

**URBAN PLANNING AND ENVIRONMENTAL LAW**  
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Fred Kan & Co.’s prize for a meritorious dissertation submitted in the MSc in Environmental Management (HKU) 2010 programme was awarded to Edward Oosthuizen for his dissertation : *Ecological Modernisation : Transforming the Built Environment in Hong Kong*. In this edition of UPELQ we consider several key points raised in the dissertation.

*The Editors*

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**THE THEORY OF ECOLOGICAL MODERNISATION AND ITS ROLE IN BUILDING AN ENVIRONMENTALLY MORE FRIENDLY HONG KONG**

In his 2010 dissertation, *Ecological Modernisation : Transforming the Built Environment in Hong Kong*, Edward Oosthuizen examines in detail, supported by numerous references, the notion of “adopting efficiency standards and guidelines in a move to bring development projects onto a more sustainable footing”. His dissertation focuses on “the incorporation of environmental innovation into the design and construction of new buildings in Hong Kong, by applying the *Ecological Modernisation Theory* (EMT)”.

Two points are immediately apparent from the beginning of the dissertation: (i) the author is dealing with only our man-made, or built environment; and (ii) to a significant extent, increased efficiency and innovation (in the context of constructing the built environment) involves economic – rather than environmental – factors, which we shall not address here.

Thus, the objective of proper application of the EMT is to reduce environmental damage caused by the construction and use of buildings, including, importantly, by way of more efficient deployment of materials. Hong Kong’s – and the world’s – numerous other “non-urban” environmental issues – such as mass destruction of forests, coral reefs, and marine resources – are not within the scope of the dissertation, which is not to say greater “innovation and efficiency” are irrelevant to curbing broader environmental damage.

As the concept of *sustainable development* is not widely embraced in Hong Kong, the EMT “has the potential to fill those shoes”. There are more than 40,000 buildings in Hong Kong, accounting for

over 90% of energy consumption and more than 50% of greenhouse gas emissions. So, notes the author, “the built environment would appear to be an ideal starting point to address innovation and efficiency concerns”.

But (as most of us are only too well aware) “as is so often the case in environmental matters, there are significant barriers in place hindering the design and construction of truly innovative projects”.

*Ecological Modernisation*

The EMT is a concept which relies on technological innovation as the key to “creating improved environmental outcomes through greater efficiency and less resource [use] intensity”.

“At its core is the fundamental principle that the environment can no longer be looked at in isolation but that environmental principles need to be incorporated into planning at all levels and that in order to achieve this, transformation of environmental practices, discourses and institutions in the technological, social spheres is necessary”. Ecological modernisation and sustainability are the same, in terms of aiming to achieve environmental protection; however, ecological modernisation focuses strictly on technological solutions to the problem and does not take into account social issues.

One description of the EMT’s function is to “ecologise the economy and economise the ecology” which may be achieved at “both the micro and macro-economic levels”. The EMT holds that greater building/construction efficiencies may be reached through “the adoption of clean technologies that have environmental factors integrated into their design and application of both products and processes”.

An expert in this field, cited by the author, says “that the core of ecological modernisation is that there is money in it for business”. [Pausing there, we suggest that this fact, once grasped, is probably

the only reason Hong Kong's business and government leaders might embrace the EMT, or any other policy which gives serious recognition to the environment.]

The EMT does not seem to be greatly different to a concept, or policy, which environmentalists have promoted for decades, namely, that in assessing the cost to the society of any manufacturing, exploitive or construction process (or any human activity at all) *external* costs, not merely *internal* costs, must be taken into account. External costs include damage to the natural environment. Using this approach would reflect more accurately comparative "costs" of projects and promote more efficient ways of undertaking the projects.

It is not completely clear what the EMT actually is; but, in short, it appears to embrace the notion of "industrial greening", that is, using best practices and technologies to reduce harmful environment effects of constructing and operating buildings. The author notes that the EMT "arose as a counter position to the environmental movement's stance stating that a fundamental reorganisation of core institutions in modern society was essential for long term sustainable development".

The EMT has two key principles :

- (i) "the emancipation of the environment from the economic sphere with the environment developing into a new domain with equal status that is not subordinate to ecological rationality"; and
- (ii) Bringing the environment "into the fold of the mainstream" rather than treating it as a "fringe-player".

The world's "burgeoning environmental crisis that was unfolding during the 1970s and 1980s" showed the need for new forms of environmental governance. The EMT is a response to that need, and is predicated on the notion that for environmental issues to be successfully addressed all relevant actors need to be included "rather than leaving environmental protection to the government alone".

#### Application of the EMT

The dissertation lists three distinct applications of the EMT :

- 1) "Ecological modernisation as technological adjustment where technological developments favour environmentally beneficial outcomes. It is a strategy that aims to improve market competitiveness with incidental, as opposed to central, environmental benefits of innovation and technological change. This is a narrow view of EM as it is industrially focused and does not take into account the changes in corporate, public or political values in relation to socially desired environmental outcomes."
- 2) "Ecological modernisation as a policy discourse where care for the environment is internalised into prevalent patterns of economic production and consumption thereby facilitating change in environmental policy within the context of modernity."
- 3) "Ecological modernisation as a belief system is a more radical interpretation of the concept which reflects the ideology that environmental protection is a precondition for long term sustainable development and strives

for changes in the relationship between the state, its citizens and private corporations as well as those between states. It attempts to organise ecological emancipation ideas and thus play an important role in legitimising public environmental policy. Also incorporated under this system is the notion of market advantage that is achieved via integration of anticipatory mechanisms into the production process including the anticipated costs of externalities and the importance of strengthening consumer preference for more environmentally friendly products."

#### Shortcomings of the EMT

There are various shortcomings of the EMT, which arise from such variables as :

- The varying role and importance of environmental and other social movements and NGOs particularly in countries that traditionally have a history of weaker institutions of popular participation.
- Global and domestic inequalities in the ability to establish and maintain ecologically modern institutions.
- Varying technologies and practices in place nationally and globally.
- The difference of opinions in the outlook and perception of what globalisation means for both the global economy and the environment.
- The difficulty in achieving the necessary institutional structures that are required for successful ecological modernisation.

However, in summary, the EMT holds that "economic growth can be decoupled from environmental damage through the adoption of better technology and improved decision making structures."

#### Green buildings

The "green building movement" is well established in developed countries. Green buildings are designed to reduce their overall environmental impacts, including in terms of their energy and resource use, and their greenhouse gases emissions.

Green buildings can be said to be those which comply with the Building Environment Assessment Method (BEAM) and the criteria of the Leadership in Energy and Environmental Design (LEED).

BEAM comprises the following criteria :

- Site aspects (location, planning and emissions)
- Material aspects (selection, usage and waste management)
- Energy use (system designs and management)
- Water consumption (quality and conservation)
- Indoor environmental quality (thermal comfort, indoor air quality, lighting, noise and vibrations)
- Innovations (innovative techniques and performance enhancements)

LEED incorporates factors such as :

- Sustainable sites
- Water efficiency
- Energy and atmosphere
- Materials and resources
- Indoor environmental quality
- Innovation in design

The author points out that the green building movement is only beginning to take root in Asia, and that there are a number of significant barriers

to industry's acceptance of the green building philosophy, such as inadequate research funding, prevalence of conventional construction methods and thinking, and aversion to perceived risks.

As well, developers believe green buildings cost more to build. In Asia, this is generally correct to an extent; green buildings cost on average 5% more than standard buildings.

#### Life cycle assessments

The EMT encourages a "life cycle assessment" (LCAs) approach to constructing buildings "Environmental degrading arises from most building supply chain production sequences. Extraction or purification of materials are activities that consume energy, generate waste, and contribute to environmental damage through impacts such as resource depletion, biological diversity loss, global climate change, acid rain and smog. LCAs can be used both as a tool for assessments and a concept in discussions and evaluations."

The author points out that by using LCAs, developers focus on the totality of environmental impacts (i.e. take into account *external costs* of adverse environment impacts). LCAs "may help avoid the shifting of impacts from one place to another and allow for the analysis of trade-offs to promote the best possible decisions for any particular situation or local condition".

#### Greater buildings' energy efficiency

The dissertation discusses the difference between regulatory and voluntary approaches to achieving increased energy efficiency.

Examples of regulatory instruments are :

- Mandatory codes
- Carbon/energy tax policies
- Tradable permits
- Mandatory labeling and certification programmes
- Appliance standards

Voluntary schemes, whose rules may be ignored by participants, unlike regulatory schemes, include programmes such as *environmental performance assessments* and *energy efficiency labeling schemes*. The former assesses "a variety of environmental performance criteria and the latter covers only the specific issue of energy efficiency".

#### Water and materials efficiency

The author also makes interesting observations on various schemes for promoting increased water and materials-use efficiency in the built environment. Both these aspects of environmental costs are integral to a "totality" approach to construction of urban centres.

#### International exposure : Singapore

The author chose Singapore as a comparative jurisdiction (in the context of policies promoting efficiency in building) due to its proximity to Hong Kong and progress made in creating greener buildings, as well as other similarities to Hong Kong, such as size of the urban area : Singapore 340 km<sup>2</sup>, Hong Kong 260 km<sup>2</sup>.

Singapore has embraced the concept of "sustainability" and has formulated a plan – *Sustainable Singapore Blueprint 2009*.

The Singapore Green Building Council was established in 2009 "with the aim of making Singapore the hub of green building in Asia and a Centre for Excellence in sustainable building and construction is set to be developed in 2011." As

well, the BCA Green Mark assessment scheme was introduced in 2005 to encourage more environmentally friendly construction practices. The scheme's categories of assessment of new buildings are: (1) Energy Efficiency; (2) Water Efficiency; (3) Site and Project Development and Management; (4) Indoor Environmental Quality and Environmental Protection; and (5) Innovation.

Singapore is a world leader in water efficiency and innovating more environmentally friendly practices and policies. Commitment to innovation is a core policy of the government. The government has taken a multi-agency approach to innovation, the key elements of which are :

- Building solid infrastructure and a conducive environment that supports innovation-driven intellectual property intensive activities.
- Establishing education and training initiatives.
- Providing attractive incentives.

In terms of the built environment, Singapore has adopted a reasonably enlightened approach, certainly by comparison with Hong Kong. As the author notes, Singapore "has internalised the concept of sustainability and it is a key policy initiative. The sustainability framework has led to legislation that incorporates the concept on a macro scale. The policies put forward by government are progressive and aimed at long term efficiency gains. The government keeps strict control on development and while strict regulation can lead to a lack of innovation the flexible styles of governance employed through fiscal incentives and voluntary schemes promote the uptake up technology and created a market for greener products. In the built environment, technology is combined with policies that aim to reduce the resource intensity of the city particularly with regards to energy and water, demonstrating that development in Singapore is occurring along EM lines".

#### *Hong Kong's built environment*

Hong Kong is one of the most densely settled areas in the world. Approximately 24% of its 1,100 km<sup>2</sup> land area comprises the built environment. Between 500 and 600 new buildings are added each year.

As with environmental protection more generally, with buildings construction Hong Kong has adopted a traditional command and control administration. This legislative framework is consistent with Hong Kong's executive led government.

Leaving aside land-use (i.e. town planning) issues (which are also controlled by the government through land leases, the Town Planning Board and other instruments or agencies) development is administered mainly by the Buildings Department (BD) under the *Buildings Ordinance* (Cap.123) (BO).

The scope of BD's administrative responsibilities is :

- Exercising control of all new building developments e.g. office buildings and residential blocks.
- Exercising control over dangerous buildings by a system of inspection, order and enforcement.
- Exercising control of unauthorised buildings by a system of inspection, order and enforcement.
- Providing emergency services to damaged buildings.
- Administering the BO in respect of prosecution, disciplinary actions, appeals, litigation and legislative review.

