

1 November 2013

The Honourable Leung Chun-ying, GBM, GBS, JP
Chief Executive
Hong Kong Special Administrative Region
Chief Executive Office
Tamar, Hong Kong

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Dear Chief Executive,

Submission on the 2014 Policy Address

Views from

Business Environment Council Limited

Over the last two decades, Business Environment Council (BEC) has taken a leading role in advocating the business case for environmental excellence in Hong Kong. Our members are committed to actively engaging with the HKSAR Government (the Government) on a range of issues relating to the environment and sustainability.

In the past year BEC has formed Advisory Groups for our member companies to focus on four key areas of interest: (1) waste management, (2) energy policy, (3) environmental, social and governance (ESG) reporting and performance, and (4) climate change. The four Advisory Groups collectively engage over 55 BEC member companies in focused policy discussions on a regular basis. Inputs from these Advisory Groups are reflected in this submission paper. Additionally, this paper also includes input from the Harbour Business Forum (HBF), a BEC initiative.

BEC's membership includes some of the largest companies in Hong Kong. BEC strives to create thought leadership in support of the Government's environmental and sustainability objectives, and in pursuit of building trust between the Government, the business sector and the public. Views expressed in this submission are those of BEC, and are based on consultation with our members but may not necessarily correlate with the positions of individual members.

What are the key environmental and sustainability challenges for Hong Kong?

The environmental and sustainability challenges that are most important to Hong Kong are inherently complex and suffer from lack of consensus amongst society. Below are the challenges that BEC has identified as most pressing for Hong Kong in 2014:

- Waste management – if Hong Kong does not manage its waste better in the very near future, we will have problems with garbage piling up at our doorstep.
- Energy policy, including fuel mix, building energy efficiency and low carbon transport – energy is fundamental for a healthy, low carbon future and so much can still be done to further improve energy efficiency in Hong Kong.
- Environmental, Social and Governance (ESG) reporting and performance – measurement is essential if we are to manage performance in a meaningful way.

- Climate change – we need to coordinate our action on climate change mitigation and adaptation, both locally and across the region.
- Establishment of a Harbour Authority – our harbour has suffered much too long from uncoordinated planning and we need to give harbour access back to the community

BEC Recommendations Overview

This submission outlines in detail the policy recommendations that we hope Government may like to take on board to further strengthen Hong Kong's environment and sustainability. The document is not so much a wish list of what BEC thinks would make Hong Kong a 'nicer' place to live, but rather an outline as to the issues that need to be addressed urgently, so as to ensure that Hong Kong remains competitive and retains its spot as one of the most liveable global cities in the world. BEC's main recommendations are as follows:

Key Challenges	Recommendations to Government
Waste Management	1. Commit to a detailed timetable for implementation of landfill extension, MSW charging, IWMF, food waste management infrastructure and broadening of PRS.
	2. Strong support for development of recycling infrastructure and recycling industry.
	3. Conduct a study to assess environmental, social and economic costs if the <i>Hong Kong Blueprint for Sustainable Use of Resources 2013-2022</i> is NOT implemented.
Energy Policy	
Fuel Mix	4. Conduct a cost-benefit analysis to assess the trilemma discussion and get a better understanding of the costs of the status quo vs. alternative fuel mix scenarios.
	5. Develop a fuel mix policy for Hong Kong based on a comprehensive and transparent consultation process.
Building Energy Efficiency	6. Focus on commercial buildings, implement mandatory BEAM Plus, develop strong energy efficiency expertise in Hong Kong, and maintain simple tariffs.
Low Carbon Transport	7. Coordinate EV charging infrastructure, implement mandatory fuel blending, control DCVs, introduce Euro 6, expedite bus route rationalization and study road pedestrianization.
ESG Reporting and Performance	8. Take the lead in regularly publishing a Sustainability Report for Hong Kong.
Climate Change	9. Follow a regional approach to tackling climate change issues and expand the remit of the Council for Sustainable Development to include regional collaboration on issues such as climate change.
Harbour Authority	10. Establish a new Authority that is financially autonomous and whose remit covers the entire harbour and harbourfront areas.

BEC is looking forward to working constructively with the Government in taking our policy recommendations forward. Indeed, the business community is ready to act and partner with Government in finding appropriate solutions to the serious environmental issues we continue to face. BEC is at your disposal to support stronger policy development for a greener and more sustainable Hong Kong.

Yours sincerely,

JOHN CHAI

Prof John Chai
Chairman
Business Environment Council Limited

BEC Submission on the 2014 Policy Address

Waste Management

BEC is of the strong opinion that waste management in Hong Kong has now reached a crisis point and the coming years will be critical in implementing policies and initiatives laid out in the “Hong Kong Blueprint for Sustainable Use of Resources 2013-2022” (the Blueprint). Initiatives in the Blueprint must be implemented within a clear timeframe and the necessary waste management infrastructure must be in place to prioritize material recovery and waste reduction. Waste charging, on-going education as well as community engagement is fundamental to how we change behaviour when dealing with waste in Hong Kong.

A joint working group on construction and demolition (C&D) waste has been set up between BEC and the Hong Kong Green Building Council (HKGBC) and a related policy submission is to be delivered separately. In this submission BEC is offering views on Municipal Solid Waste (MSW).

