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The 2017 / 2018 Fred Kan & Co award in the M. Sc (Environmental Management) course, University of Hong Kong, went to Cheung Tse-Ching, Kimmy for her dissertation: A study on domestic food waste collection cum waste – to – energy facility for village housing in Hong Kong, which we review in this edition of the UPELQ.

The Editors

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A CASE FOR PROMOTING VILLAGE FOOD WASTE RECYCLING

Food waste is a major environmental problem

As Ms. Cheung describes it in the Introduction to her dissertation: *A study on domestic food waste collection cum waste – to – energy facility for village housing in Hong Kong*, Hong Kong has for years lived with a serious environmental problem: how to more responsibly deal with the enormous quantities of good waste generated every day. Food waste generally refers to any waste that is: generated during food production, processing, distribution and storage (wholesale and retail); meal preparation; left over after consumption; and expired food, regardless of whether it is raw, cooked, edible or associated inedible parts.

The author notes that in 2011, approximately 9,000 tonnes of municipal solid waste (MSW) was disposed of at landfills in Hong Kong every day. Food waste already accounts for nearly 40% (i.e. 3,600 tonnes) of that volume. According to the *Hong Kong Blueprint for Sustainable Use of Resources 2013-2022*, published by the Environment Bureau (ENB) (2013), “the daily generation of food waste or MSW in Hong Kong has surpassed those of other Asian cities with similar economic status, such as Tokyo, Seoul and Taipei.”

The author further comments:

While land-filling is the only legitimate means to handle MSW in Hong Kong to date, it is no longer a sustainable approach. In addition to the vast amount of food waste generated every day, limited space for land-filling has made food waste a critical issue to Hong Kong’s waste management. Moreover, organic matters in food waste create significant adverse impacts to the environment during its transportation to and decomposition at landfills. Not only does it generate malodour in the surrounding, but it also produces landfill gases and leachates that may cause potential safety hazards to and contaminate nearby water bodies.

Despite the implementation of the Integrated Waste Management Facilities (IWMF) and a series of the Organic Resources Recovery Centres (ORRC) for a daily maximum treatment capacity of 3,000 tonnes of non-separable MSW and 200 tonnes of food waste recovery respectively, over 6,000 tonnes of MSW (including at least 3,000 tonnes of food waste) would still be required to be disposed of at landfills every day. [Hong Kong’s landfills will be full by 2020.]

Two thirds of this food waste comes from domestic sources, but the ORRCs are intended to treat only commercial and industrial food waste.

The *Food Waste Recycling Projects in Housing Estates* was introduced to raise public awareness of “food waste separation habits and food waste recycling”. However, this programme is limited to large housing estates. So, says Ms. Cheung, what is missing to date are measures to bring about more responsible disposal of food waste at the village level, which is the focus of her dissertation current food waste management in Hong Kong.

In 2014 the ENB published *A Food Waste & Yard Waste Plan for Hong Kong, 2014 – 2022* which “mapped out a comprehensive food waste management strategy”. Essence of the Plan is a “management hierarchy”, with priority from the top:

- Prevention
- Reuse
- Recycle
- Recovery
- Disposal

Prevention

The author notes: *the most effective and important way to tackle the food waste problem is always to avoid creating it at source rather than dealing with it afterwards. In view of this, the ENB has set up the Food Wise Hong Kong Steering Committee with an aim to formulate and oversee the implementation of the Food wise Hong Kong campaign, so as to promote food waste reduction through various activities (Food wise Hong Kong, 2013). The campaign has been extended to government departments, C&I sectors, schools and non-governmental organizations (NGOs).*

Reuse

It is suggested that “surplus food could be redistributed for human consumption, provided that it is safe to be consumed”. By 2015, there were approximately twenty surplus food collection points established in Hong Kong.

Recycling

Ms. Cheung writes: *In response to the high quantities of food waste generated, the EPD has stepped up to recover useful sources from the food that is no longer suitable for human consumption, including the implementation of pilot food waste composting plant , a network of organic waste treatment facilities and funding, with a view to providing financial support in various food waste recycling programmes. In addition to government policies, several researches had revealed the effectiveness and difficulties in domestic food waste recycling.*

In 2014, a trial food waste composting plant was established in Kowloon, using an “in-vessel composting technology” to convert food waste (from commercial /industrial sources) to fertiliser.

Recovery

The author comments: *Drawing on the successful experience of the KBPCP, the EDP had put forward a network of Organic Resources Recovery Centres (ORRC), aiming to recycle source-separated food waste to useful products thereby reducing the quantity of food waste to be disposed of at landfills. The first two phases of ORRCs had been implemented for commissioning in the near future to treat a total daily maximum of 500 tonnes of source-separated food waste collected from the C&I sectors into biogas for electricity generation and compost products.*

On-site food waste – to – energy plants for high-rise estates have also been investigated by government agencies. Subsidies are available to install such facilities, but to date few estates have shown interest. Rural villages may also apply for assistance in installing these facilities in their villages or region.

Disposal

Non-separable food waste will continue to be disposed of with other kinds of MSW by dumping in landfills or incineration.

Research gap

The author notes: *Although the government has mapped out in “A Food Waste & Yard Waste Plan for Hong Kong 2014 - 2022” a comprehensive food waste management strategy with target, policies and action plans for the coming ten years to cope with the waste challenges in Hong Kong, recycling domestic food waste from village housing is never the focus of the management strategy. Since the population in villages contributes an indispensable percentage of population in Hong Kong, it is also important to deal with food waste generated in these villages in order to complement the implementation of the forth coming MSW Charging Scheme.*

Thus, to date research and measures concerning food waste treatment / disposal have focused on waste from commercial / industrial and large housing estates sources. The dissertation, says the author: *does not only serve as a review on the current food waste management and policies, but it also provides beneficial and practical suggestions for the government to plan and implement food waste policies for households in villages so as to enhance the comprehensiveness of the current food waste management for Hong Kong.*

Thus, the aim and objectives of the study are described as follows:

The aim of this study is to investigate the feasibility of collecting domestic food waste from household in remote village and turning it into useful energy using an on-site food waste collection cum food waste-to-energy facility for reduction of carbon footprint and transportation cost, ultimately improving circular economy. The study focuses on the collection of food waste from households in remote villages and the technology adopted for the proposed food waste collection cum food waste-to-energy facility.

The objectives of the study are to:

- evaluate food waste disposal problems in Hong Kong;*
- review current practice of food waste management in Hong Kong;*
- examine global practice on food waste collection and food waste-to-energy;*
- investigate villagers’ awareness on and attitude towards food waste recycling and source separation;*
- identify technology to be adopted in the on-site food waste collection cum food waste-to-energy facility; and*
- make recommendations on domestic food waste-to-energy facilities for villages in Hong Kong and food waste management in a holistic way.*

Food waste programmes overseas

The dissertation includes a summary of steps taken to reduce and reuse food waste in South Korea and the United Kingdom. We mention here only a couple of the features the author described.

South Korea is trialling a *Volume – Based Food Waste Fee System*, under which citizens must pay for the disposal (by recycling) of their food waste.

In the UK, Oxford City Council supplies a small (for indoors) and large (outdoors) food caddy (bin). Food waste is put in the small caddy in the kitchen. When full, the contents are put in the outdoor caddy, which is regularly collected by the Council.

Collected food waste is then – recycled in a centralised anaerobic digestion plant for electricity and composts conversion. The anaerobic digestion plant is equipped with the technology to automatically remove plastics from food waste for subsequent process. The remaining source-separated food waste collected will be sent to a composting plant for composts production. However, in some area, source-separate food waste is collected for treatment in composting plant without the ability to remove plastic. As such, citizens are required to use compostable materials as lining for the caddy bins.