The author considers that Hong Kong has a "relatively green building agenda", which is motivated by a "commitment to reducing pollution, resource consumption, controlling indirect greenhouse gas emissions and clearing polluted skies".

The drive for greener buildings is not a matter only for the BD, or other government departments, exercising their legislative powers. A number of voluntary energy efficiency certification programmes are in place to encourage greener construction and use of buildings.

In this context, the author comments : "Certification programmes include the Hong Kong Energy Efficiency Registration Scheme for Buildings (HKEERSB), Comprehensive Environmental Performance Assessment Scheme (CEPAS), Energy Efficiency Labelling Scheme (EELS), Hong Kong Green Labelling Scheme (HKGLS) and Building Environmental Assessment Method (BEAM). The design-and-build government complex project at the Tamar site in Central Hong Kong, which will house the new US\$630 million government headquarters, will be one of the government's "greenest" complexes when completed in 2011. Environmentally-friendly and energy-efficient features will include double-layer ventilated facades, green roofs, high energy efficiency sea-water cooled chiller plants, rainwater recycling for irrigation purpose, solar electricity panels, service-on-demand escalators, daylight sensor controls and computerized lighting controls (United States Department of Commerce, 2010). Universities in Hong Kong are promoting a "green campus" concept through various measures. For example, the City University of Hong Kong plans to reduce energy consumption by seven percent over a 5-year period using year 2003 as the baseline. Some of the energy saving measures include replacement of illuminated exit signs with LED lamps, increase of room temperatures to 25°C, replacement of lighting fittings with T-5 energy efficient fluorescent tubes, installation of heat pumps for hot water supply for shower use, and installation of capacitor banks to power distribution systems to enhance the power factor (United States Department of Commerce, 2010)".

A number of NGOs also focus on reducing the adverse environmental impacts of the built environment.

In 2009/2010 the government committed HK\$450 million to improving "the green performance of Government buildings, including energy and water saving projects and devices leading to an annual energy saving of HK\$19.3 million, a CO<sub>2</sub> reduction of 13,500 tonnes and water savings of 2 million cubic metres of fresh water annually".

In 2009 the Buildings Energy Efficiency Funding Scheme was established with HK\$450 million available to provide subsidies to owners of buildings to carry out water and energy efficiency works.

In recent years, the government and private organisations have introduced a variety of programmes aimed at achieving increased water, energy and materials efficiency within the built environment. These include, importantly, pilot schemes conducted by the Water Supplies Department to investigate the feasibility of using reclaimed water (e.g. from the Shek Wu Hei Sewage Treatment Works) in buildings, such as for toilet-flushing.

#### *Ecological modernisation in Hong Kong*

The dissertation considers to what extent "ecological modernization" has influenced development in Hong Kong. Ecological modernisation encourages use of technical

innovation to promote "sustainability in industry by preventing and curing environmental damage".

A measure of the extent to which the EMT is applied is the size and growth rate of industries' research and development (R&D) programmes. From 1998 to 2007 annual R&D expenditure in Hong Kong increased from HK\$1.6 billion to HK\$6.1 billion. This indicates that the government "is committed to nurturing an R&D culture", as is the case in other major regional centres, such as Taiwan, Korea and Singapore.

However, in the context of our built environment, there "has been little progress in policies that aim to promote innovation". One reason for this is that "beyond a critical point of regulation" lies a "complex tangle of state bureaucracy". A strong ecological modernisation ethic "requires substantial transformation towards decentralised forms of governance and political intervention that is transparent and maximises opportunities for broader social interests which occurs alongside an increasing role and importance of non-governmental organisations, economic agents and changes to the institutional structure of society".

In 2000 the government established the Construction Industry Review Committee to investigate, and made recommendations concerning, construction in Hong Kong. The Committee's report (2001) had three major conclusions :

- Construction was expensive with fragmented responsibilities and adversarial relationships inhibiting improvements in efficiency and causing disputes.
- A need existed for greater investment in IT and in new technologies, supported by research.
- There was a clear need to create a more sustainable construction industry.

The Committee made 109 recommendations, including the creation of an industry coordinating body "to lead a change programme". This led to the formation of the Provisional Construction Industry Co-Ordination Board in late 2001.

The author notes, that on a micro scale, "there is a very little opportunity for architects and developers to implement innovative designs and technologies in their projects due to the stringent development controls enforced by the government and the overlapping interpretations on regulations".

The dissertation considers various other factors affecting Hong Kong's slow pace in adopting environmentally improved construction methods, such as the need to allow "social movements" more influence in decision - making processes affecting environmental performances of our buildings.

#### *Conclusion*

After its detailed analyses, the dissertation concludes that (not surprisingly) Hong Kong's performance in reducing harmful environmental impacts of the built environment is below par. The author concludes by noting (in part): "the government in Hong Kong is not taking an active enough role in promoting sustainability as a policy directive on a macro scale and this makes it impossible for efforts on lower levels to gain any true momentum. The government needs to take steps to rectify this and incorporate the objectives described in SUSDEV 21 (*Sustainable Development for the 21<sup>st</sup> Century*), a 1997 Hong Kong government report, into policies and set the example for the rest of Hong Kong to follow. Part of the problem is the nature of the political situation in Hong Kong, with the government having to demonstrate very little accountability

and it can engage and develop as it sees fit. NGOs and social movements are important but a willing government is vital for progress to be made”.

## LEGISLATION DIGEST

**Motor Vehicle Idling (Fixed Penalty) Ordinance (Cap. 611) [Gazette published on 11 March 2011, No.10 Vol.15 – Legal Supplement No.1]**

The Environmental Protection Department is of the view that idling vehicles cause air pollution, as well as heat and noise nuisances to nearby pedestrians and shops. The Motor Vehicle Idling (Fixed Penalty) Bill introduces a statutory prohibition against idling vehicles. The Bill was passed in the Legislative Council on 5 March 2011.

The Bill contains four Parts and two Schedules. Part 1 defines the scope of application of the proposed anti-idling law and sets out the definition of various terms. Part 2 stipulates what constitutes idling, prohibits drivers from causing or permitting motor vehicles’ motors to be idling for more than 3 minutes in any 60-minute period and, coupled with Schedule 1, provides for exemptions from the idling prohibition. Part 3 provides for matters related to the fixed penalty. Part 4 sets out the powers and functions of the authorised officers, creates an offence of obstruction of authorised officers and empowers the Secretary for the Environment to make regulations and amend Schedules 1 or 2. Schedule 1 sets out certain circumstances where the idling prohibition does not apply. Schedule 2 specifies the Authority and the authorised officers.

The main provisions of the Bill are set out below:-

- (a) Commencement [section 1(2)]  
The Ordinance comes into operation on a day to be appointed by the Secretary for the Environment by notice published in the Gazette.
- (b) What is idling [section 4]  
A motor vehicle is considered to be idling if any internal combustion engine forming part of, or attached to, or situated in or on the vehicle is operating while the vehicle is stationary.
- (c) Prohibition against idling [section 5(1)]  
The Ordinance prohibits the driver of a motor vehicle from causing or permitting the vehicle to be idling on a road for more than 3 minutes in any 60-minute period.
- (d) Fixed penalty [section 7]  
A person who contravenes the idling prohibition is liable to a fixed penalty of a fine of \$320.
- (e) Exemptions [section 5(2), section 6 and Schedule 1]  
According to section 5(2), the idling prohibition does not apply to (a) a driver referred to in Schedule 1 or (b) a driver who is exempted, or is in a class of drivers that is exempted, under section 6. Furthermore, section 6 provides the Director of Environmental Protection with power to exempt a driver or a class of drivers from the idling prohibition.

Schedule 1 provides that the idling prohibition shall not apply to:-

- (1) Vehicles generally
- a driver of a motor vehicle is stationary because of traffic conditions
  - a driver who cannot prevent the vehicle from idling because of a

mechanical difficulty over which the driver has no control

- a driver of a motor vehicle which is stationary while a person is boarding or alighting from the vehicle
- (2) Passenger transport vehicles
- a driver of a taxi which is at a taxi stand
  - a driver of a green minibus at a green minibus stand if the minibus is the first or second minibus on a particular scheduled service at the stand
  - a driver of a red minibus at a red minibus stand if (i) the minibus is the first or second red minibus at the stand; (ii) any passenger is on board; or (iii) the minibus is immediately behind another red minibus at the stand that has any passenger on board
  - a driver of a bus or a school private light bus where it has any passenger on board
  - a driver of a franchised bus when the bus is available for boarding by passengers
- (3) Vehicles idling for medical, emergency or law enforcement purposes
- a driver of a medical, emergency or law enforcement vehicle if idling the vehicle is necessary for conducting an operational activity for or related to medical, emergency or law enforcement purposes
  - a driver of a motor vehicle who is assisting in an emergency or accident if idling the vehicle is necessary for that purpose
- (4) Vehicles carrying live animals idling for operational needs or protecting public health
- a driver of a motor vehicle for a specified body (e.g. the Agriculture, Fisheries and Conservation Department, the Food and Environmental Hygiene Department), or for or as a contractor of a specified body, if it is carrying any live animals and idling the same is necessary for conducting an operational activity or protecting public health
- (5) Security transit vehicles
- a driver of a security transit vehicle if idling the same is necessary for providing armoured transportation services
- (6) Garrison vehicles
- a driver of a motor vehicle of the Hong Kong Garrison of the Chinese People’s Liberation Army if idling the vehicle is necessary for conducting an operational activity of the Garrison
- (7) Vehicles necessarily idling for certain purposes
- a driver of a motor vehicle if it is lawfully designed primarily for a

purpose other than the carriage of the driver, any passengers and their personal effects, and idling the vehicle is necessary for a purpose for which the vehicle is primarily designed

- (8) Vehicles necessarily idling for compliance testing or repairs
- a driver of a motor vehicle if idling the vehicle is necessary for (i) testing the same in accordance with a requirement under the *Road Traffic Ordinance* or to determine whether the vehicle complies with the *Air Pollution Control Ordinance* or the *Noise Control Ordinance*; or (ii) carrying out on the vehicle any maintenance, repairs or other work necessary to enable the vehicle to be removed without undue delay

- (9) Rainstorms and very hot weather
- a driver of a motor vehicle (i) when a rainstorm warning or very hot weather warning is in force; and (ii) if the warning is in force for part of a day only, at any time after the warning has ceased to be in force until midnight on that day

## TOWN PLANNING

### Illegal urn sites

A list of private columbaria published by the Government revealed that almost two-thirds of private columbaria do not comply with land leases or planning requirements, in that they are in breach of user restrictions contained in the government leases, or they contravene the statutory town planning requirements. Some even occupy government land illegally.

The industry says the classification is unfair and misleading, as some operators are currently arguing over the scope of the town planning requirements and the land lease conditions.

Three sites in Yuen Long have been served with enforcement notices by the Planning Department which mandates that they discontinue the “unauthorised development.”

Those not complying with the planning requirement may apply for a change of use, whilst others may alter the lease terms of their columbarium on payment of the government assessed premium. Some columbaria which applied for such changes are still waiting for a final decision, a Development Bureau spokesman said.

The government does not have information on how many private columbaria are not included in the list, nor does it know how many niches in total are provided by private columbaria.

Those who have already purchased niches should find out from the operators whether and how they will be compensated should the private columbarium be prevented from continuing to operate.

Before the list was published, the Secretary for Food and Health said affected families may continue to place the ashes of relatives at those places for the time being.

[The Standard, 17/12/2010]

## Party backs an 'island for the dead'

Recently, the government identified five potential sites in five different districts for public columbaria and it is now carrying out feasibility studies in respect to those sites. The five sites are in addition to 12 which had already been proposed in July.