Hong Kong is projected to create approximately 18,500 tonnes per day (tpd) of MSW in 2022. Based on BEC’s independent analysis, **all** the policies and initiatives outlined in the Blueprint are **essential** for achieving the Government waste disposal targets set for 2022. Our analysis has identified several key observations as follows:

1. The Integrated Waste Management Facility (IWMF) is the most important component amongst the waste reduction activities outlined in the Blueprint¹, reducing MSW sent to landfill by 2,200 tpd² upon operation.
 - If the IWMF cannot operate by 2022, the MSW landfill disposal rate is estimated at 7,200 tpd, missing the Blueprint MSW disposal target by 20%.
 - If the IWMF is fully operational by 2022, the MSW landfill disposal rate is estimated at 5,000 tpd, surpassing the Blueprint MSW disposal target by 15%. However, this would still exceed Hong Kong’s IWMF treatment capacity by 170%, highlighting that the pressure on landfill capacity will remain an ongoing issue for Hong Kong.
2. Equally important for the success of the Blueprint is MSW charging which according to BEC estimates is projected to remove 1,200 tpd from the waste stream going to landfill. Implementation of MSW charging should not be later than early 2015 in order to achieve the MSW disposal targets stated in the Blueprint. See Appendix A for further reference.
3. The Blueprint also highlights the need for extension of landfill sites. BEC has performed an independent analysis to estimate remaining landfill capacity from 2013 to 2022 according to anticipated quantities of waste generated over this time period. Based on this analysis remaining landfill capacity will start to run out in 2017 if existing landfills are NOT extended. This is in fact **2 years earlier** than the most recent Government estimates published in the Blueprint, further highlighting the state of our current waste crisis. See Appendix B for further reference.
4. Moreover, the waste disposal targets set in the Blueprint for 2017 (1.0 kg per capita per day MSW disposal) are NOT likely to be achieved based on the actions and initiatives outlined. At best, a MSW disposal rate of 1.06 kg per capita per day might be achievable by 2017, but only if PRS Schemes³ could start in 2015 at the very latest.

¹ Waste reduction activities outlined in the Blueprint include PRS schemes, food wise campaign, waste charging, Ecopark expansion, Organic Waste Treatment Facility (OWTF) Phase 1 & 2 and IWMF.

² Actual waste treatment capacity of the IWMF is 3,000 tpd but due to residual ash from the incineration process, BEC estimates the facility will remove only 2,200 tpd from the landfill stream.

³ PRS schemes outlined in the Blueprint are directed at plastic bags, waste electrical and electronic equipment (WEEE), and glass beverage bottles.

Recommendations

BEC urges that Government set a detailed timetable for implementation of the IWMF, the MSW charging scheme and landfill extensions. In addition, BEC recommends action on the following portfolio of policies and initiatives:

Cost-Benefit Analysis

- Government should conduct a study to assess environmental, social and economic costs associated with NOT implementing the Blueprint. In particular, the possible scenario of running out of landfill capacity in Hong Kong could have severe disruption to the quality of life in Hong Kong, with garbage potentially piling up in public areas, businesses and homes. What would be the implications if the Blueprint is not implemented and what would be Plan B for managing Hong Kong's waste?

MSW Charging and Recycling Infrastructure

- The MSW charging scheme must be supported by sorting facilities that suit different types of buildings and communities in Hong Kong. A step-wise, mixed approach should be adopted to identify appropriate sorting infrastructure ("on-site and at source" vs. "off-site and centralised"), charging mechanisms (flat rate vs. pre-paid waste disposal bags), and variable charging rates (especially for low-income facilities).
- Sorting at source is imperative to make the recycling process economically viable for the recycling industries. If sorting at source is not feasible, BEC suggests using existing facilities (such as refuse transfer stations) to conduct regional recycling, or else to use these as regional collection points for transfer of materials to EcoPark. The scope of works of contractors for these district recycling stations would have to be extended to include sorting and recycling. Licensing conditions should also be imposed on the operators of the district recycling stations.
- In view of the unique living environment in Hong Kong, a combination of different sorting/recycling mechanisms will be required. Priority for at-source sorting should be given to sizable housing estates/ developments using refuse rooms/ stations operated by property management companies or Food and Environmental Hygiene Department (FEHD). Utilizing the waste charging levy Government should provide a subsidy to operators of these sorting facilities to cover the additional resources required for localised at-source sorting and material recovery.
- BEC urges Government to start large-scale piloting of different sorting infrastructure now, in order to identify the most effective and practical means of separating waste in the various types of communities and business environments in Hong Kong. This would pave the way for the smooth implementation of waste charging until such time that relevant legislation is in place to proceed with this initiative. Alternative incentives for separation (other than waste charging) may increase uptake during the piloting of waste separation infrastructure.

Support for the Recycling Industry

- Government should create a favourable investment environment for the recycling industry by providing regulatory certainty for the requirements of attaining a licence to operate. In addition, approval for the selling of products made from recycled materials should be expedited. Government should also ease the regulatory 'red tape' to support the expansion of EcoPark by creating a cross-departmental unit that would speed up and aggregate the various application and approval procedures (i.e. creating a 'green channel').
- New innovations in the recycling industry require Government support to encourage commercial deployment. For instance, the commercial adaptation of recycled products made from glass could be supported via low interest loans or matching funds to kick-start innovations right here in Hong Kong. Another example: the introduction of biodiesel blending requirements in Hong Kong would

- support the recovery of waste cooking oil and grease trap waste.
- In addition, Government should lead setting standards for products made out of recycled material, in particular for the construction sector. The extents of using recycled products in construction projects varies among Government departments and projects. Government should set up a cross-departmental entity coordinating and promoting the use of recycled products in Government construction projects. Relevant testing and certification services need to be expanded to enable products made out of recycled materials to enter mainstream markets. Commercial availability of recycled products made in Hong Kong would support businesses to expand green procurement practices.
- Operational costs for the recycling industry are high, in particular for the transport and haulage of recycled materials from source to the recycling facility. Recycling companies are reducing the overall transport load of waste to the current landfill facilities without any direct compensation or subsidies for providing this public service. BEC strongly believes that it is time for Government to provide compensation to recyclers who provide this public service, because they reduce overall Government waste haulage costs and the capacity burden on our landfill sites.
- Tighter requirements for recovered material exports – such as the “Green Fence Policy” in the Mainland – exert operational difficulties for recyclers that need to dispose of mixed or ‘dirty’ recyclables. Education is essential to ensure citizens realise the importance of cleansing materials before discarding them into the recycling stream. In general, we should be mindful that a closed loop economy or a ‘circular economy’ can only work with the cooperation of the PRD and any effort we can exert on our part to turn waste into a resource would further this concept.
- We wish to highlight the waste-to-biodiesel manufacturing industry in Hong Kong (three local companies) as a successful working model of what the government aspires to achieve in recycling of other waste streams, particularly food waste. The local biodiesel industry is collecting and recycling more than 50% of the cooking oil and grease trap waste generated by more than 5,000 restaurant outlets and producing an-end product (clean fuel) with high economic and environmental value.