Composting food waste in Hong Kong

Hong Kong does recycle some food waste by using centralised facilities, such as the Kowloon Pilot Composting Plant, to convert the waste to compost.

There are several composting processes, all with their pros and cons. The author discusses these processes in some detail, with particular reference to the suitability of each for use in the small village context. She concludes that anaerobic digestion (AD) is probably the most suitable way for villages to recycle their food waste: *Based on the review above, while AD is feasible for small scale waste-to-energy, it is noted that expertise will always be required for operating and maintaining the proposed food waste-to-energy facility. As it has always been emphasised, management companies are unlikely to be employed for village housing. Therefore, it is difficult for the villagers to find such expertise for operation and maintenance of the proposed food waste-to-energy facility in a long run.*

Survey

In 2018, the author conducted a “questionnaire survey” of 125 villagers to assess their “awareness on (sic) general waste problem in the city, food waste management practices at home and attitude towards practising food waste source separation for the proposed food waste collection cum food waste-to-energy facility to be installed in their respective villages”.

Key results of the survey were:

Awareness of waste problem

- (1) 28% chose the correct answer to the question: how much MSW does Hong Kong generate per day (9000t.)?
 - 44% underestimated
 - 10% overestimated
 - 18% were unsure
- (2) 24% chose the correct answer to: what percentage of MSW composes food waste (35%)?
 - 48% underestimated
 - 6% overestimated
 - 22% were unsure
- (3) 75% of respondents could not identify the current treatment (disposal) method of food waste in Hong Kong.
- (4) 93% of respondents said they kept leftover food for the next meal.
- (5) Per capita daily food waste in the subject villages is 0.38kg.
- (6) Only 2% of respondents separated food waste for collection and recycling. The majority dispose of food waste as part of their MSW.
- (7) None of the villages had food waste recycling or collection facilities.
- (8) Ninety percent of respondents said they would separate food waste (from other kinds of MSW) to supply the “proposed on-site food waste-to-energy facility under the MSW Charging Scheme”.
- (9) A majority of respondents said their reason for committing to separating food waste is to relieve pressure on landfills.
- (10) A significant majority supported the use of designated plastic bags for food waste and for the installation of an on-site food waste-to-energy facility in their villages (80% and 91% respectively).

Interview results

The author interviewed “a representative from a village in the North District, with an aim to better understand villagers’ attitude towards the proposed food waste collection cum food waste-to-energy facility”. The representative was supportive of the proposal and considered most villagers would also support it and would separate their food waste to make use of such facility, although some might have reservations relating to odours and connecting the facility to the electricity network.”

Food waste collection and food waste-to-energy technology

The author says: *The most distinct characteristic of village housing is its low population density in comparison to housing estates which are known as the dominated housing arrangement in Hong Kong. In view of this, the average amount of food waste generated and required to be treated in village housing each day would consequently be less than those in housing estates as reflected in Session 4.1.3. On the Contrary, the size of land available for the installation of the proposed food waste-to-energy facility would be less stringent compared to that to be installed in housing estates. Nonetheless, routine operation and maintenance would be the greatest challenge when a food waste-to-energy facility is installed in villages.*

In light of the characteristics of village housing, it is suggested that a small-scale food waste-to-energy facility should be adopted. While AD allows small-scale food waste decomposition at mesophilic temperature range, composting requires no specific operating temperature for proper degradation of food waste, hence less operators will be required for adopting a composting food waste-to-energy facility. Furthermore, when compared to AD operation, composting will involve less routine checking and maintenance. Thus, it will be easier for village households, which typically have no engagement with management companies, to manage the proposed food waste-to-energy facility with composting technology.

Regarding the characteristics of village housing and the observations above, it is noted that food waste-to-energy facility adopting composting technology should be a more preferable option over AD to be installed in villages in view of the difficulties in operation and maintenance.

Conclusions and recommendations

Hong Kong clearly has a significant problem (which is only likely to worsen) in disposing of the huge volumes of MSW we generate each day. Whilst the government has implemented some strategies (e.g. *Hong Kong Blue Print for Sustainable Use of Resources 2013 – 2022*) and establishing a network of ORRCs, these are directed at commercial / industrial and urban estates’ food waste.

The aim of the author’s study: *is therefore to investigate the feasibility of collecting domestic food waste from households in remote villages and turning it into useful energy through on-site food waste-to-energy facility in hope to reduce carbon footprint and transportation cost. With reference to the objectives set out for the study, problems arisen from food waste disposal and current practice of food waste management in Hong Kong, overseas practice on food waste collection and food waste-to-energy were reviewed; villagers’ awareness and attitude towards food waste recycling and source separation were investigated;*

technology to be adopted in the on-site food waste collection cum food waste-to-energy facility was identified. With respect to the results and findings of the study, it is convinced that the installation of the proposed food waste collection cum food waste-to-energy facility could be feasible in terms of technology and villagers' support.

The author's recommendations are:

Enhancing villagers' awareness of MSW and food waste problems.

Encouraging food waste separation at source.

Installing state-of-art food waste collection cum waste-to-energy facilities in villages

Implementing a system whereby village committees take a leading role in managing such facilities.

Conclusion

We congratulate Ms. Cheung on her thorough and well written dissertation concerning a very important environmental and social problem for Hong Kong.

TOWN PLANNING

Fanling/Sheung Shui Outline Zoning Plan amended

On 29 March 2019, the Town Planning Board announced amendments to the Fanling/Sheung Shui Outline Zoning Plan (OZP).

Amendments are:-

1. rezoning of a site at Sheung Shui Area 30 from "Industrial" ("I") to "Residential (Group A)4" ("R(A)4") for public housing development;
2. rezoning of a site at Sheung Shui Area 4 from "I" and "Other Specified Uses" to "R(A)4" for public housing development;
3. rezoning of a site to the east of Po Shek Wu Road, Sheung Shui Area 4 from "Open Space" to "Residential (Group A)5" for public housing development;
4. rezoning of a site at Jockey Club Road, Fanling Area 11 from "Government, Institution or Community" ("G/IC") to "R(A)4" for subsidised housing development;
5. rezoning of a site at Wu Tip Shan, Fanling Area 40 from "G/IC" to "Residential (Group A)6" to cater for an approved rezoning proposal; and
6. other amendments to reflect the alignments of Choi Yuen Road and San Wan Road.

[Town Planning Board Press Release, 29/03/2019]

Amended Wang Tau Hom and Tung Tau Outline Zoning Plan approved

On 24 May 2019, the Town Planning Board announced amendments to the Wang Tau Hom and Tung Tau Outline Zoning Plan (OZP).

Amendments are:

1. rezoning of Mei Tung Estate from "Residential (Group A)" ("R(A)") to "R(A)1" with revisions to the building height restrictions to facilitate the public housing redevelopment; and
2. technical amendments to reflect the as-built conditions.

[Town Planning Board Press Release, 24/05/2019]

Wang Nai Chung Outline Zoning Plan amended

On 24 May 2019, the Town Planning Board announced amendments to the Wang Nai Chung Outline Zoning Plan (OZP).

Amendments are:

1. rezoning of the northern and eastern part of the Caroline Hill Road (CHR) Site fronting Leighton Road from "Other Specified Uses" (annotated "Sports and Recreation Club" and "Government, Institution or Community") (G/IC) to "Commercial (2)" for commercial development; and
2. rezoning of the southern part of the CHR Site from "G/IC" to "G/IC (2)" for the establishment of the District Court, as well as the revision of the building height restrictions for the respective sites.

[Town Planning Board Press Release, 24/05/2019]

Central District Outline Zoning Plan amended

On 24 May 2019, the Town Planning Board announced amendments to the Central District Outline Zoning Plan (OZP).