The Liberal Party handed a petition to the Food and Health Bureau urging it to investigate whether a columbarium can be built on an outlying island, for example, on Tung Lung Chau near Sai Kung or Hei Ling Chau to the east of Lantau Island.

The party's spokesman said the government should consider building a large-scale columbarium on an island to meet the long-term growing demand for urns.

Building a columbarium on an island will probably draw less opposition than locating them in urban areas. But the spokesman also stressed that the government should assess the impact of such facilities on the environment when considering which island is more suitable.

[*The Standard*, 29/12/2010]

## Planning Department welcomes public views on "Study on Action Plan for the Bay Area of the Pearl River Estuary"

A spokesman for the Planning Department said that "Study on Action Plan for the Bay Area of the Pearl River Estuary" (the Study) aims to providing a common platform for Hong Kong, Guangdong and Macao to discuss and share experiences on planning projects as well as enhancing the livability of the Bay Area.

The proposals put forward by the Study mainly concern planning principles or directions that could serve as a reference by the three governments when considering their own individual policies and measures. The three governments would take into account their own situation when considering the feasibility and implementation of individual proposals.

The Bay Area has undergone a rapid process of urbanisation in the past thirty years. The economic success of the Bay Area has also led to a number of problems concerning environmental protection, conservation of resources, heritage conservation and others. The major focus of the Study is to preserve the natural environment, to preserve history and culture as well as enhance the living environment, so as to develop a more 'livable' Bay Area.

The Study is one of the follow-up actions of the "Planning Study on the Co-ordinated Development of the Greater Pearl River Delta Townships", which was jointly commissioned by the Hong Kong, Guangdong and Macao governments in 2009. It is also a regional co-operation item based on the "Outline of the Plan for the Reform and Development of the Pearl River Delta (2008-2020)" promulgated by the State Council in 2008, as well as the "Framework Agreement on Hong Kong/Guangdong Co-operation" signed in April last year.

[*Planning Department—Press Release*, 08/01/2011]

## Developers may struggle to get plans approved

Under the new rules effective from October 2010, developers must now convince the Buildings Department that they have a "realistic prospect of control" before their redevelopment of old buildings will be approved. In December 2010, the department rejected a plan from a developer

which had secured more than 90 per cent ownership of the property it wanted to redevelop in December.

The new rules make a sharp change to the redevelopment game. Now, an applicant submitting building plans for approval must provide particulars and documentary proof of ownership or the "realistic prospect of control" of the land forming the site.

In a meeting with the Building Department on 28 December 2010, the department rejected a redevelopment plan from a developer, which had submitted documents to prove it owned more than 90 per cent of a site, on the ground the applicant did not have 100 per cent ownership of, or realistic prospect of control of, the land forming the site.

During the meeting, 13 applications were processed, but only building plans for sites owned outright by a single owner were approved. The department rejected 5 applications where the applicants that did not have 100 per cent ownership.

[*SCMP*, 12/01/2011]

## Rezoning plans threaten to mute street colour

The Planning Department has released revised zoning plans for Wan Chai and Causeway Bay. According to the revised plans, about 15 hectares of Causeway Bay and 25 hectares of Wan Chai, now zoned as mixed use, will be turned into single use for either businesses or residential use.

In Wan Chai, all streets north of Johnston and Hennessy roads will change from mixed use to purely commercial zones. The area south of Wan Chai Road will switch to residential land. In Causeway Bay, the shopping and residential cluster around Sogo department store and a cluster covering Jardine's Bazaar and Percival Street will become commercial. Only a small area around Paterson Street will remain a mixed-use zone.

The new zoning rule will only apply to redevelopment, and will not affect existing home and shop owners.

Planning officials said mixed usage had created many problems, such as difficulties in infrastructure planning, and had made the environment unpleasant for people living in buildings full of shops.

Since the amendments were released in September 2010, hundreds of public submissions have been sent to the Town Planning Board. Many urban design advocates and developers oppose the changes. One major criticism is that the zoning changes will adversely affect the character and spirit of the subject areas. Mixed-use zoning creates interesting streetscapes. On redevelopment under the new planning requirements, Causeway Bay and Wan Chai could become as homogenous as commercial central, or residential Tseung Kwan O.

One critic said mixed use provided flexibility for the market to decide on the use of land. He also said if officials say mixed use will make it difficult to plan for transport, they should plan for the worst-case scenario.

Paul Zimmerman, chief executive of Designing Hong Kong, said the mixed-zoning system cut traffic by reducing distances between services, jobs and homes. It also provides demand for transport services outside peak hours, making public transport more sustainable.

[*SCMP*, 07/02/2011]

## Public and lawmakers demand details of mystery regional plan

A study titled "The Action Plan for the Bay Area of the Pearl River Estuary" has been jointly produced by authorities in Hong Kong, Macau, Shenzhen, Dongguan, Guangzhou, Zhuhai and Zhongshan, with the aim of upgrading the region's quality of life.

The joint study has proposed building a new town in North Lantau, a cross-border checkpoint in the West Kowloon arts hub and new cultural villages in Tai O and Fanling to attract tourists. And crowded Central, Wan Chai and Causeway Bay will be transformed into low-carbon areas with priority given to pedestrians over vehicles.

The Planning Department made a brief statement about the joint study in mid-January before launching a one-month public consultation. Before that, the study had gone unnoticed. Lawmakers have complained they were not consulted on the plan. The Legislative Council has not received information about it.

The action plan is one of several attempts at better integrating Hong Kong, Macau and the mainland.

Under the action plan, the region will become a "bay for quality living", building on an advanced public transport network, residential communities with diversified housing types and adequate infrastructure and facilities.

The text of the study did not include details of the plan relating to Hong Kong. But low-resolution maps included in the document show a new town in northern Lantau, a cross-border checkpoint in West Kowloon, cultural villages at Tai O and Fanling, and a low-carbon emission plan for Central, Wan Chai and Causeway Bay. The Northern Link and the express rail connecting Hong Kong and Shenzhen airports, though still under study, are also included.

Paul Zimmerman of Designing Hong Kong urged the government to publish the full report, in English, and criticised the Planning Department's lack of attempt to engage the non-Chinese speaking community in Hong Kong.

[*SCMP*, 08/02/2011]

## Inauguration of the "Government Hill Concern Group"

Since the government announced its redevelopment plan for Central Government Offices site (known as Government Hill) last October, there have been numerous opposition voices. The latest public survey revealed that over 70% of the public supported the retention of Government Hill for public uses. In early February, 20 NGOs filed an application to the Town Planning Board with a proposal to zone the Government Hill site as a special historic protection area.

Focusing on planning matters related to the Government Hill, the "Government Hill Concern Group" (GHCG) was inaugurated on 15 February. It comprises 20 organisations, including the Central and Western Concern Group, Heritage Hong Kong, the Conservancy Association and more than 40 individuals, including professionals, ex-government officials, academics and other individuals concerned about the future of the Central Government Office site.

A GHCG member, Ms. Katty Law, convenor of the Central & Western Concern Group stated that the government has announced its intention to sell part of the Central Government Office site for commercial development and it offered only a

single option for public consultation. Ms Law also highlighted the importance of protecting public interest and resisting the erosion of historic sites by developers. She called on the government to respect public opinion by withdrawing the redevelopment plan.

[*The Professional Commons— Press Release, 15/02/2011*]

## WEST KOWLOON CULTURAL DISTRICT (WKCD)

### Plan for arts hub to be chosen soon

The West Kowloon Cultural District Authority will soon decide which one of three plans will be chosen for development of the WKCD. Norman Foster, Rem Koolhaas and Rocco Yim are the principal architects of the three competing plans.

The government revealed that as the consultation with the general public and stakeholders has been completed, the results of the public engagement exercise will be released soon.

The government also revealed that tendering for the first facility of the project may begin before mid 2012. The government will seek proposals for other key cultural venues like the Concert Hall and the Museum at the same time. Generally speaking, 12 separate facilities will be built in the first phase between 2015 and 2020 and another 4 facilities will be added in phase two.

The government said that the new facilities would boost the number of Hong Kong's arts venues by 50%, and denied that this increase would be too much, as existing facilities are in great demand. The government also said that Hong Kong should be able to attract a wider audience because people from the Pearl River delta can travel to the WKCD on the express rail. The terminal of the express rail will be located close to the WKCD.

[*RTHK English News, 23/02/11*]

### Report on the Analysis of Views for the Stage 2 Public Engagement Exercise for the West Kowloon Cultural District

#### Purpose

The Public Policy Research Institute of the Hong Kong Polytechnic University prepared a "Report on the Analysis of Views for the Stage 2 Public Engagement Exercise for the WKCD".

#### The three-stage public engagement (PE) exercise

Before preparing a development plan for developing the WKCD, the Authority conducted a three-stage PE exercise to gauge views of the general public and stakeholders on the planning of the WKCD. The objectives of the three-stage PE exercise were:-

- Stage 1 PE exercise (completed on 7th January 2010) - to gauge the community's aspiration for and expectations of the WKCD, and to gather the views of arts and cultural stakeholders on the requirements of proposed facilities to be constructed as arts and cultural venues;
- Stage 2 PE exercise (completed on 20th November 2010) - to gauge public views on the extent to which the three Conceptual Plan Options have addressed comments received in the Stage 1 PE exercise, the individual features of each Option and the phasing in of Core and Arts Cultural

Facilities (CAFC) and the type of additional facilities required; and

- Stage 3 PE exercise (scheduled to be held in summer 2011) - based on the Conceptual Plan Option selected in Stage 2 PE exercise, the project consultant will draw up a Development Plan for the WKCD which will be presented to the public at a later date.

#### Format of the Stage 2 PE Exercise

During the Stage 2 PE exercise, the Authority staged a roving exhibition, 12 forums and 9 focus group meetings. Approximately 30,000 visitors have viewed the display of the three Conceptual Plan Options at the roving exhibition. There were also 32 guided tours held for stakeholder groups, including arts and culture stakeholders, professional institutes, the disabled, ethnic minority groups, Legislative Council members, Yau Tsim Mong District Council, Consulates and Chambers of Commerce. Under a special programme, the Authority conducted forums and school tours to solicit views from students and youth groups, as they will be major users of the WKCD. Approximately 4,000 students from 78 schools visited the exhibitions.

The Authority also conducted a questionnaire survey to solicit views of the general public. The questionnaire contained questions on the following aspects:-

- response to comments received in the Stage 1 PE exercise;
- key features of the Conceptual Plan Options;
- phasing arrangements of the CACF; and
- proposals in the three Conceptual Plan Options on other Arts and Cultural Facilities.

The questionnaire adopted an open-ended approach to stimulate free expression of views. The Authority also appointed an independent analysis and reporting consultant to conduct over 2,400 face-to-face exit poll interviews with visitors at the exhibitions, using the same questionnaire to enhance the credibility of the exercise.

#### Outcome of the Stage 2 PE Exercise

The Authority collected 7,310 completed questionnaires and 264 written submissions from the general public during the Stage 2 PE exercise. Together with records of PE responses and media reports from difference sources, the consultant analysed a total of 7,948 documents.

#### Report on the analysis of views

The analysis and reporting consultant recorded and analysed views collected during the Stage 2 PE exercise and compiled them as a report. The Authority will issue the report to members of the Authority and upload it to the website of the Authority at a later date.

In addition, the Authority has consolidated a compendium, including written submissions collected during the Stage 2 PE exercise, which will be uploaded to the Authority's website. A hard copy of the compendium will be available for public viewing at the Authority's office.

Views collected during the Stage 2 PE exercise will provide valuable references to the assessment and eventual selection of the preferred Conceptual Plan Option and are useful for the Authority's project consultant in preparing the development plan for the WKCD.

