with the South China Sea (a body of water where unexploited oil and natural gas deposits are thought to be substantial), the Malacca Strait and its strategic passages represent one of the world's most attractive interdiction targets for those intent on disrupting global markets and security.

The Asia–Pacific region is now the world leader in the growth of nuclear energy technologies. There are 56 nuclear reactors or accelerators operating in 15 Asian countries to generate electricity and to meet both medical and development needs (ElBaradei, 2004). Standards of reactor protection, however, vary from country to country in Asia, with the eight reactors in South-East Asia thought to be more vulnerable to attacks or theft of nuclear materials (Ogilvie-White, 2005: 7). While attacks on a nuclear power plant could not lead to a nuclear explosion, the initiation of meltdowns, major fires or conventional explosions could lead to widespread radiation. Attacks on vehicles or trains transporting nuclear materials must also be factored into any security equation. Missing or stolen nuclear materials could be used to construct so-called 'dirty bombs' or radiation emission devices that would contaminate large sectors of urban areas surrounding any reactor or facility. The effects of an aircraft slamming into a nuclear reactor and penetrating its containment walls are unknown but, following September 11, cannot be ruled out as a possible scenario.

All of these nuclear contingent threats have been anticipated by Asia–Pacific states, and mechanisms to deal with them have begun to materialize. Working with the International Atomic Energy Agency (IAEA), the region has commenced the painstaking tasks of accounting for used nuclear materials, retrieving disused sources and shipping them safely back to countries of origin, and training national authorities and technicians to recover radioactive sources in the event nuclear accidents or terrorism does take place. Australia, Japan and South Korea have been prominent contributors to the IAEA's Nuclear Security Fund and China has pledged future financial support. Australia has established a regional project on the Security of Radioactive Sources, and the IAEA will contribute to this initiative with funds earmarked by the US Department of Energy for assistance in establishing 'Regional Radiological Security Partnerships'. Australia, the IAEA, and the USA, together with other Asia–Pacific states – Indonesia, Malaysia, Thailand and Vietnam – are now developing a project work plan (ElBaradei, 2004). The ultimate success of such ventures, however, will depend on how well project policy managers remove traditional barriers to regional co-operation against contingency risks – sovereign prerogatives, corruption and shoddy marketing practices related to infrastructure building and maintenance.

Structural risks

While still significant, structural risks may be less threatening than contingent risks. Illustratively, the embargo politics of the Arab states and OPEC that were applied in the 1970s proved to be counterproductive. At present, the Middle East states and an increasing number of other energy-producing states in Central Asia and Africa are energy-revenue dependent, under increased pressure to re-invest in their energy sectors by growing populations with greater financial expectations, and dependent on Western and Asia–Pacific technologies to diversify their economic bases over the long-term. The energy diversification outlined in the previous sub-section has increased oil/gas-producer states' awareness of their customers' flexibility in reallocating energy supplies. Most producer states would be hesitant to behave in ways that would jeopardize stable revenue flows.

Notwithstanding such greater willingness of energy producers to supply users, structural risks are still capable of generating substantial disruptions in energy flows. If Asian GDP growth continues to increase at current rates (in 1993 Asia constituted 23 per cent of the world's total GDP; in 2010 that figure will have increased to 36 per cent), competition among regional energy importers will inevitably rise. Leaving market forces or unrestrained nationalism to determine the need for oil imports as opposed to alternative oil dependency by energy diversification risks aggravating environmental degradation and defaulting too much of the energy sector's public good to inherently narrow interests. In the era of globalization, it is becoming clear that maintaining critical services in the health, power and telecommunications areas are dependent on governmental co-operation, regulation and accountability. In the energy security arena, '... numerous uncertainties ... require governments to play a role in promoting energy projects which ensure reliable supplies, competitive pricing, and reduced pollution. Government leadership will be indispensable, particularly in attracting and facilitating private sector participation' (Ivanov & Hamada, 2002).