Amendments are:

1. rezoning of the Hong Kong Sheng Kung Hui Compound at Lower Albert Road from "Government, Institution or Community" ("G/IC") to "G/IC(1)" with building height restrictions; and
2. other technical amendments.

[Town Planning Board Press Release, 24/05/2019]

WEST KOWLOON CULTURAL DISTRICT

The 78th Board Meeting of West Kowloon Cultural District Authority

Carrie Lam, Chief Executive of the HKSAR, officiated at the Grand Opening of the Xiqu Centre on 20 January 2019. The Grand Opening was followed by a performance of the legendary opera *The Reincarnation of Red Plum* which was curated by Dr Pak Suet-sin. The Chairman commented that it was very well received and highly commended by the audience as a world-class show which Hong Kong should be proud of.

During the three-month Opening Season, the Hong Kong Cantonese Opera Chamber of Commerce hosted a Spring Festival Showcase and four performances highlighting the distinct features of eight different xiqu genres by the China Theatre Association Plum Blossom Award Art Troupe. Meanwhile, at the Tea House Theatre, Standard Chartered Tea House Theatre Experience selected some short excerpts by WKCDA's own Tea House Rising Stars Troupe specially designed to introduce new audiences to Chinese traditional theatre.

High rental cost in West Kowloon Cultural District

Freespace, the new facility at the West Kowloon Cultural District, will be the second landmark performing venue after Xiqu Centre as a part of the HK\$21.6 billion development of the Cultural District. It will host multi-genre shows performed by local and international artists including the Oscar-winning Japanese composer Ryuichi Sakamoto. The Box, one black box theatre in the new facility, represents it as a bar or cafe for live music, and multipurpose spaces for small-scale events.

Rent of at least HK\$6,000 for nine hours, or HK\$9,000 for 14 hours, for performances has to be paid by artistic groups to stage a show at The Box, which can seat up to 450 people or accommodate 900 standing. However, other charges such as overnight set-up or take-down are excluded and 10 per cent of gross box office receipts will be shared by the Authority.

Wendy Cheng Hiu-lam, a saxophonist who usually hosts one or two ensemble performances each year in the city, said the rental is too expensive, considering that the rental fee for the theatre at the Hong Kong City Hall for eight hours is only HK\$3,855 on a concessionary rate.

On the other hand, Louis Yu Kwok-lit, performing arts executive director at the West Kowloon Cultural District Authority, said that the cost of renting such a new venue is totally fair and affordable, given the uniqueness of the venue.

[SCMP, 29/05/2019]

HONG KONG BRIEFING

Our plastic degradation is increasingly serious

Marine pollution is a problem, and it's not just the vast amounts of plastic and other rubbish visible on the ocean's surface or plastic washing up on beaches that's a concern.

A recent study by Greenpeace found Hong Kong waters are choking on microplastics, which are entering the food chain. The report found that, compared with similar research carried out in 2016, the microplastic concentration in Hong Kong waters had increased 11-fold.

Microplastics are small particles, less than 5mm in diameter, of degraded plastic from discarded single-use cutlery items, straws, condiment bags, cups and bottles, according to the researchers.

In 2018, a study by the Education University of Hong Kong at the Aberdeen Wholesale Fish Market found that 60 percent of flathead grey mullet, popular in local dishes, contained microplastics. On average, 4.3 fragments were found in each fish; one had ingested 80 pieces.

“We’re using a tremendous amount of single-use plastic on a daily basis, [on] food [and] non-food products. It is common to see food, such as broccoli and apples, unnecessarily wrapped in multiple layers of plastic. The plastic waste generated from ridiculous over-packing not only increases our household waste, but may end up in the ocean if not properly treated,” Greenpeace campaigner Chan Hall-sion says.

Another kind of microplastic is microbeads. These are less than 1mm in diameter and are used in beauty products, such as exfoliating scrubs, shower gels and toothpaste, and commonly listed as polythene on a product's ingredient list.

In 2018, University of Hong Kong (HKU) researchers found that more than 60 percent of seawater samples taken around the city contained microbeads. Scientists at the university's department of Earth sciences and the Swire Institute of Marine Science at HKU examined more than 100 water samples from the seven sites.

[SCMP, 01/04/2019]

Six ways Hong Kong can help slow down environmental destruction

The recent UN report warning how wounded our planet is – from our species' “annihilation of biodiversity” to the profound degradation of our life-sustaining biosphere-should give us all pause.

This comprehensive analysis, built on solid science and not hand-waving, is a clarion call for Hong Kong to forego insular, inward thinking and act boldly to diminish our ecological footprint around the world. Hong Kong has the capacity and resources to become a global leader in the transformative change highlighted by the UN report as essential to save our species.

The business-as-usual stance will inextricably link Hong Kong to the current drivers of change and degradation of the natural world around the globe. We humans, our governance systems, the sustainability of our economies, our livelihoods, health and security, are all strongly reliant on a healthy natural world.

Hong Kong's high demand for endangered marine species, such as grouper and shark's fin, is pushing many species to extinction. Hong Kong's ports remain a convenient and low-risk hub for containers of illegal ivory and pangolin scales, as evidenced by Hong Kong Customs' January seizure of more than 1,000 elephant tusks and 8.2 tonnes of pangolin scales.

One can identify a long list of financial investments that directly drive the destruction and degradation of natural habitats, species populations and life-sustaining processes around the world. Hong Kong also remains notoriously active in the consumption and conveyance of increasingly rare fauna and flora, such as elephant and pangolin parts, shark and ray fins, rosewood, tortoises, tiger parts, rhino horn, threatened birds and seahorses, to name a few.

Indeed, a major theme of the UN report was the strong pattern of resource extraction and production in one part of the world to satisfy demand in distant regions. Hong Kong's high consumption lifestyle has far-reaching effects.

If everyone led the lifestyle of Hong Kong residents, 4.2 Earths would be required to fulfill our renewable resource needs, against a global average of 1.7 Earths elsewhere. In short, Hong Kong consumes more than the world can regenerate and inordinately drives demand for species and habitats that are disappearing.

Hong Kong must increasingly recognise that the dire global degradation documented by the UN report will profoundly diminish the profitability of business, the security and health of its citizens, and everyone's quality of life within decades. What practical steps can be taken to achieve transformative change? Here are a few:

- Green investments and practices should be rewarded and damaging ones discouraged.

- Fisheries and seafood require transparency and vigilant oversight to ensure sustainable sourcing.
- Hong Kong, and the rest of the world, needs to build biodiversity considerations into trade, investment and infrastructure decisions.
- Hong Kong's coastal waters require the same level of conservation and stewardship afforded to its green hills through an expansion of its marine protected areas system to the 30 per cent global standard.
- Hong Kong should take the lead in stemming the hemorrhaging of the world's wildlife by rapidly phasing out the legal wildlife trade across multiple species, and continuing strong efforts to interdict illegal wildlife shipments.
- Illegal wildlife activity should be justifiably recognized as an activity of organized crime and addressed under the *Organised and Serious Crimes Ordinance*.

Hong Kong does have a few islands, but it is not isolated. Hong Kong's future and well-being are strongly linked and dependant on what is going on in the rest of the world. A self-serving responsibility to become a leader in sustainability and Earth-friendly consumption should be the mantra for government, corporations and the public alike.

[SCMP (by David Olson, PhD, Director of Conservation at WWF-Hong Kong), 12/05/2019]

Plan for new eco-friendly footbridge is approved

The Harbourfront Commission's Hong Kong Island task force approved the proposed design of an eco-friendly footbridge by asking the government only to fine-tune the proposed walkway.