[*West Kowloon Cultural District Authority release, 01/03/2011*]

#### Green park is popular

According to a poll commissioned by Hong Kong Alternatives, 58% of respondents said that setting aside 60% of the land in the WKCD for residential and commercial purposes is excessive. As well, 84% are opposed to reserving 20% of the land in the WKCD for luxury flats, and 59% believe that such residential and commercial developments should be excluded and the land devoted to green park instead.

The majority of respondents also thought that the government should use its financial reserves to subsidise the development in the WKCD rather than depending on the resources or revenue generated by commercial activities in the WKCD.

Cheung Kwok Pun, Associate Professor of Architecture at the University of Hong Kong and a member of Hong Kong Alternatives, said that the government could build a 300,000 m2 underground multi-function shopping mall instead. He also proposes that a 1.4 km automatic walkway could be built to move people from Central to West Kowloon in just two minutes. This proposal would allow creation of maximum green areas above ground, with commercial elements kept underground.

The survey did not touch on the three proposed designs for the WKCD. It was announced earlier that Norman Foster's design, involving a huge green park, was the most popular option among 7,310 questionnaires returned. Leading pollster Robert Chung Ting Yiu, who carried out the survey, said that something is wrong in the government's consultation process as none of the three proposed plans touch on the green issue.

[*The Standard, 02/03/11*]

#### Arts hub design selected

Foster + Partners' design for developing the West Kowloon Cultural District (WKCD) has been chosen by the government. This district will become an arts hub, with 17 arts and cultural venues, including an opera house.

According to a statement released on the WKCD Authority's website on 4th March 2011, "City Park", designed by London-based firm Foster + Partners, beat the other two proposals prepared by Hong Kong-based Rocco Design Architects Limited and Rotterdam-based Office for Metropolitan Architecture. The project will cost approximate HK\$21.6 billion.

The arts and culture centre will be developed on 40 hectares of reclaimed land. It includes a 15,000-seat arena, a promenade, commercial buildings, residential buildings, a museum, performance venues and other facilities

[*Bloomberg, 04/03/2011*]

## HONG KONG BRIEFING

### 'Very high' smog clouds air quality claim

Air quality in the Pearl River Delta region has improved significantly to the benefit of Hong Kong, Secretary for Environment Edward Yau Tang-wah said.

However, the territory's roadside air pollution index yesterday was described by the Environmental Protection Department as "very high".

Yau's comments came after a meeting with Guangdong environment officials to discuss whether targets set for the end of the year have been achieved.

Yau said figures for 2010 have yet to be calculated but added there has been a significant fall in leading pollutants since 2006.

He said the average annual concentration of sulphur dioxide, nitrogen dioxide and respirable suspended particulates in the region has decreased by 38%, 9% and 7%, respectively, during this period despite continuing economic growth.

Yau pledged both sides will continue to work toward further progress by strengthening emission reduction and control measures.

However, pollutants blowing in from the mainland caused “very high” roadside readings yesterday, according to the environmental department.

At 5pm, the roadside pollution index was 170 at Causeway Bay, 145 in Mong Kok and 135 in Central. Those with heart or respiratory illness were warned to reduce physical exercise.

According to the department website, the main pollutant affecting the urban area was nitrogen dioxide.

[*The Standard*, 21/12/2010]

### Visibility a gauge of HK death rates

Visibility in Hong Kong has deteriorated so sharply over the past 50 years because of air pollution that variations in levels can be used to predict mortality rates, health experts said yesterday.

On an average day, visibility is now 12.6 kilometres, well below that of cities such as Paris, Berlin, Auckland or Vancouver, where visibility stands at 20-25km or beyond. Using government data, researchers at the University of Hong Kong found that the number of hazy days when visibility fell to below 8km shot up to 54 in 2007 from 6.6 in 1968.

For every 6.5km reduction in visibility, there was a corresponding 1.13% increase in the number of non-accidental deaths, such as from heart and respiratory causes. These additional deaths worked out at a total of 1,200 per year between 2007 and 2010, the experts told a news conference.

An Honorary Professor of the School of Public Health at the University criticised the government for using outdated air quality objectives, and telling people that today's air quality is acceptable when in fact, if you follow the World Health Organisation's air quality guidelines, it is very bad indeed.

According to his research, poor visibility was due to the concentration of pollutants such as respirable suspended particulates and nitrogen dioxide.

While the amount of particulates in places such as Vancouver and Auckland measured between 10 to 12 micrograms per cubic metre of air, Hong Kong had 80, or seven times more.

The Professor said that the higher the pollutant concentrations, the lower the visibility. A loss of visibility is a direct measure of serious harm to health, as even short exposure to such pollutants was particularly dangerous for those suffering from underlying heart or lung illnesses.

[*Shanghai Daily*, 20/01/2011]

### Rezoning plans threaten to mute street colour

Two of Hong Kong's most colourful areas could soon become more orderly and probably much “greyer”.

Zoning officials want to end the mixing of shops and homes in the same buildings in Wan Chai and Causeway Bay. The Planning Department says this will make life healthier and safer for residents.

However, residents, urban planners and real estate developers have been critical of this plan, saying it will drain the vitality from the two areas.

An architect said that without the mixing of shops and homes, Causeway Bay and Wan Chai, upon redevelopment, could become as sterilised and homogenous as commercial Central or residential Tseung Kwan O.

According to the latest revised zoning plans of the two areas, about 15 hectares of Causeway Bay and 25 hectares of Wan Chai, now zoned as ‘commercial or residential’, will be turned into single use for either businesses or homes.

In Wan Chai, all streets north of Johnston and Hennessy roads will turn from mixed use to purely commercial zones. The area south of Wan Chai Road will switch to residential land.

In Causeway Bay, the shopping and residential cluster around Sogo Department Store and a cluster covering Jardine's Bazaar and Percival Street will become commercial. Only a small area around Paterson Street will remain a mixed-use zone.

The proposed change would not affect existing home and shop owners, but the new zoning rule would kick in upon redevelopment.

Planning officials said that mixed usage had allowed greater flexibility in the use of land, but it had also created many problems such as difficulties in infrastructure planning.

A department spokesman said that a wide range of commercial uses intermixing randomly among flats in the same building creates nuisance for residents, and also creates noise, air pollution, security and fire safety problems.

A resident, who has lived many years in a typical composite block with the first four floors occupied by cafes, boutiques, a wool shop, a tailor, a hair salon, dance studios and small company offices, and mostly homes on the higher floors, said more businesses had come into the building in recent years.

He said that the intruders are rather disturbing, but he does not want to leave because the shops in the streets around are all old friends.

Hundreds of public submissions have been submitted to the Town Planning Board since the amendments were released last September. In the next few months the board will hold a hearing to consider the comments.

Many urban design advocates and developers say the new proposal is a mistake, arguing that everywhere else in the world, people are talking about the beauty of mixed-use zoning and how it creates interesting streetscapes.

Another urban planner called the rezoning “an absolute disaster”, as the current system cuts traffic by reducing travelling distances between services, jobs and homes. It also provides demand for transport services outside peak hours, making public transport more sustainable.

An architect cited Paterson Street as strong proof that the traditional mixed use worked well, saying there were ways to solve transport planning problems, such as better traffic control and restricting streets for pedestrians only.

[*South China Morning Post*, 07/02/2011]

### Deaths warning as study calls pollution targets too tolerant

Air pollution will deteriorate if the territory adopts government measures to improve air quality, researchers from the University of Hong Kong claim.

The researchers analysed pollution data and found the situation is far worse than World Health Organisation guidelines.

The air quality objectives in Hong Kong allow up to 100 micrograms of dust particulates and 125mcg of sulfur dioxide per cubic metre of air in a 24-hour period, as opposed to the WHO benchmark of 50mcg and 20mcg, respectively.

An honorary professor of the School of Public Health at the University of Hong Kong explained that these are the two most harmful common air pollutants, which may cause health issues ranging from respiratory problems to even a brain aneurysm.

According to his study, Hong Kong produces an average of 20mcg of sulfur dioxide per cubic metre every hour.

The professor criticised the government for setting such a high sulfur dioxide allowance, which is almost equal to telling people that the current amount of pollution is fine and that they can continue releasing fumes into the environment.

Another critic said that the improved air quality objectives were supposed to make the air better but with these regulations, our air quality is actually deteriorating.

The study estimates that with such allowances, 500 more people will die from air-related symptoms a year while 1.2 million more people will need to see a doctor for respiratory problems.

A spokeswoman from the Environmental Protection Department said there are plans to reduce emissions from power plants by 30-50% by 2015 and the suggested air quality objectives are similar to those of the European Union and the United States.

[*The Standard*, 22/02/2011]

### Hong Kong lights spark court action

A couple paid US\$3.3 million for a luxury apartment in Hong Kong, partly because of its harbour view, but their enjoyment was short-lived.

The completion of a three-story high LED advertising billboard on the roof of a nearby shopping mall last October blocked the view, while the billboard lights shone into the living room and bedrooms until midnight.

The couple, along with other apartment residents, complained to the mall, the developer, the apartment block's management firm, the government, politicians and activists. All to no avail.

Recently, 10 parties owning a dozen properties in buildings in Tsim Sha Tsui are to launch Hong Kong's first legal action against light pollution, claiming the billboard has ruined the value of their properties as well as their quality of life.

One of the apartment residents complained about how three prospective tenants have been put off by the flashing billboard 250 metres away.

The action by the apartment residents has set off fresh complaints from nearby residents about overly bright buildings.

Another resident who has lived in the area for 20 years said that she suffered for six years while the shopping mall opposite to her apartment was under construction. She now faces not only the lights from the mall but also the reflection from mirrored panels on the side of the building.

Prior to 2000, flashing lights were banned in Hong Kong because they were a hazard to planes landing at the airport in the heart of the city.

However, after the airport moved to Lantau Island, the government came under pressure to allow flashing decorations and billboards on buildings. The government itself invested in a light show around the harbour, sparking competition among building owners who began to dress up their buildings with lights.

[*Shanghai Daily*, 08/03/2011]

### "Change waste to gold" through reduction, recycling and waste to energy technology

The Secretary for the Environment, Mr. Edward Yau, and other guests officiated at the "Change Waste to Gold" launching ceremony on March 12, a strategy which aims to promote waste reduction at source, waste recycling and waste to energy technology.

Speaking at the ceremony, Mr. Yau said that while Hong Kong's current waste recovery rate had reached 49%, about 9,000 tonnes of municipal solid waste were still disposed of at landfills every day. At this rate, the three existing landfills will reach capacity one after another from 2014 onwards.

In order to tackle the waste problem facing Hong Kong, Mr. Yau said the government had devised a comprehensive strategy and action plan including a number of initiatives to reduce waste at source. The target is to further increase the waste recovery rate to 55% by 2015.

He called on the community to join hands to reach the waste reduction target and proper waste management for the sustainable development of Hong Kong.

During the "Change Waste to Gold" launching ceremony held at Plaza Hollywood, Diamond Hill, today, the guests shared green tips in their daily lives and took part in games to enhance the public's awareness of environmental protection.

The event also invited participants of the Japan Eco Tour to share their observations on green facilities in Japan, including visits to Maishima Waste Treatment Centre and Yumenoshima Tropical Greenhouse Dome. The participants suggested Hong Kong could make reference to the waste management measures and facilities, pollution control and waste to energy technology in Japan.

[*IS Department, Hong Kong SAR Government*, 12/03/2011]

### Bid for luxury project on Lamma revived

The controversial "Baroque on Lamma" development has been resurrected, to the anger of many island residents and green groups.

The luxury residential and marine project, which is situated near a conservation area, was rejected by development and planning officials last year, but an amended plan is being finalised for submission to the Town Planning Board.