Producer Responsibility Scheme

- BEC urges the Government to seriously consider extending the producer responsibility scheme to include product take-back schemes (i.e. deposit systems) for plastic and glass bottles. In view of the MSW charging scheme and other policies, the amount of materials to be recovered would increase substantially if a bottle deposit system is implemented. While a take-back scheme would reduce plastic or glass bottles discarded on streets, the countryside and marine environment, Hong Kong would also need to prepare the necessary infrastructure to support the proper recycling of the additional material collected.

Food Waste

- At-source sorting of food waste for recycling (e.g. centralised composting) may be viable for some housing estates/ developments once the MSW charging scheme is in place. The Government should consider supporting food separation from a planning and building design perspective.
- The expansion of infrastructure to absorb additional food waste for energy/electricity production should be prioritized.
- Encourage local recycling through small scale community projects involving food digesters and outlets for compost e.g. green roofs and urban landscaping.

Transshipment of Waste Materials

- BEC recommends enhanced control and monitoring of waste material transshipment operators in Hong Kong to minimise additional loading of waste to the local waste stream.

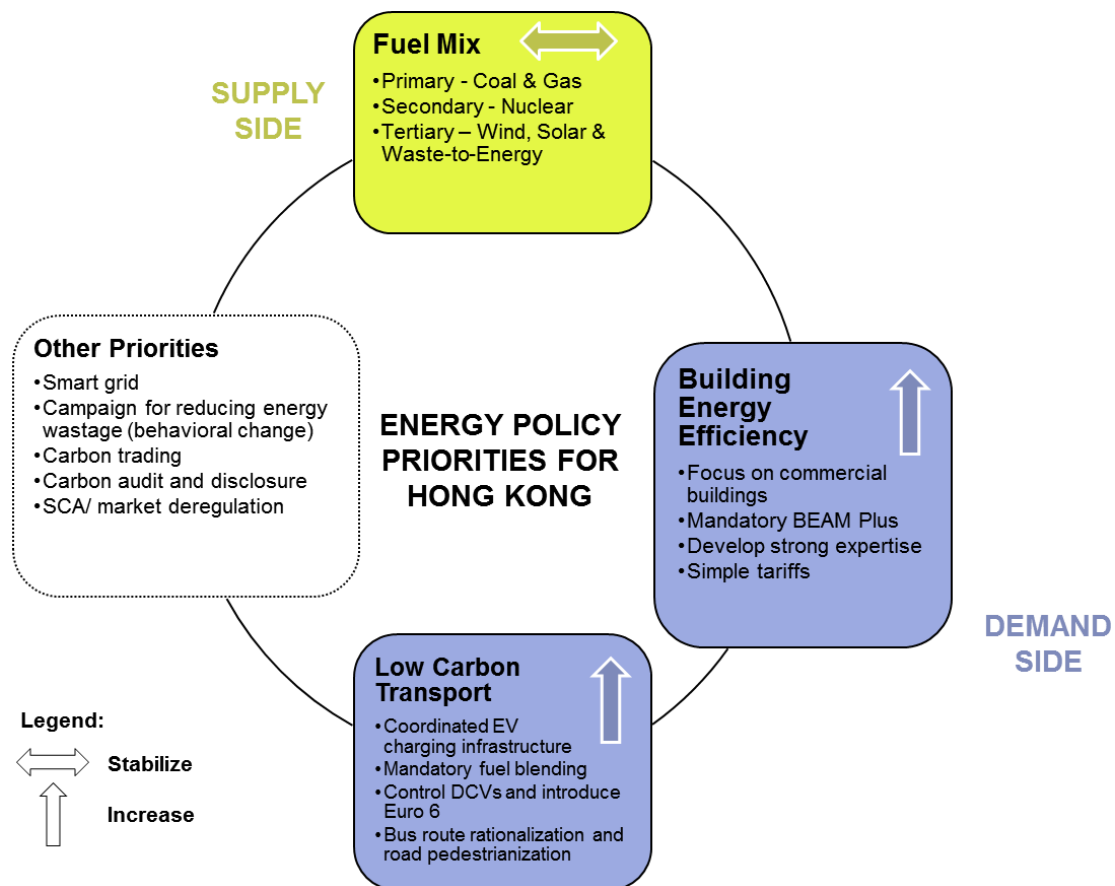
- The circular economy with the PRD should also be explored to re-enter waste as a resource into secondary markets.

Energy Policy: Fuel Mix, Building Energy Efficiency and Low Carbon Transport

BEC is looking forward to working with Government in developing a long-term energy and electricity strategy for Hong Kong. In line with policy priorities identified by the Environment Bureau in January 2013⁴, BEC would like to offer recommendations to Government in the areas of fuel mix, building energy efficiency and low carbon transport.

BEC has engaged over 70 representatives from the BEC membership in four separate workshops to discuss the above topics and to develop policy recommendations for Government consideration. BEC priorities in the field of Energy are illustrated in Figure 1 below and discussed in more detail in the following pages.

Figure 1: Energy Policy Priorities for Hong Kong



⁴ Panel on Economic Development, Legislative Council. (2013). “2013 Policy address – policy initiatives of the Environment Bureau: energy” and Panel on Environmental Affairs, Legislative Council. (2013). “2013 Policy initiatives of Environment Bureau: environmental protection”. Retrieved from: http://www.epd.gov.hk/epd/english/news_events/legco/files/EA_Panel_20130128a_eng.pdf and http://www.enb.gov.hk/en/legco_matters/economic_services/files/ED_panel_paper_20130116_eng.pdf

Fuel Mix

The trilemma of (a) environmental impacts, (b) energy security and reliability, and (c) cost of supply and tariffs are inextricably linked to the supply of electricity. Based on BEC's independent analysis to illustrate impacts of various fuel mix choices, it is clear that there is no single perfect solution. In light of this context, BEC recommends that Government share with the community a careful assessment of the trilemma discussion and a better understanding of the costs of the status quo vs. alternative fuel mix scenarios.