The proposed 190 metre long footbridge will connect a future waterfront promenade with a roof garden near the Grand Hyatt Hong Kong, which has access to Wan Chai MTR station and Gloucester Road. The new walkway, called the West Landscaped Deck, includes a covered passage at least four metres wide, an open-air gallery and a viewing deck. Most of the footbridge is supposed to be covered with grass.

The proposed footbridge will enable pedestrians to reach the harbourfront promenade three minutes faster from the current routes. The proposed eco-friendly footbridge is designed to provide a faster, more enjoyable walk from central Wan Chai to the waterfront.

The footbridge will connect with the western part of the promenade next to the Hong Kong Conference and Exhibition Centre. The southern end of the footbridge will include an open-air gallery, which provides space amid greenery for art displays or cultural activities. The northern end will have a viewing deck, where pedestrians can rest and look out over the harbour sea.

The building of the footbridge is budgeted within the Wan Chai Development Phase II project, which aims to expand Wan Chai and improve its infrastructure. The construction of the deck is expected to be completed by early 2024.

[SCMP, 29/05/2019]

Plastic bottles from mainland China

According to a report prepared by an NGO, more than 11,000 plastic bottles were collected on Hong Kong beaches in 2018, with over a third of the waste believed to be from mainland China.

The Green Earth recommended that Chinese authorities introduce legislation prompting manufacturers to recycle and to require mainland brands to set targets for reducing plastic usage.

The group conducted the study on single-use plastics from July 2018 to June 2019 at 25 locations, including beaches at Lung Kwu Tan in Tuen Mun and outlying island Tai O. A total of 3,921 bottles (34.6 per cent) out of 11,321 bottles collected throughout 43 clean-up sessions had labelling with simplified Chinese characters, which mean that they were used in mainland China. According to Mandy Cheung Wing-man, project officer at The Green Earth, they believe that these bottles are improperly handled residential garbage which were washed by heavy rains from mainland China into rivers and seas.

Edwin Lau Che-feng, executive director of The Green Earth, urged mainland authorities to address the problem directly by passing producer-responsibility laws, which require relevant manufacturers to share responsibility for collection, recycling, treatment and disposal of plastics. At the same time, he said that the Hong Kong government also needs to share the responsibility to speed up in pushing for such regulations.

Considering the recycling rate of such bottles was only 6.8 per cent in 2017, The Green Earth also urged mainland brands to set targets to reduce plastic usage even before the implementation of the possible producer-responsibility laws in the future.

[SCMP, 02/06/2019]

Another 'paper jam' environmental crisis in Hong Kong

In Hong Kong, tonnes of municipal solid waste, of which a sizeable chunk is paper, is generated every month. However, almost all waste paper either goes to landfills, or is sold and exported abroad for recycling as there is no papermaking plant in Hong Kong.

About 66,000 tonnes of waste paper were recycled each month, and most of it was exported to mainland China. According to Mr. Lau Yiu-shing Jacky, director of the Hong Kong Recycle Materials and Reproduction Business General Association, 99 per cent of recycled waste paper was directly sent to the mainland because of the relatively low transport costs and strong competition from US and European exporters to Southeast Asian markets.

Last year Hong Kong experienced a "paper jam crisis" due to the three-day strike by the local recycling industry. It created a huge backlog of waste paper at recycling companies, leaving large amounts of dumped cardboard uncollected on streets.

The strike was held in response to a China's policy tweak announced in July, which imposed a ban on 24 types of polluting "foreign rubbish" imports. As a result, thousands of mainland's plants failed to get a permit to import foreign waste, causing a panic among recycling industry in Hong Kong.

However, last year's "paper jam crisis" is likely to return due to two-decades low recycling prices. A good example is that a major paper factory in mainland China announced a reduction in the price it pays local waste exporters to HK\$600 per tonne starting from June. During the US-China trade war, the lower demand for cardboard among Chinese manufacturers creates fears that Hong Kong will be caught in the crossfire.

Meanwhile, frontline workers have also been paid less, receiving only K\$0.4 to HK\$0.5 per kilogram of waste. Lau expressed his concern that this may cause cardboard collectors to stop picking up waste paper on the streets and, as a result, cause another waste paper crisis in the city.

[SCMP, 06/06/2019]

ADVISORY COUNCIL ON THE ENVIRONMENT (ACE)

Summary of Minutes of the Minutes of the 235th Meeting of the Advisory Council on the Environment

The main item of the meeting was to discuss the progress of implementation of the Hong Kong Biodiversity Strategy and Action Plan 2016-2021 ("BSAP").

The Chairman informed the Members that *ACE Paper 3/2019* provided an update on the latest progress of implementation of the Hong Kong Biodiversity Strategy and Action Plan (BSAP) 2016-2021, and a background note on the subject matter (i.e. *ACE Paper 4/2019*) prepared by the Secretariat had been circulated to Members for reference before the meeting.

Open session

Dr. Jackie Yip, Senior Conservation Officer (Biodiversity) of the Agriculture, Fisheries and Conservation Department ("AFCD"), updated Members on the major achievements under four key action areas of BSAP. Dr. Yip then advised that an Inter-departmental Working Group on BSAP had met regularly to discuss the progress of implementation and the government had earmarked \$100 million for implementation of the action under BSAP in the next two financial years (i.e. 2019/20 and 2020/21)

Knowledge transfer and information sharing

A Member suggested that a centralised database should be developed in order to consolidate data collected from ecological surveys as part of the environmental impact assessments conducted by different development project proponents. Another Member also advised that a platform for information sharing among various parties is essential to promote effective use of resources.

Dr. Jackie Yip advised that a Geographic Information System-based platform to facilitate sharing of data among different groups of users was being developed. It would form part of the BSAP initiative to develop a web-based information hub to provide a one-stop shop for information on local biodiversity to stakeholders at all levels.

Stakeholder engagement

A Member suggested that the AFCD should proactively invite external experts who had contributed to the formulation of BSAP to comment on the progress of its implementation.

Another Member also stressed the importance of engaging experts from various areas, including urban planning and green building, for mainstreaming BSAP in different sectors.

Mr. Simon Chan, Assistant Director (Conservation) of the AFCD, opined that the implementation of BSAP required the concerted efforts of various parties.

Education and promotion

Dr. Jackie Yip advised that various citizen science projects were conducted by non-governmental organisations under the Subventions for Biodiversity Education scheme of AFCD to promote awareness and community involvement in biodiversity. As well, an electronic version of the learning and teaching resource packages for kindergartens is available on both the Education Bureau and AFCD websites.

Measuring effectiveness

As to the mechanism of evaluating the effectiveness of the education programmes, Dr. Jackie Yip advised that questionnaires were distributed to the recipient organisations of the Subventions for Biodiversity Education scheme of AFCD, with a view to assessing the effectiveness of the education programmes. In addition, a survey was conducted to obtain baseline information regarding public knowledge and awareness of biodiversity in Hong Kong.

Computer-aided Sustainability Evaluation Tool (CASET)

The CASET was part of the sustainability assessment system, through which government departments had to assess the potential environmental, social and economic impacts of their new strategic initiatives or major programmes at the project planning stage. In order to better support biodiversity considerations in major policies and plans, the CASET were revised to include updated parameters on protected areas, as well as to include parameters on habitats of high ecological value and checklist questions concerning connectivity and ecosystem services.

Conclusion

The Chairman concluded that Members were in general satisfied with the progress of implementation of BSAP.

CLIMATE CHANGE

New Zealand offers lessons in tackling climate change

Scott Simpson, New Zealand's National Party environment spokesman, stunned a trans-Tasman investment meeting last week by stating that climate action was "too important to be playing politics with".