The project is a joint venture between Agile Property Holdings, a Hong Kong-listed company focusing on mainland real estate, and local company King Wong Development.

Last year, the developer's plan was rejected by the Development Opportunities Office, which facilitates private proposals deemed worthwhile. The office said the residential density was too high and expressed concern about the ecological impact on the island's south, where endangered turtle and frog species are found.

Since then, the developer had revised their plan and the height of residential buildings in the new proposal was reduced to no more than four storeys, instead of six or seven. The project would yield 700 to 900 flats.

If approved, the houses will be built on the hills surrounding Tung O Wan, where most land is currently zoned as conservation areas to protect the habitat of Romer's tree frog, an endangered species of global conservation importance.

The development site boundary would be 200 to 300 metres away from Sham Wan, a nesting ground for the endangered green turtle in the south of Lamma Island which is listed by the government as a "site of special scientific interest" with restricted entry.

A conservation officer for WWF Hong Kong said that his group was very concerned about the project's ecological impact on the endangered species such as the green turtle, which is very sensitive to light.

When being questioned why they thought housing would be suitable for the conservation zone, the developer said they will surrender land of high ecological value in exchange for the less sensitive parts and a consultant will be conducting an environmental impact assessment for the project.

The proposed marina, spanning across Tung O Wan in southeast Lamma in the original proposal, is now confined to the northern part of the bay, with 500 berths for yachts. The nearby waters would become a venue for international sailing races.

A six-star spa hotel at Shek Pai Wan remains in the blueprint and new roads are proposed to provide access. The developer will also suggest preserving abandoned houses in the 300-year-old Mo Tat Old Village as a cultural heritage spot, and setting up organic farms in the area.

A resident of Mo Tat New Village, who had received a briefing from the developer recently, said he was worried that the project would ruin the natural scenic character of southern Lamma.

A spokeswoman for the Agriculture, Fisheries and Conservation Department said a study completed in 2001 indicated that coastal waters off southern Lamma had the potential to be designated as a marine park to conserve some ecologically sensitive marine fauna, such as the green turtle and finless porpoise.

But the spokeswoman said that the site was "given a lower priority" in the designation timetable because Sham Wan is already protected by law as a restricted area.

[*South China Morning Post*, 14/03/2011]

## CLIMATE CHANGE

### Southeast Asia will be hardest hit by climate change

Australia's top intelligence agency believes Southeast Asia will be the region worst affected by climate change by 2030, with decreased water flows from the Himalayan glaciers triggering a "cascade of economic, social and political consequences".

The projection was provided by the Office of National Assessments (ONA), in a confidential discussion on the national security implications of climate change with US embassy officials.

According to a US government cable reporting the briefing, as a result of political turmoil, a growing youth demographic and a general increase in population, Southeast Asia will be worst affected. Southeast Asia faces wild monsoons variations, with effects on littoral infrastructure, agriculture, marine currents and fish stocks. Coastal cities will be hit by subsidence and rising sea levels.

The ONA, which assesses information provided by Australia's other intelligence agencies, predicted increasing conflict in the Kashmir region due to a decrease in flows into the River Indus.

According to the Minister for Foreign Affairs, Australia plans to raise the issue at the Pacific Islands Forum meeting and will urge the Pacific island nations to address environmental problems incrementally rather than focusing on worst-case scenarios immediately.

The ONA predicted that global temperatures would rise 2 degrees by 2050 and 4 degrees by 2100. The effect of climate change in East Asia would become serious by 2030.

The ONA believes the Arctic ice melt will have positive and negative consequences that will raise a host of international legal issues. It assessed China as potentially the biggest loser as a consequence of decreased river flows.

[*The Sydney Morning Herald*, 16/12/2010]

### UK to suffer high climate costs

The UK is likely to face bigger costs from climate change than most other EU countries. Rising sea levels are likely to impact the nation more severely than most, negating economic benefits from increased tourism and, possibly, farm yields.

The predictions were made in a study funded by the European Commission, published in Proceedings of the National Academy of Sciences (PNAS). The report projects a net cost for most EU nations, but a net benefit for a few. According to the study, Scandinavian countries and the Baltic states should be better off, mainly because of increased opportunities for agriculture.

Researchers looked at climatic conditions likely to apply in 2080, and asked how present-day economies would fare if those climatic conditions were here now. The study addresses five issues, namely, agriculture, river floods, coastal areas, tourism and human health. According to their calculation, EU citizens would be on average 0.2% to 1.0% worse off were climatic conditions projected for 2080 to apply now. However, that headline figure conceals big regional differences.

To simplify matters a little, the researchers divided EU nations into five geographical blocs: southern Europe; central Europe south; central Europe north; northern Europe; and the British Isles. The most heavily affected region is southern Europe (Spain, Portugal, Italy, Greece and Bulgaria), for which the models project drops in agricultural yield of up to a quarter, major increases in coastal flooding, and a small drop in tourism revenue. The northern bloc, by contrast, would see farm yields rise by about one-third and an increase in tourism.

Meanwhile, the UK and Ireland would experience an overall economic impact almost as significant as southern Europe's, although produced mainly by an increase in the incidence of floods.



The researchers took four different scenarios of warming into account, and assessed the biggest impact on the British Isles at the high-temperature end, i.e. a rise of about 5 degrees from now. In a counterintuitive twist, lower temperature rises are projected to cost the British Isles, in terms of reduced agricultural yields.

Overall, Europe is one of the global regions considered to be most capable of adapting to climate change, partly because impacts in the region are projected to be relatively modest, and partly because it is comparatively prosperous.

[BBC News, 31/01/2011]

### Climate change takes toll on coffee growers and drinkers

Yields in Costa Rica have dropped dramatically in the last decade, for which farmers and scientists largely blame climate change.

Many long-established plantation owners have seen trees wither or flower too early. Some farmers have already given up. Others are trying to outwit changes in temperature, wind and rain with new farming techniques and harder tree varieties.

Like many tropical crops, coffee cannot tolerate extreme high or low temperatures, and it needs dry and wet seasons. Costa Rica and other countries, such as Colombia, with sophisticated coffee farms and mills, appear to be noticing the impact of climate change first.

These problems help push up the price of a latte or espresso at coffee shops everywhere. Most importantly, the fate of coffee in Costa Rica could be a bellwether for food production and prices globally, as farmers around the world cope with mudslides, droughts and creeping changes in temperature.

According to a professor of natural history at the University of Washington, almost all coffee grows in the tropics. In general, tropical species are more sensitive to climate change. They can withstand only a narrow band of temperatures, and they are not likely to adapt well to change. Recent heavy rains in Colombia have helped lift coffee beans to prices not seen in more than a decade.

Costa Rica has 25% less land planted to coffee than it did a decade ago, according to the national coffee agency. About 10,000 farmers have quit coffee, some converting their land to pasture for beef or dairy cattle. The remaining coffee farms produce less, with yields down 26% in a decade.

Weather is only one problem. Costa Rica also has too many old coffee trees, and farmers' costs have risen because of a labour shortage and the nation's devalued currency. However, climate change still represents a single, major source of agricultural problems and is expected to worsen.

[The Seattle Times, 06/03/2011]

### EU green scheme will affect airlines

Even as the airline industry braces itself for a year of higher fuel costs, it will have to prepare for the beginning of the European Union's new greenhouse gas (GHG) emissions trading scheme (ETS) next year.

Currently, airlines account for about 3% of global GHG emissions. However, the problem is that airline emissions have been increasing at a faster rate than those of any other industry, rising an estimated 98% between 1990 and 2006. And this is only likely to grow in tandem with global economic expansion, greater affluence and increasing air travel demand.

The United Nations Framework Convention on Climate Change expects emissions from airlines worldwide to increase 63% by 2020 and 88% by 2050. Meanwhile, the International Air Transport Association (IATA), which represents 230 major airlines worldwide, concedes that airline emissions will increase at a faster rate than at which the industry can improve fuel efficiency.

The ETS is the first scheme introduced anywhere in the world to deal with this rise in greenhouse emissions through taxes. For 2012, the first year when the new rules takes effect, the EU will set a cap on airlines' emissions (measured in tonnes of carbon dioxide) at 97% of the average of annual emissions between 2004 and 2006. About 82% of this cap will be issued as free emission allowances, while 15% will be in the form of allowances that are to be auctioned. The remaining 3% will be for new entrants.

However, as noted by Standard & Poor's (S&P) Ratings Services in a recent study, the cost impact of the ETS on airlines could be significant and far-reaching. If the costs are not passed on to passengers or mitigated in other ways, they could ultimately impact individual carriers' credit quality over time. It is estimated that in 2012 to 2013 alone, the industry could incur an additional cost of about 1.125 billion euros, based on the current carbon price of approximately 15 euros per tonne of carbon dioxide.

Whilst the full impact of the ETS will not be felt for the first few years, over time, this cost could become a significant additional burden for an industry already trying to cope with cut-throat competition, unexpected external shocks, rising fuel prices, fees and taxes, and financing costs. The early casualties could be weaker airlines and short-haul European budget carriers which cannot pass on their costs to customers. But later, if global carriers decide to bypass Europe, and instead use Middle Eastern hubs such as Dubai, the European cities and hub airports could also feel the impact. In the worst-case scenario, carriers might abandon some European routes altogether, impacting regional connectivity and regional economies.

[The Business Times, 08/03/2011]

### New energy targets to produce a greener nation

In the draft of its 12th Five-Year Plan (2011-2015), China pledged to use energy more efficiently, emit less greenhouse gases to power healthier economic growth, and expand its pollution control scheme to tackle environmental problems during the next five years.

The draft revealed the country's plans to slash energy consumption and carbon dioxide emissions for each unit of economic growth by 16% and 17% respectively. The country also aims to increase the use of clean energy by raising the percentage of non-fossil fuels in its energy mix from 8.3% to 11.4% in 2010.

The targets are part of the country's wider plan to reduce carbon intensity by 40% to 45% by 2020 from the 2005 levels as a key part of the fight against climate change.

According to a local environmental group, the energy and carbon intensity targets accord with the scenario mapped out by the International Energy Agency to stabilise the levels of greenhouse gases in the atmosphere. The agency said the concentration of carbon dioxide should be kept under 450 parts per million, a bottom line to save the planet from catastrophic disasters caused by rises in temperature. However, other environmentalists are worried that the targets might be too weak to rein in runaway economic expansion at provincial level.

From 2006 to 2010, China reduced energy consumption per unit of GDP by 19.1%, which was close to its 20% target set for the five years period. But the country registered an annual economic growth rate of 11%, which was more than the 7.5% target during the same period.

In order to reverse that trend and improve the quality of development, Greenpeace proposed that local governments should not exceed the growth target set by the top leaders, and should consider the central government's energy and environmental goals as a minimum standard.

A professor from the Chinese Academy of Sciences noted that China still has room to further improve its energy efficiency because the country's energy intensity now stands 1.5 times higher than the average level in developed nations.

In 2011, China aims to reduce both carbon and energy intensity by about 3.5% compared with last year, according to the National Development and Reform Commission. The five-year blueprint also sets a target to slash emissions of major pollutants by 8 to 10% by 2015.

[China Daily, 11/03/2011]

### Drought in Thailand sparks water fight

The early onset of seasonal summer drought this year has sparked quarrels between farmers in northern Thailand, highlighting the critical issue of water management in the region.

According to the leader of a farmers' network in northern Thailand, farmers living in the area have been fighting over access to water supplies, and in many cases they have pointed guns at one another. Roughly half of Thailand's agricultural land is irrigated. The fights typically erupt between farmers living downstream from water head-sources, when farmers upstream use the bulk of the water.