One other structural factor could seriously undermine Asia–Pacific energy security. If an 'oil shock' leads to greater volatility in financial markets, energy-importing states' over-reliance on external oil supplies will be exposed and their overall wealth will come under greater risk. A sustained global surge in oil prices, for example, could lead to a replay of the 1997–1998 Asian financial crisis and to prospects for political unrest and geopolitical rivalries. Over the long-term, effective energy source diversification may mitigate this effect. However, the

Asia–Pacific's current high level of reliance on Persian Gulf crude, and its still underdeveloped project infrastructure network, presently renders the area vulnerable as major net-importing countries China, India, Singapore, South Korea, and Taiwan are most at risk vis-à-vis market forces (Giragosian, 2004).

Conclusion

Energy reliability is a requisite for future Asia–Pacific geopolitical stability. Visible progress has recently been made in regional energy co-operation through institutional action and limited joint collaboration in investing and developing in extra-regional energy sources. Such progress, however, could be overwhelmed by unexpected contingent risks and threats over the near-term or compromised in the more distant future by the region's collective failure to address remaining structural problems in energy supply and protection. Contingent threats equate directly to geopolitics because the power and assets needed to respond to terrorism, resource conflicts and natural disasters with resource ramifications link directly to states' respective national security capabilities. Controlling 'energy nationalism' will have much to do with how much strategic stability the Asia–Pacific region experiences over the next two to three decades. Such control presumes, and cannot exist in the absence of, concurrent implementation of the confidence-building and arms control measures required to dilute incentives for greater militarization in the region and the co-ordination of systematic approaches to dealing with terrorism and other non-state threats.

Resource diversification, infrastructure investment and energy conservation are longer term, more 'structural' strategies but are no less relevant to Asia–Pacific geopolitical stability. Energy security efforts conducted independently by individual Asian economies could be counter-productive to collective energy security management. China, Japan and India, as the region's largest energy consumers, can take the lead in working together to forge a region-wide energy security agenda through regional institutions and in conjunction with international bodies such as the International Energy Agency and the International Atomic Energy Agency. In so doing, they can establish sound energy policy that can be applied to meeting common energy challenges without geopolitical turbulence.

Notes

1 Background is provided by Herberg (2004: 357–361).
2 For an opposing and more optimistic opinion, see Jaffe (2001b), Senior Energy Advisor, James A. Baker III Institute for Public Policy, at http://www.erina.or.jp/En/Research/Energy/Jaffe42.pdf. Jaffe contends that 'it is by no means a foregone conclusion that the nineteenth century pattern of neo-mercantilist competition for territory and diminishing oil reserves need fit analogously with 21st.
3 The 'free-riding' argument was posited by Feigenbaum (1999: 79–80).
4 Other 'pearls' in China's sea-lane strategy include the building of a container port facility at Chittagong, Bangladesh; cultivating close ties with Burma's military junta in order to gain more access to that country's ports located along the Indian Ocean; and exploring with Thailand the long-term construction of a canal (costing an estimated $US20 billion) across the Kra Isthmus that would allow Chinese commercial vessels to bypass the Strait of Malacca. Defence consultant Booze Allen Hamilton recently prepared a classified report for the Pentagon outlining this strategy in some detail see Gwertz (2005). For an assessment of other regional security actors' basing activities in the Indian Ocean, consult Berlin (2004: 239–255).
5 Relevant scenarios are outlined by Krepinevich (2002).
6 Citing various public intelligence estimates.
7 For a quantitative comparison of Japanese–Chinese naval capabilities, see Lind (2004: 100). For a useful general assessment of Japanese force modernisation trends, see Dupont (2004: 25–36).
8 For a comprehensive itinerary of proposed pipeline projects from Central Asian states to other regional centres, see Finon *et al.* (2000: 12–13).
9 This oil consumption estimate is provided by Ji Guoxing of the Shanghai Institute of International Strategic Studies and cited by Giragosian (2004).