Mr. Simpson also said that it was vital "for all of us and our grandchildren that we have a [climate action] framework that is enduring", coming as it did soon after the UN's Intergovernmental Panel on Climate Change had issued its latest report warning about the perils of even another half degree of warming. Advertisement. That Mr. Simpson hails from the centre-right opposition party, roughly equivalent to Australia's Liberal-National coalition, only underscored the contrast between the nations.

New Zealand's major parties, busy trying to thrash out a Zero Carbon Bill by year's end, are dismayed by the absence of similar bipartisanship across the Tasman, James Shaw, climate change minister in the Labour-led government told Fairfax Media.

"We do tend to look at what's going on in Australia politics, in particular in relation to climate policies, and we think, 'We cannot afford to let this happen in New Zealand'," Mr. Shaw said. "It seems like a pretty strong lesson in what not to do."

Despite ditching its main climate and energy policy – the National Energy Guarantee, which was aimed at reducing carbon emissions from the power sector while bolstering the grid and easing prices – the Morrison government insists it can achieve Australia's Paris climate commitments.

New Zealand's politicians approach climate change on the basis that the "whole world must act" to reduce global warming emission, regardless of the comparative significance of each nation's total emissions. This contrasts sharply with the approach of the Liberal National Parties Coalition Australia.

Even if total emissions were the issue, Kiwis would have more excuse than Australians for doing nothing. Their share of global greenhouse gases is less than 0.2 per cent, or about an eighth of Australia's.

Still, on a per-capita basis, both nations have among the highest emissions in the world, Mr. Shaw said. Tally up the 90-odd nations contributing less than 1 per cent of emissions and you reach almost a third of the global total – larger than China or the US, he says.

In government, the National Party signed up to the Paris climate accord and introduced an emissions trading scheme.

To remove the politics from the negotiations, all sides agreed to take advice on New Zealand's targets from an independent climate commission. (Australia has a Climate Change Authority but all the original board members have been replaced since it was set up by the Gillard government and its role as an advocate for action has largely disappeared.)

"If you have essentially your best and your brightest informed by science ... it's an easier place to have a conversation with your community than just playing partisan politics with them," Mr. Muller said.

New Zealanders, like Australians, have endured an increasing spate of extreme weather events, which the government attributes in part to climate change. These include a record hot year in 2016, droughts and a major forest fire last year.

Farmers, who have in the past objected fiercely to taxes on methane, appear more ready to accept the need to act. DairyNZ, for instance, has welcomed the prospect of emissions targets enshrined in legislation to give the sector "much needed certainty".

Trish Rankin, a dairy farmer managing 440 cows for a Maori-owned co-operative near Hawera in the Taranaki region of the North Island, said climate action "needs to be apolitical – it needs to be able to last over time".

Ms Rankin said New Zealand farmers realise their social license depends on them being good custodians of the land, and the principle extends to curbing emissions. Open consultations with experts have also helped.

Bill Hare, director of Climate Analytics, notes New Zealand's existing climate policies are insufficient, but the nation appears to be "moving to a much better space".

Steps already taken include the ban on new offshore oil and gas exploration, and in prospect are five-year interim emissions targets and a more ambitious emissions trading scheme.

Mr. Hare is optimistic that because Australian levels of public support for climate action including renewable energy are not so dissimilar to New Zealand's, policies will eventually converge.

"Farming wants to see some serious action", he says, while recent reports suggest the power sector isn't going to wait for the government to move on emissions cuts either.

New Zealand's climate minister, Mr. Shaw, says farmers – unlike Australian coal companies – have options.

"People are still going to want to eat in 30 years' time, so the question is what do you produce and how do you produce it – not whether or not you're going to produce food," he said. "But in 30 years' time, you can pretty much guarantee no one in the world is going to use coal for anything."

[The Age, 14/06/2018]

Net-zero emissions is a realistic goal for Britain

In three decades, Britain's greenhouse gas emissions should fall to almost zero, according to the UK's chief advisory body on climate change. In a rigorous report, the Committee on Climate Change proposes Britain adopts the strictest targets for emissions among G20 countries, alongside France.

The report lays out a clear moral case for the UK reaching net zero by 2050 – meaning any greenhouse gases it does emit must be absorbed through forests or carbon-capturing technology. Despite accounting for 1 per cent of emissions today, the legacy of the industrial revolution means Britain has long been one of the top five cumulative contributors to climate change.

The report also discusses benefits from lower emissions, such as healthier citizens, lower energy prices, greater biodiversity and new jobs in the renewable energy sector.

The report is right that the government should make a concerted, cross-departmental effort to ensure this is a "just transition". This will include having the Treasury review how changes can be funded to avoid penalising certain regions or sectors. The report asks businesses and communities to make big shifts to how they live and work. The government should ensure the effects are properly mitigated, or it risks facing a *gilets jaunes*-style insurrection.

There are many specific questions left unanswered. There is no firm recommendation on the future of fracking, the process by which shale gas is unlocked using high-powered jets of water. The UK's regulations on the industry have left it largely moribund, with the commissioner in charge resigning last week. Similarly, the acrimonious debate around the third runway at Heathrow airport goes unresolved. The report does, however, call for individuals to minimise long-haul flights and use trains in place of short-haul journeys.

These do not detract from the monumental work behind this report. The Committee on Climate Change has offered the government an opportunity to set a path for the UK as a global pioneer. Although the 2050 deadline will require sustained government focus, it is by no means unworkable. It is a lot more credible than Extinction Rebellion's proposed 2025 cut-off.

While the bulk of the work will be carried out under future administrations, adopting the report's recommendations is a key first step. The UK has cut emissions significantly from 30 years ago. A decision now could set the path for future administrations to eliminate them 30 years from now.

This will require political courage to commit wholeheartedly to net zero. Here is an opportunity for a rudderless government, looking to chart a new path for Britain in the world post-Brexit, to write a place in history.

[*Financial Times*, 03/05/2019]

Mankind and nature are affected by climate change

Insect populations, including pollinators, appear to be falling rapidly as habitats are diminished and pesticides proliferate.

The vast majority of plants rely on pollinators. If we effectively eliminate them, and in coming decades we might, we would lose most plant life and all the animals that go with it. Being left with just grasses, ferns, fir trees and a few squirrels would be a touch detrimental to humans, to say the least, and gives one sense of what a devastated future might look like.

Then there is the vexing question of the damage from warming. The current economic damage (very roughly \$200bn a year) might be about 0.25 per cent of world output. Unless you suffer the damage directly yourself, you might think that is a reasonable fee to pay for fossil-fuelled growth. But at 4C of warming, leading academic economists project 20 to 200 times this rate of damage. The high estimate, at 50 per cent of output, reflects network effects that magnify local damage and lead to regional economic collapse. This is another sense of how a devastated future might look.

With all respect to Bill Gate's optimism, the super-rich have the comfort of knowing they can find some sanctuary from this possible devastation. For the rest of us, especially the young, Greta Thunberg may prove prophetic when she says that the future is being stolen from her. It need not be thus.

Howard Covington

Chair,

ClientEarth,

London E8, UK

[*Financial Times* (Letter to the Editor), 03/05/2019]

UK roadmap to zero carbon

British people need to fly less, drive electric cars, eat little meat and turn their home thermostats down to 19 degrees Celsius in order to rein in greenhouse gases damaging the planet.

Those are the recommendations from the government's official adviser on climate change and sketch out the toughest measures anywhere in the industrial world to rein in pollution. Drawn up by a panel, including lawmakers, scientists, industry officials and analysts, their 277-page report also suggests a drastic overhaul for industry, agriculture and aviation.

The findings mark out the ways Prime Minister Theresa May and her successors can reach a target to cut net emissions to zero by 2050, something scientists say is necessary to prevent more-violent storms and rising seas that come with climate change. It's an indication that there's a growing consensus on the environment in the UK, even as lawmakers remain deeply divided about how the nation should leave the European Union.