Parts of Chiang Mai and Nan provinces in the north have been declared 'disaster zones', making them eligible for extra government relief funding. The country's fleet of cloud-seeding planes, used to induce rain, began operations over the two provinces last week.

Meanwhile, controversy continues to rage in the east over the Pak Mun Dam. The locals insist that its sluice gates, which are currently closed for eight months a year, should be permanently opened for five years in order to allow uninterrupted water flow.

The Disaster Prevention and Mitigation Department has warned that 5.5 million people in 26 provinces, mostly in the north and north-east, are vulnerable to drought conditions. The department has recently advised farmers in 23 provinces in the basin of the Chao Phraya River to refrain from growing a second crop of rice as a precaution. However, according to the Irrigation Department, the climatic La Nina effect will bring rain in March and April. Water level in reservoirs is about 62%, which is normal, and should ensure water supplies last through the dry season.

Experts have been urging the Thai government to increase rain and flood-water harvesting. Parts of northern and central Thailand were inundated with flood water in 2010, killing more than 230 people.

The Thai government is currently reviewing its water policy.

[The Straits Times, 11/03/2011]

## ADVISORY COUNCIL ON THE ENVIRONMENT (ACE)

### Review of the technical memorandum for allocation of emission allowances in respect of specified licences

Members were briefed on the findings of the review of the "Technical Memorandum (TM) for Allocation of Emission Allowances in Respect of Specified Licences" (the First TM) issued under the *Air Pollution Control Ordinance* (APCO) in 2008, and on the proposal to reduce the emission allowances for power plants for emission years from 1 January 2015 by way of issuing a new TM (the Second TM).

Emission reductions from power generation plants would have positive impacts on air quality, given that these emissions accounted for 88%, 44% and 28% of the territory-wide emissions of sulphur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>) and respirable suspended particulates (RSP) respectively in 2008. The reduction in SO<sub>2</sub> emissions would decrease the level of particulates; reduction in NO<sub>x</sub> emissions would help alleviate the ozone problem.

The proposed reduction level of SO<sub>2</sub> for Hongkong Electric Company Limited (HEC) was only 28% from the current level, whilst that for CLP Power Hong Kong Limited (CLP) was 64%. The higher level of reduction for CLP was mainly due to its higher capacity for using natural gas to generate electricity. Currently, CLP has eight gas-fired generation units, but HEC has only two. Due to the early depletion of the Yacheng gas field, there is insufficient supply of natural gas for CLP to fully utilise the gas-fired plants. In anticipation of additional supply of natural gas after signing of the Memorandum on Understanding on Energy Co-operation, CLP would be able to maximise the use of existing gas-fired generation units and have more scope for emissions reduction.

There would be penalties for non-compliance with the emissions allowance limits under the APCO as the limits are statutory requirements. Non-compliance will be subject to a fine and even imprisonment for repeated offences. Under the Scheme of Control Agreement, non-compliance with the emissions caps would also result in reduction in the permitted rate of return. On the other hand, additional permitted rate of return would be granted as an incentive for good performance.

Concerning the possibility of shortening the lead time for industry compliance with emissions caps, the lead time of four years was considered necessary for the power companies to make preparations for essential engineering works and to gear themselves up before the proposed emissions caps took effect. To meet the 2010 emissions reduction targets, the power companies have already embarked on major retrofitting works to install emissions abatement devices. The technologies adopted by the power companies, such as flue-gas desulfurization systems, are of advanced level by international standards.

Increasing use of nuclear energy will enhance the power companies ability to achieve the emissions limits, which should be encouraged.

Emission trading is restricted to fossil-fuel power plants operated in Hong Kong and is not applicable to nuclear power plants in the Pearl River Delta (PRD) region. Emission trading with power plants across the border is also allowed, but the PRD power plants had to undertake additional emissions reduction projects in order to acquire the necessary emissions credits for trading. The ultimate goal of the cross-boundary emissions trading scheme was to provide an alternative means for reducing emissions from the power

sector in the PRD region. The proposal to increase the share of nuclear power in the power generation mix would be further considered in the context of the Climate Change Strategy.

The emissions allowances framework will ensure that new electricity works will not be debarred from starting their business even without the use of the most advanced emissions reduction technology. The framework is compatible with existing practices under the First TM.

The maximum emissions allowances (i.e. 120 tonnes for SO<sub>2</sub>, 270 tonnes for NO<sub>x</sub> and 8 tonnes for RSP) are equivalent to about 1% of the total emissions allowances for the entire power sector in respect of each of the specified pollutants for possible new electricity works with a total installed capacity equal to or more than 300 MW. The proposed new emissions allowances should be sufficient for a new entrant to establish a power generation plant of a reasonable scale. As new plants are required to use natural gas or renewable energy, the emissions performance of new power plants will be much better.

The power companies will carry out major retrofitting works for power plants to meet the 2010 emissions reduction targets. As achieving the proposed emission caps under the Second TM should not involve new capital investment, there should be no direct tariff implications arising from additional capital investment. Nonetheless, the increase in the use of natural gas might have tariff implications, as this cleaner fuel is more expensive than coal. Given the volatile fuel market conditions, it is not possible to provide a reliable estimation of the tariff implications. There is an established regulatory mechanism under the Scheme of Control Agreement to address this issue.

It is proposed that the new emissions caps take effect from 2015. The review mechanism is an on-going process and regular reviews will be conducted to examine the scope for further tightening emissions allowances.

Both power companies have installed advanced abatement devices, such as flue-gas desulfurization systems. It is difficult for the power companies to undertake additional major retrofitting works in view of their space constraints. The exclusion of new capital investment was not a consideration in setting the proposed emissions allowances. The TM will be reviewed regularly and scopes for further tightening the emission caps will be examined in light of further changes in fuel mix, technological developments and local circumstances.

### Pilot Green Transport Fund – proposed implementation framework

ACE was consulted on the initial proposal to establish the Fund in May 2010. The aim of the Fund is to encourage public transport operators to employ green technologies with a view to improving air quality and reducing carbon emissions, as well as nurturing green technologies in Hong Kong.

One of the proposed guiding principles is to subsidise the capital cost of innovative green products, but not the associated recurrent expenditure, such as operational, repair and maintenance costs. One issue is whether new green products, such as fuel additives, which could reduce emissions significantly, would be eligible for assistance from the Fund. A member explained that the trial of fuel additives would not be covered under the Fund. The underlying consideration for subsidising capital costs was to reduce the level of risk the transport operators had to bear when trying out new green products. Upon successful completion of the trial, the transport operators

were expected to continue developing the products and to bear the associated recurrent expenditure.

The guiding principle for the technology of innovative green products is likely to be within the realm of affordability for the transport industry in respect of capital and operational costs. Applications for new technologies at different price ranges would be acceptable, but the subsidy level is subject to the prescribed caps. In vetting the applications, the Steering Committee would decide priorities, having regard to a number of factors, including affordability and chance of success.

The objective of the Fund is to encourage the introduction of innovative green transport technologies and help improve air quality and reduce greenhouse gas emissions. To ensure that the new technologies will be put into use, affordability will be a key consideration in vetting applications.

The guiding principle is that the extent of performance improvement of the subject green product should at least be comparable with that achieved by advanced technologies for similar applications. It was considered that cost implications should be taken into account because some advanced technologies might be very expensive, but there might be some relatively less advanced but cheaper alternatives. As well, the consideration of whether the product could be used for wider applications in the market was important to ensure that the subsidy granted was worthwhile and the purpose of promoting wider use of green technologies could be achieved.

In considering the way forward using proven green technologies where operators found them not financially beneficial, the most favourable scenario was that the Fund could help the promotion of reliable and durable green technologies which were within the realm of affordability of the transport industry, in terms of capital and operational costs. For example, on present evidence, hybrid vehicles and electric vehicles were promising options which could be further promoted by assistance from the Fund.

An objective of the Fund was to encourage the transport sector to test out innovative green technologies in the local environment and apply them for broad use. The target group of applicants would be confined to a spectrum of transport operators. Tangible results would be expected from these applicants in achieving benefits from the one-off grant in the longer term. Given the diverse mode of operations in the transport sector, there could be a number of potential groups of applicants even within the same transport trade. By encouraging some operators in each transport trade to try out innovative green products, it was expected that other operators in the same trade would be motivated to follow suit if the trial was successful. The benefits brought about by the new technology could then be multiplied in the longer term.

The Chairman enquired about the rationale for setting a cap of \$3 million for each alternative-fueled vehicle and upper limit of \$9 million for each application. It was suggested that it was difficult to quote reliable estimates of the costs of innovative green products. To ensure effective allocation of resources and avoid abuses, the cap was set by making reference to the cost of relatively more expensive vehicles, such as franchised buses. The estimated cost of a hybrid double-decker bus was \$6 million. Pitching the cap for each application at \$9 million could assist a bus operator to procure about three hybrid double-decker buses to test out performance of the vehicle under different operating environment. The caps should be more than enough for operators to procure less costly vehicles, such as hybrid mini-

buses and taxis. The budget of \$300 million for the Fund should be able to support trials of a considerable number of new products.

It was noted that some electric vehicles or related components were very expensive. Some flexibility should be allowed to the caps, having regard to the market situation and cost of different technologies, in order to provide sufficient incentives to operators. Consultation had been conducted with stakeholders from different sectors regarding the subsidy level. The general feedback was that the cap of \$3 million for each vehicle and upper limit of \$9 million per application were sufficient to encourage trials of new green technologies. There were suggestions for increasing the subsidy level, which was proposed as the price premium between the alternative-fueled vehicle and the conventional vehicle or half of the cost of the alternative-fueled vehicle, whichever is the higher. The proposed subsidy level will be reviewed in due course in light of feedback received during the consultation period.

Criteria for assessing the effectiveness of the technology, other than environmental performance and fuel consumption, will include durability, reliability and level of maintenance cost of the product or technology. Common standards used by the trade will be used. Given the diversity and continual evolution of technologies, it would be difficult to set specific yardsticks for operational and environmental performance indicators. An independent third-party would be engaged to evaluate the performance of the products under trial.

It was confirmed that the Steering Committee would continue its monitoring role after completing the vetting process of the one-off grant. For example, the Committee would have to ensure that applicants had discharged their duties, as stated in the applications, within the trial period.

#### Planning and engineering study of Development of Lok Ma Chau Loop – stage one public engagement

Comments received during the two-month consultation period in the context of the Stage One Public Engagement exercise would be taken into account in refining the Preliminary Outline Development Plans (PODP). Key features of the PODP and development proposals for the LMC Loop and the associated environmental issues were briefed outlined to ACE.

The development plans are of paramount importance, as it is a unique opportunity for Hong Kong to set a benchmark for a sustainable low carbon community which will have positive impacts across the border. In formulating the plans, specific low carbon features should be developed in addition to broad principles. High standards in terms of carbon footprint and conservation based on Hong Kong, not Shenzhen, criteria should be used in view of the ecologically sensitive surrounding areas. Low carbon features according to Hong Kong's standards would be adopted for achieving a high level benchmark.

It is necessary to build in a mechanism to ensure that the most updated green technologies, such as renewable energy and waste management, would be incorporated by the time of development, about ten years later, in order to achieve the objective of developing a showcase of low carbon development.

More comprehensive proposals under the low carbon community concept should be incorporated. On building energy efficiency, adoption of more energy efficient designs would help achieve the vision of low carbon development. On land transport, walking and cycling were considered the most sustainable

modes of transport. The concept of a car-free community, such as currently adopted in Discovery Bay and Ma Wan, should be explored. Transport interchanges should be carefully designed. The latest requirements stipulated in the "Building Environmental Assessment Method Plus" would be followed to achieve building energy efficiency.