BEC would like to add the following observations and considerations to the fuel mix debate:

Long Term Implications

- Developing a new fuel mix for Hong Kong needs to be based on a comprehensive and transparent public consultation process to ensure that diverse interests and viewpoints are heard in this debate. Expert opinion should have greater weight than layman preferences.
- Long term planning is fundamental to the securing of energy and the development of energy infrastructure. Decisions made now will impact generations to come, making community support for existing and new energy infrastructure fundamental.

Environmental Impacts

- Air quality and carbon emissions are the critical decision criteria from an environmental perspective. Air quality in particular is one of the priority criteria in formulating Hong Kong's future fuel mix as iterated in the "Clean Air Plan for HK" published by the HKSAR Government.
- Environmental priorities influence fuel choice but also significantly impact supply cost.

Reliability and Security

- Reliable electricity supply is the basis for ensuring that Hong Kong's economy continues to thrive.
- Diversification of the fuel mix is important to enhance reliability and security. Integrating the Hong Kong electricity grid with the Mainland grid may impact Hong Kong's ability to retain control of maintaining minimum baseline capacity.

Cost and Tariffs

- In the case of conventional electricity generation, the cost of fuel and electricity tariffs are directly linked and price volatility of different fuel options are a key consideration when reviewing fuel mix choices.
- By contrast, in the case of renewable fuels such as solar and wind, there is no cost associated with the energy source and price volatility is zero. As renewable energy penetration increases, the costs associated with intermittency may begin to have implications on tariffs.
- If renewable electricity sources such as solar and wind power are to be expanded in Hong Kong, the Government may need to provide financial support in the short term if it wishes to stimulate the early uptake of these technologies.. Currently, wind does not appear to be cost-effective for wide-spread implementation in Hong Kong, as the capacity factor for Hong Kong's planned wind farms is significantly lower than the 35% plus achieved in Northern Europe. However the viability and potential contribution of decentralized solar PV systems merits further investigation.

Waste-to-energy

- Waste-to-energy conversion remains an underutilized resource in Hong Kong, whereas waste should be regarded as a valuable resource rather than as a problem that needs disposal solutions.
- It is critical that landfill sites fully utilize landfill gas, or waste is converted to fuel feedstock in industrial processes and/or incinerated for the purpose of electricity generation.

- Local opposition to a variety of waste treatment options remains, especially for incineration. A targeted education campaign should be launched to inform the community about the health and safety realities that come with advanced treatment technologies.

Other Considerations

- Substantial new transmission infrastructure would need to be constructed in order to significantly expand the nuclear portfolio for Hong Kong consumption. Due to the additional investment required this would inadvertently affect electricity tariffs.
- In order to alleviate any remaining public concerns about health and safety impacts related to nuclear power, it is absolutely critical for operators to adopt highest safety standards and communicate accordingly.

Fuel Mix Choices for Electricity Generation

- Based on the key considerations outlined in Table 1 and Figure 2 below, BEC recommends the following priorities for Hong Kong’s Fuel Mix:
 - Retain coal and natural gas as the primary source of electricity.
 - Nuclear power to continue as a steady secondary supply source via Daya Bay.
 - Wind, solar and waste-to-energy to be utilized as tertiary supply sources and maximized based on key economic and environmental considerations.
- BEC will be offering further details on the fuel mix debate in the upcoming Government consultation on this matter, based on additional background from Government regarding the objectives of the consultation and in consideration of any Government climate changes targets. BEC will be offering an analysis of impacts of different fuel options based on evidence and careful consideration of trade-offs.

Table 1: Fuel Mix Selection Criteria

Legend: Low Concern Medium Concern High Concern

General Assessment Criteria	Long Term Implications			
	<ul style="list-style-type: none"> Electricity infrastructure is built for the long term and decisions made now impact generations. Current high level of reliability, cost-effective tariffs and air emissions set the benchmark against which to measure future changes. 			
	Environmental Impact	Reliability & Security	Cost & Tariffs	Other Considerations
	<ul style="list-style-type: none"> Comparison based on relative direct air and GHG emissions 	<ul style="list-style-type: none"> Fuel diversification Infrastructure Impact of imports on reliability/security Adequate capacity vs energy 	<ul style="list-style-type: none"> Linkage between cost of supply and tariffs Price volatility of different fuels 	<ul style="list-style-type: none"> Technical feasibility Safety standards Public concerns Health concerns Political issues
Coal				
Natural Gas				
Nuclear				
Solar				
Wind				
Waste-to-energy				

Table 1 outlines the key fuel mix selection criteria, highlighting areas of low/medium/high concern in a simplified format, thereby illustrating impacts of various fuel mix choices. It is clear from this analysis that there is no single perfect solution.