Sensing a lack of commitment from the British government, thousands of protesters from Extinction Rebellion took to the streets of London in April, blocking several main thoroughfares in a call for reaching net-zero emissions by 2025. Opposition leader Jeremy Corbyn has said ministers should declare a climate emergency.

Ministers from governments across the political spectrum have traditionally endorsed suggestions from the committee. The government will consider the report and release a detailed response in the future. Greg Clark, the cabinet minister in charge of the Department of Business, Energy and Industrial Strategy, signalled that ministers are likely to endorse at least some of the findings.

Industry and environmental groups generally embraced the report's findings, saying the government should now make clear what changes it will enshrine in law.

[*Australian Financial Review*, 04/05/2019]

"Matter of survival" says Fiji's PM

Fiji's Prime Minister Frank Bainimarama, has blasted as "insensitive" comments from Australian Liberal MP, John Alexander, that Fijians "move to higher ground" as a climate change policy priority.

Mr. Bainimarama used his keynote speech at the sixth Australasian Emissions Reductions Summit in Melbourne to criticise the comments following Mr. Alexander's attendance at a public event last week in Sydney's federal seat of Bennelong. His comments came as another Pacific neighbor, New Zealand, tabled a landmark climate bill.

Fiji's Prime Minister Frank Bainimarama said being forced to give up your home "isn't some cold and calculated business decision"

Rather than halting Australia's coal burning, the country's priority in the Pacific should be assisting neighbours to move "their settlements to higher ground", Mr. Alexander said, according to an audio recording. "I think we should turn our minds to that positive contribution to our region."

Mr. Bainimarama, though, said his people were facing "a matter of survival" as sea levels rise, and they "can hardly tolerate such insensitive, neo-colonial prescriptions".

Three communities had already been forced to move and another 40 were waiting for relocation, he said, adding that being forced to give up one's home "isn't some cold and calculated business decision - for those affected; it's a deeply emotional loss".

"A young Fijian sugarcane farmer, who learnt how to toil the ground from his father and his father before him, now watches helplessly as the fields that fuel his livelihood become too salty for crops to grow," Mr. Bainimarama said. "And an entire coastal village mourns as the graves of their ancestors are forever inundated and washed away, robbing them of the deep and spiritual connection to their land."

Mr. Alexander said he had sought to make clear "that we need to act, not only to mitigate climate change, but also help people who will have their lives and livelihoods damaged by the effects of climate change". He noted that renewable energy investments were booming under the Coalition government, with \$25 billion committed for the 2018-20 period. Last year, Australia also signed the Boe Declaration on regional security in the Pacific, which will deliver some \$300

million in climate and disaster resilience support to the Pacific, Mr. Alexander said. He underscored his view that adaptation and taking action on curbing emissions needed to happen at the same time.

Mr. Bainimarama said his country was lucky to have higher ground for relocation.

"I'm keen to hear what the honourable member believes the people of Kiribati should do in the face of rising seas, where the highest point in their country sits at just 1.8 metres above sea level," he told the event.

Mr. Bainimarama also said former Labor prime minister Kevin Rudd was insensitive and "neo-colonial" for wanting Australia to relocate Pacific islanders in exchange for control of seas and fisheries.

Mr. Rudd's call for Australia to offer Pacific islanders homes in exchange for control over their seas was strongly rebuked.

"In a time where we must be future-facing, we can hardly tolerate such insensitive neo-colonial prescriptions," Mr. Bainimarama said.

New Zealand's Prime Minister Jacinda Ardern thanked her opposition for putting politics aside to fight climate change. Meanwhile, another Pacific neighbour was making climate waves on Wednesday, with New Zealand's Labour-led government tabling its Zero Carbon Bill to tackle global warming.

"The critical thing is to do everything we can over the next 30 years to limit global warming to no more than 1.5 degrees Celsius [above pre-industrial levels] and the Zero Carbon Bill makes that a legally binding objective," Prime Minister Jacinda Ardern said in a statement.

[*The Age*, 08/05/2019]

Climate Action Summit in September 2019

UN chief Antonio Guterres called on member states to attend the Climate Action Summit in September 2019 to discuss urgent action required to limit global temperature rise to 1.5 °C above pre-industrial level. Member States will come to New York with concrete and realistic plans to enhance their nationally determined contributions by 2020 in support of the implementation of the *Sustainable Development Goals*.

The Intergovernmental Panel on Climate Change Special Report on Global Warming specified that limiting global warming to 1.5 °C is necessary to prevent irreversible environmental changes. This requires changes on an unprecedented scale at all levels in order to achieve this goal.

The calling of the Summit is to ensure any appropriate measures are taken to protect people, jobs and ecosystems, in particular those people in regions vulnerable to the impacts of climate change, especially those at risk through forced displacement and migration.

Climate finance is necessary for those measures to be taken. Developed countries must mobilise governments and the private sector to achieve the goal of establishing a fund of \$100 billion per year by 2020 to support climate action in developing countries and to further enhance their efforts on scaling up financial resources to meet the climate challenge.

The UN is supporting Member States to develop and utilise relevant data and technological innovations to find solutions for climate and sustainable development challenges and disaster risk reduction and management.

[*UN News*, 09/05/2019]

Ice sheet of West Antarctica is thinning

Europe recently launched four overlapping satellite missions of the European Space Agency with radar altimeters to measure the change in height of East and West Antarctic ice sheet. The satellites identified that the ice sheets of West Antarctica are rapidly and unsustainably thinning. The changes are faster than scientists would expect in normal weather patterns.

More ice in West Antarctica is being lost than is being replenished through snowfall and some of the biggest glaciers have thinned by over 120m. The lost ice means increases in the continent's input to the ever rising surface of the world's oceans. The assessment from the Intergovernmental Panel on Climate Change foresaw 5 cm of sea-level rise coming from Antarctica by 2100.

Approximately 50% of the drainage basins in Amundsen Sea sector are losing ice-mass. The loss rates were 2 billion tonnes per year and 12 billion tonnes per year in 1992 and 1997 respectively. According to the latter period of the survey (2012 – 2016), the rate increased to 55 billion tonnes and 76 billion tonnes per year.

[*BBC News*, 16/05/2019]

Panama Canal is suffering the impact of climate change

The Panama Canal had a problem of holding too much water at the end of last year. Torrential rains increased the canal's main water source and forced the Canal authority to open the floodgates to release excess water into the Atlantic.

However, the condition has been twisted into a different situation in the past few months due to climate change. The Canal Authority said Panama had no rain for almost five and a half months, due to a severe El Nino weather phenomenon. Cargo restrictions were imposed to cope with what turned into the worst drought in the Canal's 115 years history. As water levels decreased nearly eight feet, five successive reductions in the weight of cargoes that ships could transport were imposed.

In 2016, the Canal underwent an expansion to allow bigger ships to navigate the Canal. However, three years later, the Canal is already needing additional upgrades in the form of a third lake so as to allow ships to navigate extreme weather condition that are expected as a result of climate change.

Extreme weather patterns are threatening the viability of this Panama Canal, so Panama should tackle the problems because its economy highly depends on the proper working of the Canal.

[*Financial Times*, 04/06/2019]

UK government commits to “net zero” greenhouse gases by 2050

Prime Minister Theresa May announced that Britain will cut greenhouse gas emissions to almost zero by 2050. This plan means significant reductions in emissions from homes, transport, farming and industry are necessary. Alternatively, the UK can offset emissions by planting trees or sucking CO2 out of the atmosphere by some other means.

Separately, Scotland has committed to reducing greenhouse gas emissions to net-zero by 2045, five years ahead of the UK government’s target. Wales’ government said it will commit to net-zero by 2050. Northern Ireland is the only UK administration which does not have climate change legislation and emissions targets.