Concerning the eastern connection road between Kwu Tung North New Development Area (KTN NDA) and the Loop, it was noted that this was a new idea which was not included in the preliminary conceptual plan. The possibility of constructing a tunnel instead of a land road, which would have adverse environmental impacts on fish ponds and wetland habitat, was raised. A member explained that the eastern connection road between KTN NDA and the Loop was essential to facilitate access between the two areas. The road alignment and design options would be carefully planned to minimise potential environmental impacts to surrounding areas. The proposed road would be designed to allow access to the Loop only but not to adjacent wetland areas to avoid illegal dumping or unauthorized developments.

Reservation was expressed as to the proposed building height (of buildings within the proposed zone) of up to 15 storeys, in view of the possible wall effect and visual impacts. The building height of 15 storeys was considered high-rise for rural areas. Technical assessments, including an air ventilation assessment, would be conducted for the outline development plans. The locations and height of the buildings would be refined having regard to the assessment results.

The plot ratio of development in ecologically sensitive areas was generally limited to 0.4. The proposed plot ratio of 1.37 for the Loop could by no means serve as a benchmark of a low carbon community. It was noted that the plot ratios of developments at Fung Lok Wai and Wo Shang Wai, near the wetland areas, were only 0.185 and 0.4 respectively. The need for the proposed development of a total of gross floor area of about 1.2 million m<sup>2</sup>, resulting in the high gross plot ratio, was also queried by a member.

Concern was expressed over the impacts of the project on the flight path of birds, as the development area is surrounded by wetlands, including Mai Po Nature Reserve, San Tin, Ma Tso Lung and Hoo Hok Wai. While it might be difficult to estimate scientifically the actual space required in the flight corridor, the optimisation of the flight path in the interconnected wetland areas should be carefully examined.

It was noted that the Loop area was originally a farmland. It was changed to fish ponds and later used as a dumping ground for mud extracted from the Shenzhen River training works. The proposed ecological compensation was inadequate compared to other similar projects, if the land use was classified as fish ponds.

For the Wo Shang Wai development near wetland area, about 90% of the area was reserved for conservation and residential development accounted for only 10% of the site.

The proposed plan for the Loop and its surrounding areas appears to be a case of landscape fragmentation. The rural landscape was fragmented by new town development, while fish ponds and hills were fragmented by the KTN NDA. It was suggested that consideration be given to a more focused development of the area, and a larger trunk of rural land be kept intact for better ecological conservation.

In reply to a member's enquiry about the site as a low-lying area, it was explained that the Loop area had been filled up to a level of about 4.5 m above

principal flood datum. To avoid potential problem of flooding, the site would be further raised by 1 to 2 metres.

The committee heard a suggestion that a terrestrial habitat of low-lying hills, with different surface levels from the green corridor, be built. The terrestrial habitat could serve a number of purposes, such as providing habitat for wildlife species, screening off noise and enhancing the landscape of the Loop.

It was confirmed that as the Loop was currently vacant, no relocation of existing residents in the Loop area was necessary for the development to proceed. It was important to consider a comprehensive plan for managing waste, air and noise pollution problems arising from the development during the construction and operation phases covered by the Environmental Impact Assessment.

## REGIONAL & INTERNATIONAL

### CHINA

#### Rare earth zones aim to protect environment

The Ministry of Land and Resources decided to set up its first group of rare earth mining zones consisting of 11 state-planned rare earth mining zones in Ganzhou Prefecture of east China's Jiangxi Province. The zones will have a combined area of 2,500 square kilometres and rare earth reserves estimated at 760,000 tonnes. There are two further state-planned iron mining zones in Panzhihua, western Sichuan Province, with a total area of 460 square km.

[Beijing Review, Xinhua News Agency, 11/02/2011]

#### Beijing's water plan doesn't go far enough, critics say

The central government has announced its first national water plan. The government will spend 4 trillion yuan over the next 10 years on water conservation projects. Local governments will be required to set aside 10% of their revenue from land sales to support water conservation measures. The No. 1 water plan set administrative limits on consumption at 670 and 700 billion cubic metres in 2020 and 2030 respectively.

However, critics noted that the plan may be insufficient to solve the mainland's water problems. The Asian Development Bank (ADB) doubted that the consumption limit was realistic, given that consumption in 2009 was already 600 billion cubic metres. ADB was also concerned by the lack of liability and accountability provisions for water polluters.

Probe International, an international environmental advocacy group, expressed similar concern. It also worried that the consumption limits would provide an incentive to cheat. It proposed that the central government should instead encourage investments in water infrastructure and introduce legal obligations, such as penalties for infringements, and provide economic incentives.

[SCMP, 21/02/2011]

#### China announces 16% cut in energy consumption per unit of GDP by 2015

The central government aims to change the current mode of energy consumption, by which 70% of consumption is coal-dependent, to a more sustainable mode. Premier Wen Jiabao announced in the National People Congress's annual session that China would also reduce energy consumption per unit of GDP by 16% by 2015, compared to

2010. China is on the way to achieving a cut in carbon intensity by 40-45%, relative to 2005 levels, by 2020. China already has achieved a 19.1% cut in energy consumption per unit of GDP in the period 2005 to 2010.

According to the draft 12th Five-year Plan (2011-2015) for China's economic and social development, China also plans to increase the proportion of non-fossil fuels in her primary energy consumption, from 8.3% in 2010 to 11.4% and 15% in 2015 and 2020 respectively.

At the same time, China also will strive to increase forest stock by 600 million cubic metres, increase forest coverage from 20.36% in 2010 to 21.66% by 2015, reduce major pollutants by 8-10% in the 2011-2015 period, and encourage the use of clean energy, such as nuclear power and wind, solar and biomass energies.

The government will also cap total energy consumption at 4 billion tonnes of coal equivalent by 2015, with an annual increase of 4.24% in the 5 years.

[Xinhua News Agency, 05/03/2011]

## Japan

### Whale hunt may be called off

Japanese whalers have suspended their Antarctic hunt, citing harassment by environmentalists, and are considering ending their annual mission early, a fisheries agency official said today.

Activists from the US-based militant environmental group, the Sea Shepherd Conservation Society, have pursued the Japanese fleet for months to stop its harpoon ships from killing the giant sea mammals. Japan kills hundreds of whales a year, using a loophole in a 1986 moratorium on commercial whaling that allows "lethal research", and the government has long defended the practice as part of Japan's culture.

Anti-whaling nations, led by Australia and New Zealand, and environmental groups say the hunts are cruel and unnecessary. Militant activists have for years harassed Japanese harpoon ships on their Antarctic hunts.

Japanese Fisheries Agency officials said the factory ship, which has been chased by Sea Shepherd, has suspended operations since 10 February so as to ensure the safety of the crew. The Jiji Press news agency said, without naming sources, that the government was considering calling the fleet home earlier than the usual end of the annual expeditions, which would be in mid-March.

Greenpeace has long argued the state-financed whale hunts are a waste of taxpayers' money, producing stockpiles of whale meat that far exceed demand in Japan, where diets and culinary fashions have changed in recent years. Greenpeace said it had information that the fleet would indeed return home early because Japan is already burdened with excess stocks of whale meat.

Greenpeace noted that the factory ship is not big enough to carry the hunt's target number of up to 1,000 whales.

[The Australian, 16/02/2011]

### Reactor meltdown feared

The earthquake at magnitude 8.8 that hit eastern Japan earlier disabled the Fukushima No. 1 and No. 2 nuclear power plants' reactor-cooling systems, and a nuclear meltdown was suspected at

the Fukushima No. 1 nuclear power plant's No. 1 reactor.

Explosions with white smoke were witnessed, and it seems that the No.1 reactor was destroyed. The level of cooling water in the No.1 reactor also dropped. Radioactive caesium was detected near the No. 1, Plant No.1, and it was suspected that nuclear fuel rods in the reactor began melting due to the high temperatures. The amount of radiation surged up to 1,000 times normal level. Workers in the Fukushima No. 1 and No. 2 plants intended to release radioactive vapour to lower the internal pressure.

Meanwhile, the Japanese government reassured the public that the radioactivity level did not immediately pose health risks to human beings.

[The Daily Yomiuri, 13/03/2011]

### Ultimate damage to Japan nuclear reactors still unknown

Highly radioactive caesium-137 and iodine-131 were detected outside Fukushima, suggesting that the reactor cores are badly damaged and at least partially melted down.

The best scenario is that continuous pumping of seawater and coolants will successfully cool down the reactor cores; however, if the plan fails, heavy cylindrical cores could flare to hotter than 4,000°C and melt the container. In such a case, radioactive materials would spread on the wind and rain. The impact depends on the amount of radioactive material released and the weather.

If the prevailing winds blow northeast, then environmental impact will be reduced to a minimum, and U.S. would not be affected given the long distance. However, if the wind goes south, the radioactive materials may spread across Honshu, increasing the risk of thyroid cancer and other health hazards. An exclusion zone may have to set up within 30 km of the reactor, and wildlife in the zone may be greatly reduced and perhaps experience much higher rates of genetic mutations.

[The Washington Post, 13/03/2011]

## AUSTRALIA

### Whale sharks are shrinking

Whale sharks, some of the planet's biggest creatures, appear to be shrinking. Scientists from the Australian Institute of Marine Science have evidence that the average size of the world's biggest fish is in decline. Whale sharks up to 7m in length were once recorded at Ningaloo, West Australia, but they have disappeared, and now the biggest tend to be no more than 5m.

AIMS said photographs and satellite tracking suggested the biggest whale sharks had been disappearing since the 1990s.

The decline is a concern because whale sharks do not mature until they are 7m to 8m, suggesting young adults, once common in the area, are missing from Ningaloo. Records of whale shark sightings by tourism operators at Ningaloo from 1994 to 2004 showed a steady decline in the number of bigger sharks.

AIMS believes overfishing, boat collisions and accidental netting by tuna fishermen could be to blame. Pressure on whale sharks was increasing worldwide, especially in South-East Asia where fishermen hunted them for their soft flesh. One fish could fetch up to \$200,000.

More is needed because the picture is confused by the apparent increase in the number of smaller whale sharks.

[The West Australian, 18/02/2011]

### The toxic secret that threatens thousands

The Environment Protection Authority (EPA) announced that industrial activity at the former Hills Industries site in Edwardstown, a suburb of Adelaide, South Australia, contaminated the underground water. The contaminants are mainly fuels and industrial solvents, including carcinogens.

The EPA notified people in the affected zone, including more than 2200 residents of South Plympton and Edwardstown, Marion Council and the Forbes Primary School. The EPA advised them not to use bore water for any purpose until further notice.

The EPA was first alerted to the potential contamination in August 2009, but it announced the news only yesterday, 18 months later.

Critics and some residents were dissatisfied that EPA hid the news for a long time, but the government explained that the EPA was striking a balance between informing the public and not causing undue panic.

[Herald Sun, 24/02/2011]

### Carbon tax compensation

Climate Change Minister Greg Combet defended the government's proposal for a carbon tax and said that the people would be compensated for higher prices. He also attacked the policy announced by the Opposition, claiming that electricity prices would not increase or that taxpayers would not suffer additional burden.

Mr Combet estimated that there would be only a modest effect on inflation, as the tax would be used to support households (especially pensioners and low-income households) and jobs in trade-exposed industries, and to finance climate change mitigation measures.

On the other hand, the Opposition claimed that taxpayers would be \$720 a year worse off if the government's proposal were implemented. Instead, people would be better off using the money under the project to promote clean energy and on incentives for industries to cut emissions.

[ABC News, 07/03/2011]

## U.S.A.

### Off-shore illegal fishing punished

In *U.S. v. Bengis*, the Court of Appeals (2<sup>nd</sup> Circuit) recently handed down a judgment in which American citizens were penalised for causing environmental damage in another country, South Africa.