Figure 2: Fuel Mix Road Map for Hong Kong

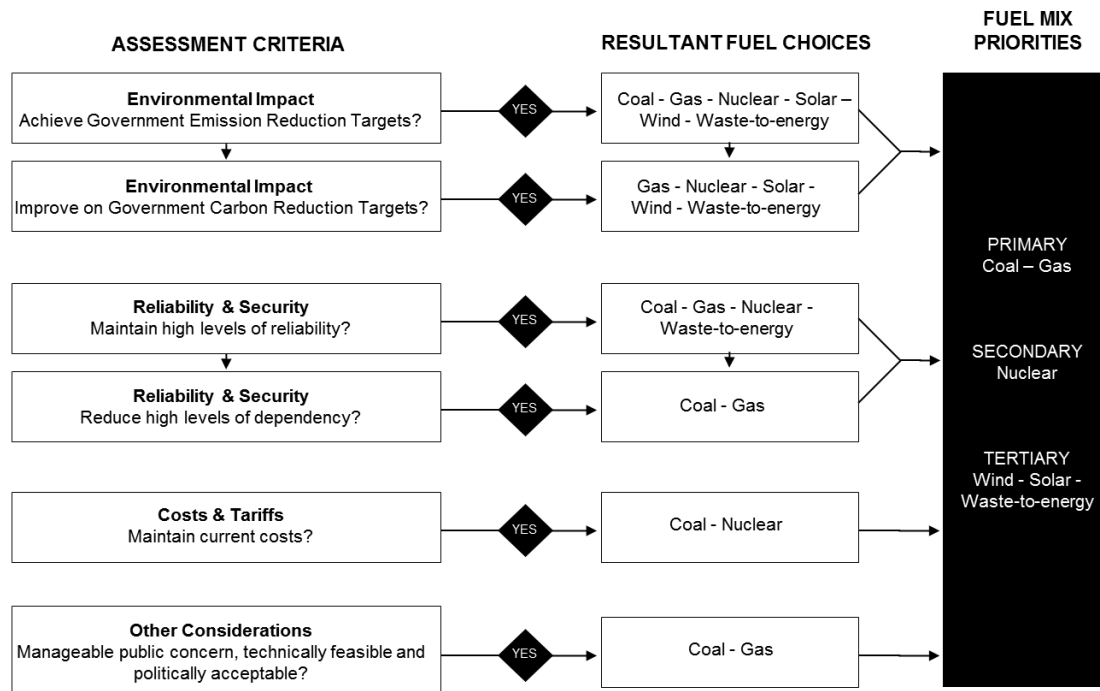


Figure 2 outlines the potential fuel mix road map for Hong Kong, highlighting critical assessment criteria, resultant fuel choices based on Hong Kong realities, and concluding with primary, secondary and tertiary fuel mix priorities.

Building Energy Efficiency

The Hong Kong Green Building Council (HKGBC) developed a green building roadmap outlining that absolute electricity consumption of buildings in Hong Kong could be reduced by 30% by 2030⁵. BEC is generally supportive of this target and would like to offer the following insights and considerations:

Policy Overview

- The focus for energy efficiency improvements should be on new and existing commercial buildings because they offer the most payback in terms of reducing overall electricity demand. There are a number of 'quick-wins' for energy savings in these buildings, most of which can be made with relatively little or no cost to the building owners/managers.
- Regulations in other jurisdictions (such as UK and Singapore) are leading the way in supporting energy efficiency, and it is time for Hong Kong to catch up.
- BEC urges Government to introduce BEAM Plus as the mandatory green building standard for Hong Kong, in particular for new buildings.
- Government should take the lead in improving energy performance for Government buildings, in order to showcase how to conduct energy efficiency retrofits in Hong Kong and demonstrate potential savings

Existing Buildings

- Existing buildings should be required to meet a minimum level of energy efficiency and be labelled with energy intensity scores.

⁵ Hong Kong Green Building Council (HKGBC). (2012). "HK 3030: A vision for a low carbon sustainable built environment in Hong Kong by 2030 (Version 1.0)". Retrieved from: [http://www.hkgbc.org.hk/upload/HK3030/Home/HK3030-Paper---Final-\(Version-1.0\).pdf](http://www.hkgbc.org.hk/upload/HK3030/Home/HK3030-Paper---Final-(Version-1.0).pdf)

- Voluntary awareness campaigns to encourage tenants to enhance energy efficiency have proven to be effective in other jurisdiction, in particular as a platform for landlord and tenants to implement energy efficiency commitments.
- Businesses consider electricity as a cost burden which directly reduces profits. Companies do not deliberately waste energy but instead are subject to poor efficiency of existing buildings. Government may like to consider offering incentives such as rent or tax reductions to encourage energy efficiency.
- BEC suggests that in general and as far as practicable electricity charges should be separated from building management charges. This would allow for tenants to better monitor electricity consumption and encourage energy savings. If tenants do not have direct benefits from implementing energy efficiency initiatives, there is no incentive to change behaviour or control cost associated with electricity consumption.

New Buildings

- Gross floor area (GFA) concessions for new buildings have become a key success factor for driving green building certifications in Hong Kong. BEC is encouraged by this development, but currently there is no direct connection between the amount of GFA concessions and the actual BEAM Plus grade. BEC urges Government to make this adjustment, in order to further incentivize the market to adopt higher standards of BEAM.

Training and Certification

- There is a need amongst facility managers to increase knowledge in forecasting future savings and payback associated with energy efficiency retrofits. This is necessary to encourage appropriate long term investment.
- BEC urges Government to subsidize training courses and annual certification for facility managers on the topic of energy efficiency in building management.

Electricity Tariff Structure

- A time-of-use and seasonal tariff structure has been under discussion as an option to encourage energy efficiency, whereas daytime rates would be higher than night time rates and tariffs during the summer higher than during winter times. This may help to balance electricity consumption throughout the day (allowing for easier load and capacity management) and discourage excessive use of electricity (in particular air conditioning) during the summer. However, a time-of-use tariff structure does not necessarily reduce electricity usage. Similarly, seasonal tariffs do not directly discourage electricity consumption. For example, users may be more likely to carelessly consume electricity during the winter (due to cheaper rates) while having limited impact on electricity consumption during the summer (need for air-conditioning remains).
- Furthermore, escalating tariffs for commercial users may not be appropriate because facility managers would be penalized simply for consuming larger amounts of electricity without taking into consideration the efficiency of consumption according to the size of the facility or number of tenants occupying a given building.
- While tariff design is one of the elements for energy conservation, Government legislation, incentives, education and behavioural change also support energy conservation.
- BEC suggests keeping the current tariff structure because it provides transparency for easier monitoring and management of electricity consumption and retains the competitiveness of Hong Kong. The public should also be made aware that tariffs will likely increase alongside increased cost of fuels, in particular if the portion of natural gas in our fuel mix would be substantially increased.

Low Carbon Transport

Poor air quality continues to undermine the competitiveness of Hong Kong as a regional hub for business and imperils the health of the local population. Therefore, BEC welcomes the Clean Air Plan for Hong Kong published by the Environment Bureau in March 2013. BEC considers this policy document as fundamental for informing appropriate solutions to the enduring problem of poor air quality in Hong Kong and wishes to provide additional feedback on select priorities.