The report from the government’s advisory Committee on Climate Change said that if other countries followed the UK’s target, there was a half chance of staying below the recommended 1.5C temperature rise by 2100. A 1.5C rise is considered the threshold for dangerous climate change.

Prime Minister Theresa May further said that the UK led the world to wealth through fossil fuels in the industrial revolution; therefore, it is a moral duty for Britain to lead the world to try to maintain this world in a better condition.

[BBC News, 12/06/2019]

REGIONAL & INTERNATIONAL

BRAZIL

Brazil's Bolsonaro denounced for environmental assault

Jair Bolsonaro, president of Brazil, was denounced by activists and former environment ministers for assaulting rainforest protections and transforming Brazil into an “exterminator of the future”.

Bolsonaro, a right-wing politician, has been severely criticised at home and abroad for his claims that environmental protections hinder Brazil’s economic growth. He is a close ally of the powerful agribusiness lobby and during his campaign said that if he were elected he would not allocate “one more centimetre” of land to indigenous reserves.

In a speech in May, Bolsonaro said that he would remove environmental protections in a part of the forested coast south of Rio de Janeiro in order to create “a Cancún of Brazil”.

A number of ex-ministers said that Bolsonaro’s government was systematically destroying Brazil’s environmental protection policies. Izabella Teixeira, who led Brazil’s negotiating team at the Paris climate agreement as environment minister, said that Bolsonaro’s policies were already damaging the country’s international standing.

[The Guardian, 09/05/2019]

NEW ZEALAND

New Zealand's environment is in serious trouble

A report on the health of New Zealand’s environment has painted a bleak picture of catastrophic biodiversity loss, polluted waterways and the destructive rise of the dairy industry and urban sprawl.

The report, *Environment Aotearoa*, found that New Zealand is one of the most invaded countries in the world, with 75 animal and plant species having gone extinct since human settlement. Ninety per cent of seabirds and eighty per cent of shorebirds in New Zealand are threatened with or at risk of extinction. Almost two-thirds of New Zealand’s rare ecosystems are under threat of collapse, and over the last 15 years the extinction risk worsened for 86 species, compared with the conservation status of just 26 species improving in the past 10 years.

The New Zealand government acknowledged the environmental situation illustrated by the report, but reinforced that cleaning up the waterways and becoming carbon neutral by 2050 are the more urgent tasks at the moment.

A massive rise in the country’s dairy herd over the last 20 years has had a devastating impact on the quality of the country’s freshwater sources. The report found that groundwater failed standards at fifty-nine per cent of wells, owing to the presence of E coli, and at thirteen per cent of the wells owing to nitrates. Some fifty-seven per cent of monitored lakes registered poor water quality, and seventy-six per cent of native freshwater fish are at risk of or threatened with extinction. A third of freshwater insects are also in danger of extinction.

The New Zealand government has sought to alleviate the environmental impacts through the introduction of climate change legislation and establishing an independent climate change commission to guide emissions reductions.

[The Guardian, 18/04/2019]

UK

Environmental rules in Northern Ireland 'at risk'

Environmentalists are worried that Northern Ireland could be left behind when it comes to protecting important species and habitats after Brexit, as much of the current protection is based on EU laws and backed up by penalties imposed by European courts. Experts believe that the oversight by EU will be lost after Brexit. And, with no Northern Ireland Assembly to legislate to replace it, governance gaps could open up.

Although domestic legislation already enacted to give legal effect to EU directives will continue to apply after Brexit and civil servants have taken an option to extend some English environmental laws to Northern Ireland, environmentalists’ concerns remain, especially when it comes to cross-border EU protected sites and issues like water and air quality.

Northern Ireland is the only part of the UK that does not have an independent environmental protection agency. The government and politicians in the region have traditionally attached less importance to environmental protection. There is no guarantee that a future environment minister would adopt any robust environmental policies.

[BBC News, 16/04/2019]

Onshore wind farms in UK to reduce energy bills

The UK government is facing rising calls to lift its ban on onshore wind farms to help meet its ambitious climate target (i.e. to net zero carbon emissions by 2050) while reducing home energy bills.

Development in new onshore wind projects may cut energy bills by £50 a year compared to a high-gas energy mix, due to plummeting turbine technology costs and rising cost of carbon emissions. Analysis also shows that increasing onshore wind capacity from 13GW today to 35GW by 2035 would reduce the cost of electricity by seven per cent.

Further, an onshore wind boom could also treble the number of jobs supported by the sector to 31,000 by 2035.

[The Guardian, 12/06/2019]

USA

US Supreme Court docket foretells big environmental law impacts

Recently, a number of cases with significant impacts on environmental law in US are being litigated in the US Supreme Court. Legal issues on water pollution, climate change, deference to environmental agencies, nationwide injunctions and a scattering of other topics relevant to environmental law will soon be addressed by the Court in various cases.

County of Maui v Hawaii Wildlife Fund, which involves the question of the scope of the *Clean Water Act* (“CWA”) is currently the most significant environmental case before the Supreme Court. The case raises the important question whether a CWA permit is required when pollution flowing from pipes and other discrete sources travels indirectly through groundwater to oceans, rivers, and other “waters of the U.S.”

Kisor v Wilkie involves veterans’ benefits, but its implications for environmental law could be significant. In this case, the Supreme Court will decide whether agency interpretations of their own regulations continue to enjoy an extended deference. Many have criticised this doctrine of agency interpretative deference for incentivising agencies – including the Environmental Protection Agency (“EPA”) – to issue vague regulations. In any event, the ruling in *Kisor* seems likely to reflect a significant limit on agency deference or at least provide meaningful clarification about when deference applies, which should prove relevant to environmental regulations issued by the EPA.

The Ninth Circuit Court of Appeal will soon hear argument in *Juliana v United States* involving constitutional and public trust theories for addressing climate change. This action was brought by a university professor and a group of children who seek a judicial order against a host of federal agencies to dramatically reduce greenhouse gas emissions. The plaintiffs are also seeking a lengthy trial about the federal government’s energy and climate policies over the last five decades. The Supreme Court has shown concern about the *Juliana* case already, issuing short orders that led to the case’s current posture on interlocutory appeal. Depending on the Ninth Circuit outcome, the Supreme Court may be asked again to get involved.

[Bloomberg, 17/05/2019]

RUSSIA

Russia moves to free captured whales

ELAW partner Natalia Lisitcyna at Sakhalin Environment Watch in Russia, and her colleagues, won a landmark court case last month, when a court ordered the release of nearly 100 orcas and beluga whales captured in the Sea of Okhotsk and held in “whale jail” in Srednyaya Bay, near the far east port city of Nakhodka.

The whales were destined for marine parks in **China**.

“This is a first court case, for Russia, tied to whale capture,” writes Natalia, whose organisation and seven other NGOs launched the winning Free Russian Whales campaign last year. The coalition works to free captured whales and prevent new captures.

The *New York Times* reports:

“Chinese marine parks pay up to \$3.5 million for an orca and around \$150,000 for a beluga, according to RIA Novosti, an official Russian news agency. Russia exported 15 killer whales to China between 2013 and 2017, the agency said.

The revelation of the penned whales in Srednyaya Bay prompted an investigation that found that permits to capture the whales had been issued illegally. A criminal case was opened. Among other things, Russian law forbids capturing whales from a group with babies.”

Natalia is pleased with the victory, but says lots of work is ahead:

“We successfully managed to prevent captures in 2019, but in 2020 the Fishery Agency wants to permit catching 10 killer whales and 82 belugas in the Sea of Okhotsk, and another 200 belugas in the Bering, Chukchi and East Siberian seas.”