For four years, three U.S. citizens orchestrated a scheme to illegally harvest large quantities of rock lobsters off the coast of South Africa for export to the U.S. After the scheme came to light, South African authorities could not arrest the offenders because they were beyond jurisdictional reach, and instead prosecuted the South African individuals who participated in the scheme.

Subsequently, U.S. authorities charged the three ringleaders with violations of the *Lacey Act* (which prohibits trafficking in illegal wildlife, fish, and plants), and the individuals served some gaol time and forfeited a significant sum of money to the U.S. government.

The U.S. government also sought a restitution

order to compensate the South African government for damage to the rock lobster fishery. Although this request was denied by a lower court, the U.S. Court of Appeals overturned the lower court's decision and held that South Africa was entitled to restitution because it suffered a loss of property. Under South African law, authorities are permitted to seize illegally harvested fish, to sell it, and to retain the proceeds; therefore, the action of concealing the illegally harvested rock lobsters denied revenue to the South African government.

The court also noted that calculating restitution would not be "too complex", and sanctioned a restitution formula derived from the market value of the illegal catch. Although the final restitution amount will be determined by a lower court, initial calculations submitted to the appeals court amounted to US\$54.9 million.

[*Elaw release*, 16/02/2011]

### EPA scales back final air pollution rules for boilers

The U.S. has decided to implement a set of cost-effective rules to protect the general public against toxic substances, such as mercury, lead and dioxins.

Under the rules, approximately 13,800 of the country's largest industrial boilers are required to adhere to specific limits on toxic emissions. On the other hand, cleaner boilers and small facilities need not adhere to the strictest limits, but they require regular tune-ups and may need to adopt cleaner work practices. The rules also create a subcategory for boilers that burn biomass, distinguishing them from coal-fired boilers. The differential treatment greatly reduced the costs of implementation while still preserving comparable benefits to the public.

EPA estimated that the rules, once implemented in 2014, will cut compliance costs in half while preventing 2,500 to 6,500 premature deaths as well as 4,000 heart attacks and 41,000 cases of aggravated asthma.

Environmentalists generally welcomed the rules, despite some minor concessions by EPA to industry groups. However, a significant group of lawmakers argued that the rules should not impose unnecessary costs on businesses.

Some critics are concerned that the rules may cause hardship to some speciality paper plants, radiating the effect down from the producers of wood fibre to the companies that use the finished paper products, and the public sector.

[*The New York Times*, 23/02/2011]

### UNITED KINGDOM

#### Green advisors target consumption in swansong report

The Royal Commission on Environmental Pollution published its final report on environmental issues.

It reported that parts of the country, notably southeast England, are under pressure on waste disposal and water use. Organisations such as Optimum Population Trust (OPT) argue that pressure is created by an increasing population. However, the report commented that merely tackling the population growth was not the answer, because even fairly large changes in the rates of birth, death and net migration would not make a significant dent in the national population by mid-century. Rather, increasing consumption, concentration of population in areas where water supplies are strained, and the prevalence of single-person households are major contributing factors.

On pan-regional issues, the report recommended spending money to attract people to areas of abundant resources, rather than spending even more money on water and waste treatment in southeast England.

[*BBC News*, 16/02/2011]

#### 'People's watchdog' touted to keep UK green

In response to the loss of funding from the government to support the Sustainable Development Commission (SDC), sustainability experts plan to set up a people's watchdog on green government.

The SDC has been advising the government on various environmental issues for over 10 years, and has been the generator of ideas and advice.

The new body aims to create communities of experts to analyse statistics and policy, rate government performance daily and lobby for improvement via the internet. The founders hope that charitable bodies will fund the programme.

[*BBC News*, 03/03/2011]

### EUROPE

#### Save energy for economy, EU Commission urges

The E.U. has just published its commission "road-map to 2050" on climate and energy. In the road map, the E.U. is now focussing on creating a competitive, low carbon economy.

In response to increasing fuel costs, the E.U. estimated that within the next 40 years, energy efficiency and a switch to domestically produced low carbon energy sources would save the E.U. 175-320 billion Euros per year on fuels.

The E.U. set target in 2008 that emissions should be reduced by 20% from 1990 levels. It is calculated that emissions would fall 25% from 1990 levels by 2020 without extra effort. However, the E.U. has no intention of setting a higher target for emissions reductions.

The E.U. Climate Commissioner urged implementation of tougher emission caps, but the E.U. Energy Commissioner insisted on the original target. Greenpeace and the U.K.'s Energy and Climate Secretary supported the former proposal. However, some member states and industry were split on the issue.

One obstacle to achieving the level of investment in energy efficiency and green technologies under the road map is the low carbon price, which allows companies to achieve emissions cuts without paying anything, thereby creating a surplus of permits to emit. Therefore, the E.U. suggested keeping the carbon price high, including withdrawing a number of permits from those to be auctioned during the period 2013 to 2020.

[*BBC News*, 08/03/2011]

### ECUADOR

#### Mammoth pollution fine

An Ecuadorian judge has ordered Chevron Corporation to pay US\$8.6 billion to clean up oil pollution in the country's rain forest in what is believed to be the largest-ever fine imposed in an environmental case. As well, if the U.S. oil giant doesn't publicly apologise within 15 days, the judge ordered the company to pay twice that amount.

The judge ruled Chevron must pay US\$5.4 billion to restore polluted soil and US\$1.4 billion to create a health system for the community, as well as other penalties. The court also ruled that Chevron should pay the Amazon Defence Front, a coalition formed by the plaintiffs, an additional 10% in damages, or about US\$860 million. That could bring the total judgment to US\$9.5 billion.

The ruling brings to an end one chapter of a legal drama that has played out in courtrooms in Ecuador and the U.S. for nearly two decades.

The case has been bitterly fought by both sides, with each accusing the other of improprieties. In recent months, Chevron uncovered a secret memo revealing the plaintiffs' strategy for enforcing any favorable Ecuadorian ruling around the world. That means that Chevron could be forced to defend itself in any of the dozens of countries where it does business.

Chevron, which denies responsibility for the pollution, has no assets in Ecuador and has vowed to fight any efforts to seize its property overseas. Other multinational corporations are closely watching the case.

The plaintiffs, residents of Ecuador's oil-rich Amazon rain forest, are seeking to hold Chevron accountable for environmental damage they say was caused by Texaco Inc., which operated in the country from 1965 to 1992. Chevron inherited the liability when it acquired Texaco in 2001. The company has vowed to appeal and said it won't pay the fine or apologise as the judge demanded.

The ruling was a rare piece of good news for the plaintiffs after months of setbacks in U.S. courts that left their team divided and scrambling for cash. But the victory could be short-lived. Last week a panel of international arbitrators in The Hague granted Chevron a preliminary injunction that could block the plaintiffs' efforts to enforce the judgment.

Meanwhile, Chevron is using the U.S. courts, in the hope of never paying anything at all. The company sued the plaintiffs and their lawyers in the U.S., where a federal judge recently issued a temporary stay blocking the plaintiffs' American lawyers from seeking to enforce any judgment.

In his judgment, Judge Nicolas Zambrano said that Texaco had the knowledge and technical ability to avoid environmental damage; the damage "was not only foreseeable, but also preventable".

Few legal experts expected the case to get this far. The plaintiffs first sued Texaco in New York in 1993. Texaco, and later Chevron, successfully argued that the case should instead be heard in Ecuador, which was then run by a government seen as friendly to American business interests.

In 2007, however, Ecuador elected Rafael Correa as president. He has publicly supported the plaintiffs' cause. Chevron accuses the left-leaning government of interfering in the case, a charge the government denies.

[*The Wall Street Journal*, 15/02/2011]

### SOUTH AFRICA

#### SA energy plan soon to be law

South Africa has drafted the Integrated Resource Plan in order to shift reliance from coal to nuclear and renewable energy. The plan will be placed before the Parliament and promulgated as law in April.

At present, coal supplies 95% of South Africa's power. Under the plan, nuclear energy and

renewable sources would supply 14% and 16% of South Africa's energy mix respectively by 2030.

Eskom, the largest producer of electricity in South Africa, expected that South Africa's power demand would increase by 2% this year.

[*Times LIVE*, 01/03/2011]

#### SA will face water crisis in less than a decade

The water demands on the Vaal River have long exceeded the assured yield of the catchment. Even with a recently achieved 15% saving in water demand, the demand will outstrip supply by 2013. To date there is already a 2% supply deficit in the Vaal system, and it is estimated that the deficit will climb to 6% by 2013, and 11% by 2019.

To worsen the problem, it was revealed that farmers had stolen 175 million cubic metres of water from the Vaal. Together with water lost through infrastructure leakage, lack of achievement of water-demand management and maintenance targets by local authorities, the situation is alarming. In particular, undue vacillation on the part of municipal decision makers contributed significantly to the failure of water-demand management.

[*Times LIVE*, 07/03/2011]

#### WORLD

#### Green economy would promote growth, says UN

United Nations Environment Program (UNEP) estimated that a US\$1.3 trillion investment in the green industry would promote significant economic growth in the long run.

A report published by UNEP suggested that with investment in agriculture, buildings, energy, fisheries, forests, manufacturing, tourism, transport, water and waste management, the green economy would promote job growth, particularly in clean energy. The aim of green investment would be to conserve biodiversity, increase crop yields and create a sustainable environment.

However, initial drawbacks will have to be overcome before we will enjoy the long term benefits of a green economy. Anticipated drawbacks include: loss of jobs in old economy industries e.g. fisheries; unemployment as workers are re-skilled; and slow GDP growth. Still, the report considered that it was better than living in a world running out of drinking water and productive land, insufficient natural resources and extreme climatic conditions.

Fortunately, it is estimated that the employment situation would improve by 2050 and that GDP would grow beyond the business-as-usual levels within 5-10 years.

[*Nature*, 21/02/2011]

#### Japan, EU & US to set data centre energy efficiency standard

The Ministry of Economy, Trade and Industry (METI) of Japan has teamed up with the US Department of Energy (DOE), the US Environmental Protection Agency (EPA), and the European Commission Joint Research Centre to complete a set of standards calculating data centre performance per energy unit (DPPE).

Current indices focus only on power usage effectiveness (PUE), which only indicates facility efficiency. By contrast, a variety of factors are considered under DPPE, including IT equipment utilisation, IT equipment capacity, green energy

usage, total energy consumption, IT equipment facility and PUE.

The new index is calculated to provide a unified standard for government agencies and units for evaluating the efficiency of their data centres, and the effectiveness of energy-saving techniques. The new index may also be useful outside Japan, Europe and the U.S.

[*Asia Pacific FutureGov*, 28/02/2011]

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**Convictions under environmental legislation:  
January to February 2011**

[Note: the EPD no longer classifies second  
(and subsequent) offences.]

The EPD's summary of convictions recorded and  
fines imposed during the above period is as  
follows:

*January 2011*

Twenty convictions were recorded in January for  
breaches of legislation enforced by the  
Environmental Protection Department.

Six of the convictions were under the Air  
Pollution Control Ordinance, 7 under the Noise  
Control Ordinance, and 7 under the Waste  
Disposal Ordinance.

The heaviest fine in January was \$38,000,  
assessed against a company that imported  
controlled waste without a permit.

*February 2011*

Twenty five convictions were recorded in  
February for breaches of legislation enforced by  
the Environmental Protection Department.

Sixteen of the convictions were under the Air  
Pollution Control Ordinance, 1 under the Noise  
Control Ordinance, 7 under the Waste Disposal  
Ordinance and 1 under the Water Pollution  
Control Ordinance.

The heaviest fine in February was \$15,000,  
assessed against a company that imported  
controlled waste without a permit

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