Support for Electric Vehicles (EVs)

- Government needs to take charge of planning an appropriately practical electric vehicle quick charging network for Hong Kong and ensure that such a plan is implemented for Hong Kong by 2018.
- In order to continue the development of an EV charging infrastructure and facilitate the adoption of EVs in Hong Kong, the Government should publish clear guidelines outlining which type of EV charging standard(s) Hong Kong will adopt going forward. Currently, Government has not taken a stance on EV charging standards and without Government direction, companies and facility managers may be reluctant to install chargers as there is a risk that the standard may change in the near future.
- Furthermore, Government needs to take the lead in planning the right charging network for Hong Kong to define charger locations, the ratio of quick chargers, and the number of charging stations within public and private residential estates as well as commercial buildings. In particular, the importance of installing EV charges in residential estates cannot be overstated. Given that people who purchase EVs are most likely to charge at home overnight, some jurisdictions have adopted legislation that requires estates with more than a certain number of people to install EV chargers, with the ratio of EV chargers determined depending of the number of residents. Government may like to study this option to further incentivize the uptake of EVs in Hong Kong.
- Currently there are only nine (9) quick charging stations in operation in Hong Kong, underlining that Government support is necessary to roll out a coordinated strategy for building a quick charging network. Such a network would assure drivers that EVs (a) receive long term support as a viable transport option and (b) alleviate 'range anxiety' commonly reported amongst EV owners.
- In addition, concerns about EV charging safety has been voiced due to recent incidents in Hong Kong, further highlighting the need to standardize charging technology.

Hybrid and EV Vehicles for Public Transport

- Hybrid and EV technologies should be prioritized for public transport, in particular franchised buses and Public Light Buses. The fleet sizes and operational models of these types of vehicles operating daily on Hong Kong's roads are significant. And it has been demonstrated that hybrid technologies can result in significant emissions reductions.
- The Government previously launched the 'Pilot Green Transport Fund' with some good results. The next step would be to consider a permanent 'Green Transport Fund' to support commercial vehicles owners to replace old vehicles with hybrid or EV technologies.

Efficiencies in Franchised Bus Operations

- In consultation with stakeholders to improve efficiencies and reduce duplication in franchised bus trips, BEC urges Government and franchised bus operators to speed up the process of bus route rationalization.
- Based on current progress it may take up to 10 years to complete the bus route rationalization process, hence BEC will continue to communicate the benefits of bus route rationalization to the public, district councillors and other vested parties.

Diesel Commercial Vehicles (DCV)

- The endorsement of funding by the Legislative Council Panel of Environmental Affairs of the revised scheme to retire 85,000 diesel trucks at an estimated cost of \$11.7 billion is a welcome development. BEC would like to iterate our view that the phasing out of pre-Euro IV vehicles could have been expedited.

Alternative Fuels for Road Vehicles and Vehicle Emission Standards

- Europe currently has the most progressive biofuel regulations and fuel efficiency standards globally. EU member states have introduced the Mandatory Blending Requirements for biodiesel, where blend ratios currently range from 4.5% - 7% and are required to be 10% by 2020. Apart from the EU, there are mandatory biofuel standards in over 30 other countries around the world.
- BEC supports the introduction of alternative fuels into the Hong Kong market, in particular the blending of diesel fuels. Mandating biofuel use in Hong Kong can be beneficial in reducing roadside emissions based on readily available technology.
- BEC recognises the greenhouse gas reductions that can be achieved by using biodiesel made from waste oils.
- Mandatory blending requires minimal to no change to fuel infrastructure, has negligible costs, and does not require consumer behavioural change. Hong Kong could reduce fossil fuel reliance by 2020 by mandating that petrol and diesel is blended with a minimum of 10% of ethanol and biodiesel respectively.
- BEC notes that the Government's Climate Change Strategy and Action Agenda consultation document (2010) included a recommendation (see section 5.18 of that document) for the adoption of B10 (10% biodiesel blend) and E10 (ethanol) by 2020.
- Hong Kong should adopt the Euro VI standard as soon as possible for those classes of vehicle that are commercially available in Hong Kong and other parts of the world.

Traffic management

- The significant new road and public transport infrastructure coming online in the next 2-5 years (i.e. Central-Wan Chai bypass, South and West Island MTR Line, etc), justifies rolling out a congestion charge for roadways in Central, Wan Chai, Admiralty and Causeway Bay. This charge could be applied at different time zones to stagger traffic commuting hours and lowered for fully occupied vehicles to encourage car-pooling.
- In addition, Government should consider widespread pedestrianization of roads such as Pedder Street/Queen's Road Central, Johnston Road, and Percival Street amongst others. This should be rolled out in conjunction with an increase in bus, taxi and tram priority measures to keep public transport moving at a faster pace than private vehicles.
- As an alternative mode of transport, cycling should also be considered. To encourage cycling in the NT, more bicycle racks should be installed at MTR stations to encourage people to combine taking the train to work with healthy exercise.

Environmental, Social and Governance (ESG) Reporting and Performance

ESG Disclosure for Hong Kong Listed Companies

- BEC is supportive of Environmental, Social and Governance (ESG) disclosure to stimulate ESG performance amongst companies in Hong Kong. BEC is pleased that HKEx introduced the ESG Reporting Guide (ESG Guide), and we are keen to contribute via the BEC member network and our collective expertise in furthering the adoption as well as improvement of the ESG Guide. BEC is in favour of HKEx policy direction that will deliberate raising the ESG Guide from 'voluntary' to 'comply or explain'.

- To further enhance uptake of ESG disclosure and sustainability reporting by listed companies, BEC recommends that Government take the lead in regularly publishing a Sustainability Report for Hong Kong in order to showcase vision and leadership, as well as associated metrics and targets. Note the Dublin City (Ireland) 2012 Sustainability Report as a possible example.