[ELAW Bulletin, 06/04/2019]

BANGLADESH

Court orders restoration of wetlands

Twenty years ago, developers illegally filled 550 acres of Savar wetlands, near Dhaka, to build houses. The wetlands are protected because they are in a floodplain and have a key role in the ecology of the river catchment area around Dhaka.

The Bangladesh Environmental Law Association ([BELA](#)) filed its first legal challenge to the Modhumoti Model Town 15 years ago. Last week, BELA celebrated when the Supreme Court upheld an earlier verdict, directing authorities to remove the earth from the project area and restore the wetlands within six months.

ELAW Staff Scientist Dr. Mark Chernaik provided BELA with an expert affidavit showing how the proposed housing development was contrary to recommendations of the UN Inter-Agency Secretariat of the International Strategy for Disaster Reduction and the World Bank Hazard Management Unit.

[*ELAW Press Release, 07/05/2019*]

ZIMBABWE

Protection for Monovale wetlands

In Zimbabwe, ELAW partners scored a big win this month for the Monovale wetlands, a seasonally flooded urban grassland in northwest Harare. This UN Ramsar site, designated as Wetlands of International Importance, was threatened by a developer's plans to build houses.

"We finally managed to get a winning judgment," wrote Fiona Iliff, a lawyer with Zimbabwe Lawyers for Human Rights. "This is an international precedent for protecting wetlands that you helped us win, so a huge thank you!"

ELAW provided Fiona with decisions from courts in Uganda, South Africa, and India to support protecting the wetlands in Zimbabwe. Mark helped document how the project damaged the Monovale wetlands in ways the Environmental Impact Assessment for the housing project failed to assess.

[*ELAW Press Release, 07/05/2019*]

INDONESIA

Bali takes steps to reduce plastic waste

Plastic waste in Bali is a serious problem. A recent report described plastic floating in on every wave and "discarded straws and instant noodle packets swirling around tourists' feet." A 2015 study [revealed](#) that five Asian countries -- China, Indonesia, the Philippines, Vietnam, and Thailand -- account for up to 60 percent of plastic waste washing into oceans.

Authorities in Bali's capital, Denpasar, enacted a ban on plastic bags, straws, and styrofoam last year. But plastic and recycling industry groups asked Indonesia's Supreme Court to overturn the ban.

"The judicial review petition is a systematic attack on our local regulations," says Margaretha Quina, an attorney at the Indonesian Center for Environmental Law ([ICEL](#)).

Last month, ICEL and other environmental law experts filed an amicus curiae brief to the Supreme Court, showing that the Indonesian Waste Management Act makes it everyone's legal obligation to reduce plastic waste.

ELAW Staff Scientist Dr. Mark Chernaik is now working with the group as it mobilizes to submit a second brief, to help judges understand how recycling single-use plastic, straws, and styrofoam is not technically or economically feasible.

"Overwhelming evidence shows that styrofoam containers, plastic straws, and plastic bags are incapable of being commercially recycled," says Mark.

ELAW is pleased to partner with the *Break Free From Plastic* movement to challenge the plastic menace in Indonesia and around the world.

[*ELAW Press Release, 14/05/2019*]

WORLD

Global school climate strikes

Hundreds of thousands of children and young people walked out of lessons around the world on 24 May 2019 as the school strike movement against climate change continued to snowball.

The climate strikes were planned in more than 1,400 cities in more than 110 countries. Organisers say in excess of 1.4 million young people participated to protest against the climate crisis.

The global campaign – inspired by Swedish teenager Greta Thunberg – comes amid increasing concern about the unfolding climate crisis, especially among young people. The school strike movement started last August when Thunberg, then 15, held a solo protest outside the Swedish parliament. Since then hundreds of thousands of schoolchildren have taken part in strikes each week around the world from Australia to Canada, Ghana to Germany.

These young participants believed that by walking out of school and taking to the streets to say "enough is enough", they could help protect their own future.

[*The Guardian, 24/05/2019*]

We consume 50,000 plastic particles a year

The average person eats at least 50,000 particles of microplastic a year and breathes in a similar quantity, according to a study in USA.

Microplastic pollution is mostly created by the disintegration of plastic litter and can be found everywhere around the world. They have been detected in tap and bottled water, seafood and beer. They were also found in human stool samples, confirming that people ingest the particles.

The health impacts of ingesting microplastic are unknown, but they could release toxic substances. Some pieces are small enough to penetrate human tissues, where they could trigger immune reactions.

The European Commission warned that increasing scientific evidence of the hazards of uncontrolled microplastic pollution, combined with its long-term persistence and irreversibility, suggests that reasonable and proportional measures should be taken to prevent the release of microplastics.

[*The Guardian*, 05/06/2019]

Carbon emissions from energy industry increase

Carbon emissions from the global energy industry in 2018 rose at the fastest rate in almost a decade after extreme weather and surprise swings in global temperatures stoked extra demand for fossil fuels.

Carbon emissions climbed by 2% in 2018, faster than any year since 2011, as the demand for energy easily outstripped the rapid roll-out of renewable energy.

An influential global energy report suggested that the increase in the number of extreme weather events and increasing demand for energy could be a worrying vicious cycle: the increasing levels of carbon leading to more extreme weather patterns, which in turn trigger higher energy consumption (and carbon emissions) as households and businesses seek to offset their effects.

The report also revealed that two-thirds of the increase in world's energy demand was due to higher demand in China, India and the US, which was in part due to industrial demand, as well as the "weather effect". This was spurred by an outsized energy appetite in the US, which recorded the highest number of days with hotter or colder than average conditions since the 1950s.

The report further acknowledged that emissions might have been higher without the growth of renewable energies, which climbed by 14.5% in 2018. However, the increase in renewable energies would need to have climbed by more than twice the rate achieved over the past three years to offset the impact of burning coal for electricity.

[*The Guardian*, 11/06/2019]

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Convictions under environmental legislation: March to May 2019 (June 2019 data not available)

[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:

March 2019

Forty-four convictions were recorded in March 2019 for breaches of legislation enforced by the Environmental Protection Department (EPD).

Seven of the convictions were under the Air Pollution Control Ordinance, 5 were under the Noise Control Ordinance, 1 was under the Public Cleansing and Prevention of Nuisances Regulation, 18 were under the Product Eco-responsibility Ordinance, 12 were under the Waste Disposal Ordinance, and 1 was under the Water Pollution Control Ordinance.

The heaviest fine in March was \$40,000, assessed against a company which failed to comply with the requirements of a noise abatement notice.

April 2019

Eighty-five convictions were recorded in April 2019 for breaches of legislation enforced by the Environmental Protection Department (EPD).

Ten of the convictions were under the Air Pollution Control Ordinance, 1 was under the Dumping at Sea Ordinance, 5 were under the Noise Control Ordinance, 8 were under the Public Cleansing and Prevention of Nuisances Regulation, 12 were under the Product Eco-responsibility Ordinance, 47 were under the Waste Disposal Ordinance, and 2 were under the Water Pollution Control Ordinance.

The heaviest fine in April was \$20,000, assessed against a person who discharged waste/polluting matter into a water control zone.

May 2019

Ninety-five convictions were recorded in May 2019 for breaches of legislation enforced by the Environmental Protection Department (EPD).

Eleven of the convictions were under the Air Pollution Control Ordinance, 6 were under the Noise Control Ordinance, 4 were under the Public Cleansing and Prevention of Nuisances Regulation, 13 were under the Product Eco-responsibility Ordinance, 60 were under the Waste Disposal Ordinance, and 1 was under the Water Pollution Control Ordinance.

The heaviest fine in May was \$60,000, assessed against a company which discharged waste/polluting matter into a water control zone.

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