Carbon Footprint Repository for Hong Kong Listed Companies

- BEC has learned that EPD is setting up a dedicated webpage for listed companies to facilitate the disclosure of greenhouse gas emissions and sharing of carbon management practices recommended under the ESG Guide. BEC recommends that EPD engage stakeholders in an open and transparent manner to facilitate information and experience exchange
- In regards to the details of the preliminary Carbon Footprint Repository, we have comments as follows:
 - There are concerns about standardization and comparability of the reported data – how does the database user know whether the scope and boundary of the reported data is comparable between various companies?
 - What is the rationale for focusing on carbon only? – It appears that the alignment with other disclosure mechanisms such as HKEx and CDP is limited at this stage. The proliferation of ESG related disclosure requests from investors, data and index providers, as well as regulators in recent years, has created significant disclosure burdens on companies, sometimes with questionable returns. A Government initiative that would help to streamline such disclosure requests would be most welcome.
- BEC would very much welcome the opportunity to further collaborate with EPD and relevant Government departments to fine-tune the online Carbon Footprint Repository, inform our members about the database, and to further refine this repository over time to align more closely with the HKEx Reporting Guide requirements and CDP.

Climate Change

- BEC has long been promoting awareness of climate change mitigation and adaptation activities amongst the BEC membership and generally amongst the business community in Hong Kong.
- The BEC-CCBF September 2013 publication *The New Normal* illustrates climate change adaptation issues for six key sectors in Hong Kong. We will continue to evaluate Hong Kong's vulnerability to climate risk and recommend business strategies for environmental and economic resilience going forward, with particular attention to at-risk industries and geographies. We recommend that Government place climate change as one of the factors to consider in infrastructure design and future weather proofing in capital works projects.
- The success of the joint Environment Bureau, EPD and BEC-CCBF workshop on climate risk and opportunities for the Finance sector held in March 2013 invites for similar workshops for other sectors going forward.
- BEC recommends further collaboration with Government on the important topic of climate change adaptation, and welcomes future projects that showcase Government-business leadership in this area, taking into consideration the new findings published by the Inter-governmental Panel on Climate Change (IPCC).

Policy Priorities

- BEC is of the view that Government should develop a comprehensive climate change strategy, including a clear carbon reduction target and action plan for 2020 and beyond. The plan should include relevant metrics, a detailed timeline to achieve the respective targets, and clear accountability.
- For Hong Kong to address climate change in a more strategic manner it must be part of a regional solution or at least one that takes into consideration the regional context.

For example if Hong Kong is to adjust its electricity fuel mix it would need the cooperation of Guangdong and neighbouring provinces to achieve this. Furthermore, climate change is only one of many other environmental issues that should be addressed in a regional context. BEC recommends a more regional approach to tackling issues and further suggest that the remit of the existing Council for Sustainable Development be expanded to include being a facilitator of regional collaboration within the PRD region on issues such as climate change.

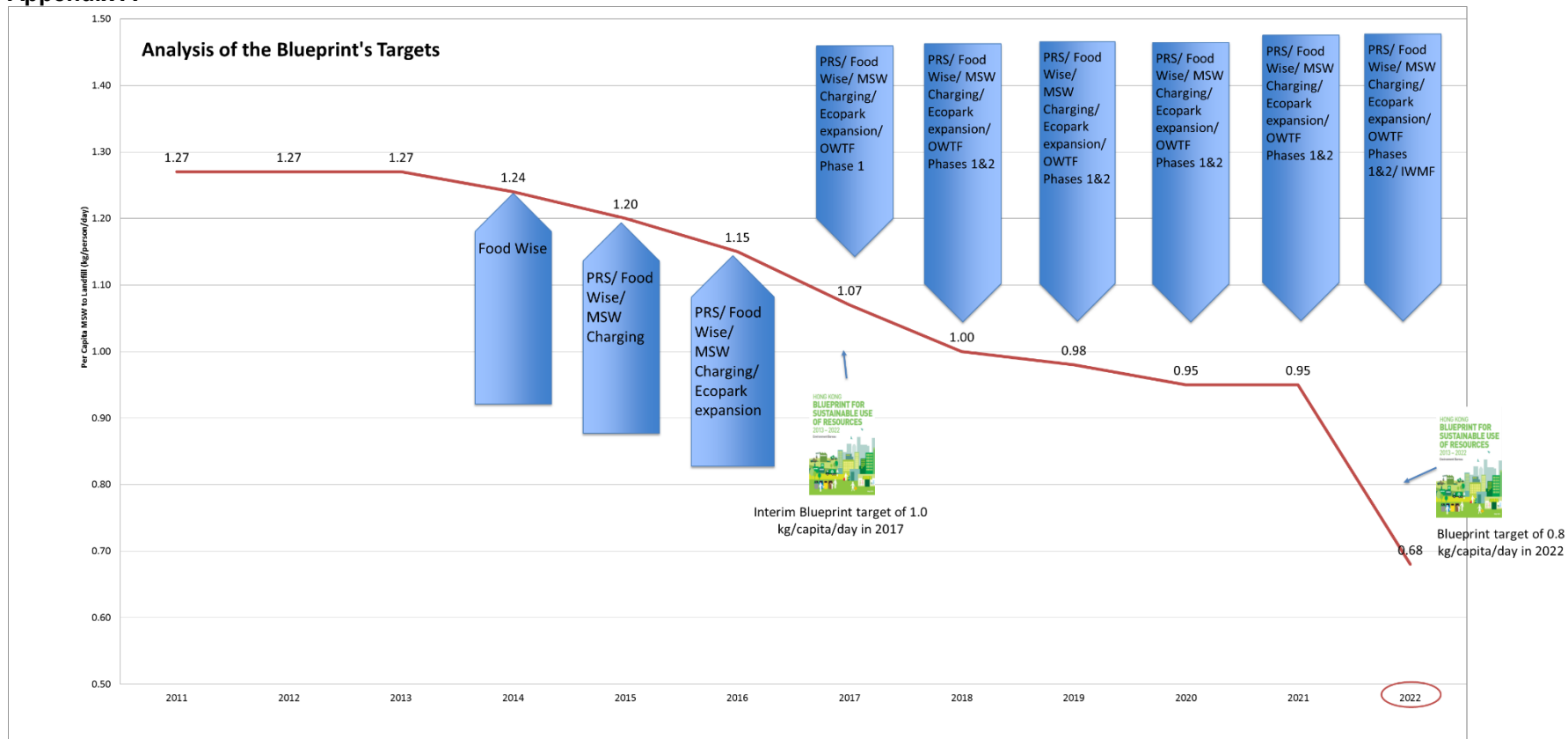
Harbour Business Forum

Victoria Harbour is a valuable asset of Hong Kong people, and should be "a harbour for the people, a harbour of vitality". To enhance the attractiveness and vibrancy of the harbourfront, we welcome the Harbourfront Commission's proposal for setting up a dedicated statutory Harbourfront Authority to press ahead with harbourfront development in a holistic manner with an innovative mindset and a more flexible management approach.

To realise the full potential of Victoria Harbour, Harbour Business Forum (HBF), an initiative of BEC makes the following recommendations:

- That the new Authority should be financially autonomous with meaningful urban design, delivery and management powers and whose remit cover the entire harbour and the harbourfront areas.
- That the new Harbour Authority be a champion for our harbour, but, just as importantly, also streamlines existing systems rather than increasing bureaucracy, while at all times respecting existing property rights and the statutory planning powers of the Town Planning Board.
- The development of a comprehensive, multi-sector strategic plan to guide the long term development of our harbour, as well as necessary changes to our existing planning and delivery systems to allow the Harbour Authority to deliver on this plan once in place.
- That the Harbour Authority be resourced such that it can guide, direct and manage all interventions at the harbourfront, including resources and processes to apply the test of proportionality and the Protection of the Harbour Ordinance to enable key, public-interest, improvements.
- That consideration should be given to the establishment of a Preparatory Harbour Authority to develop a strategic plan for future public review together with a potential master implementation programme to ensure that no momentum is lost pending the formalisation on the Authority itself.

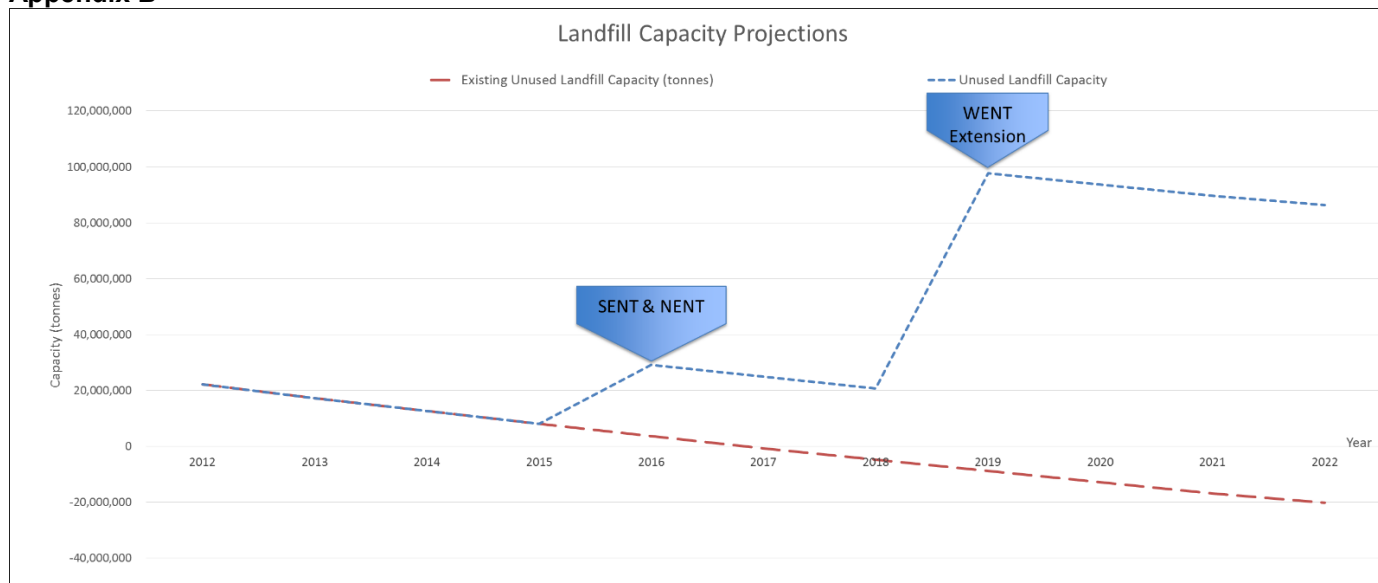
Appendix A



Assumptions

- 1 The EPD's MSW statistics for 2012 were not released as at 7 October 2013.
- 2 Statistics are actual to December 2011 and projected, thereafter, to 2022.
- 3 Impact timing is in line with the Blueprint.
- 4 Where data need to be projected and there is no guidance in the Blueprint, the projection percentage is based on the last five years.

Appendix B



Assumptions

- 1 The EPD's MSW statistics for 2012 were not released as at 7 October 2013.
- 2 Statistics are actual to December 2011 and projected, thereafter, to 2022.
- 3 Impact timing is in line with the Blueprint.
- 4 Where data needs to be projected and there is no guidance in the Blueprint, the projection percentage is based on the last five years.
- 5 There are three major changes:
 - 5.1 The construction waste charging scheme was introduced in 2005 resulting in a 52% reduction in 2006.
 - 5.2 The SWTF will be commissioned in December 2013 and there is reduction of 900 tonnes per day of sewage sludge in "Special Waste" and an increase of 270 tonnes per day of sludge residue.
 - 5.3 The Blueprint include a number of measures of which the commissioning of the IWMF in December 2021 is crucial.
- 6 The unused landfill capacity was taken from the Blueprint.
- 7 The permanent repository reflects the void needed "in perpetuity" for waste after the Blueprint targets are achieved.
- 8 The permanent repository calculation assumes a period of 30 years and disposal of 3,000 tonnes per day of all waste. This is very optimistic as the analysis below supports in the region of 9,000 tonnes per day.
- 9 The compacted density of waste disposed of at landfill is assumed to be 1.3 tonnes per cubic metre. However, layers of cover material reduce this to an effective 1.0 tonne per cubic metre.