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URBAN PLANNING AND ENVIRONMENTAL LAW QUARTERLY

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Air pollution is the one environmental problem generally recognised as such by Hong Kong's community and government. However, such awareness has not translated to a robust, effective prevention and remediation programme, which is the subject of the main article in this edition.

The Editors

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SLOW PROGRESS IN REDUCING AIR POLLUTION

Hong Kong's air quality standards

The government, through the Environmental Protection Department (**EPD**) is responsible for leading the fight to reduce Hong Kong's notorious air pollution. It does this mainly by setting legally enforceable maximum levels for the emission of stipulated air pollutants. These limits are mandated and published from time to time by the EPD in Technical Memoranda pursuant to Section 37 (B) (1), *Air Pollution Control Ordinance* (Cap311) (**APCO**), which is the source of the EPD's air quality process and responsibilities.

The government's initiatives to encourage a change-over from combustion engine road transport to electric vehicles and the elimination of the use of sulphur-based fuels by shipping in Hong Kong's waters are other main component of its air quality improvement programme. However, we shall be focussing here on the emissions limitations aspect.

Hong Kong's air pollutants and their sources

Main pollutants

Since 2000 the EPD has published an annual *Air Pollutant Emission Inventory*. In 2022, the *Inventory* listed six major air pollutants:

- sulphur dioxide
- nitrogen oxide
- respirable suspended particulates (RSP or PM10)
- fine suspended particulates (FSP or PM2.5)
- volatile organic compounds
- carbon monoxide

The principal sources of these pollutants are:

- non-combustion sources
- public electricity generation
- road transport
- navigation
- civil aviation
- other combustion sources, e.g. machinery operating on construction sites
- hill fires

Monitoring air pollution

The EPD has monitoring apparatus stationed throughout Hong Kong, such as road-side monitoring devices. Data collected are used to prepare the daily *Air Quality Index* (**AQI**).

Six air pollutants are covered by the AQI:

- PM2.5
- PM10
- Ozone (O_3)
- Nitrogen dioxide (NO_2)
- Sulphur dioxide (SO_2)
- Carbon monoxide

Of these, five are emitted directly from ground sources.

Ozone is created by sunlight reacting with nitrogen oxide and volatile organic compounds. Ironically, ozone's role as a polluting agent has actually been increased by the world-wide adoption of measures to combat reduction of the ozone layer in the atmosphere.

Current air quality

The main indicator pollutant used by the EPD (and most of the world's environmental agencies) for assessing general air quality is PM2.5. These are extremely small particles, with a diameter of less than 2.5 micrometres.

The main sources of PM2.5 are:

- Vehicle emissions
- Coal-fired power station
- Industry/factories
- Fires (smoke)
- Smoke from wood heaters

PM2.5 cause significant respiratory problems if present in surrounding air in sufficient quantities. This pollutant causes millions of deaths each year, according to *State of Global Air.* PM2.5 are measured as micrograms per cubic metre, expressed as $\mu g/m^3$. Measuring is done by the EPD using an aerosol sample or a PM2.5 monitor.

The EPD publishes the AQI as a daily update of its assessment of Hong Kong's general air quality.

On 1 September 2025, for example, the PM2.5 reading was 16.28 $\mu g/m^3$, which is 3.3 times the guideline value recommended by the Word Health Organization. On that day, the AQI described Hong Kong's air pollution as "moderate", on a scale of: (1) low (2) moderate (3) high (4) very high (5) serious. On 10 September 2025, the AQI included a PM2.5 measure of 6.1 $\mu g/m^3$, 1.2 times the WHO guideline.

The AQI provides different health advice for people having different degrees of susceptibility to air pollution.

In its paper *Air Quality in Hong Kong* (August 2025), the EPD said:

"*The implementation of a comprehensive vehicle emission control programme has brought along substantive air quality improvement. From 2004 to 2024, the roadside levels of fine suspended particulates, respirable suspended particulates and nitrogen dioxide have reduced by 63%, 61% and 36% respectively.*" (although it is not clear what the base line year is).

According to the 2024 global air quality rankings compiled by *IQ Air*, Hong Kong ranked 64th for air quality.

Reducing polluting emissions

EPD's wide role

The scheme for improving Hong Kong's air quality is grounded on the EPD's wide powers under the APCO to set and enforce maximum levels for polluting emissions. The limitations are applied as both caps on total emissions from the designated source, and the obligation to apply for a licence to operate certain designated processes which are deemed to be serious potential sources of pollution: Part IV, APCO.

Hong Kong's coal-fired power stations are the best known and most prominent of such static sources. There are others, however, such as incinerators and concrete batching plants. Annex 1 of the APCO contains the full list of the 31 specified processes subject to more stringent emissions controls.

The EPD has much wider responsibilities apart from setting emission caps and controlling the specified processes' emission licences programme. Briefly, the EPD is obliged to declare *Air Quality Objectives* (**AQOs**), which must be reviewed at least once every five years, when a report must be submitted to the Advisory Council on the Environment: Sections 7 and 8, APCO.

There are AQOs for 7 pollutants: (1) sulphur dioxide (2) PM10 (3) PM2.5 (4) nitrogen dioxide (5) ozone (6) carbon monoxide (7) lead. For example, the current AQO for PM2.5 is 24-hour 37.5 $\mu g/m^3$; annual 15 $\mu g/m^3$ (exposure). The WHO's corresponding guideline is 25 $\mu g/m^3$ and 10 $\mu g/m^3$.

The other main plank of the EPD's overseeing role under the APCO is legislating "technical memoranda" which set out "principles, procedures, guidelines, standards and limits for the"

(a) measurement, prediction or assessment of air pollution caused or contributed to by the operation of a polluting process;

(b) issue of pollution abatement notices; and

(c) determination of whether an abatement notice (issued under section 10, APCO) has been complied with: Section 9, APCO.

Additionally, the EPD may publish *Codes of Practice*: Section 37. Four *Codes of Practice* have been issued to date: Annex 2, APCO. A breach of the Code is not an offence *per se*, but the fact of the breach may be relied on to establish or negate any liability which is in question.

The EPD also can declare *Air Control Zones* to which specified pollution controls apply: Section 6.

As well as setting the standards, the EPD has the vitally important responsibility of enforcing those standards and the provisions of the APCO.

New Technical Memorandum

According to the EPD, the Tenth Technical Memorandum, to be implemented in 2030, will significantly reduce permitted emissions of sulphur dioxide (SO_2), nitrogen oxides (NO_x) and respirable suspended particulates (PM10 and PM2.5). The new emission limits align with Hong Kong's target of zero carbon dioxide by 2050, according to the EPD.

Licensing specified processes

Under the current Ninth Technical Memorandum, Hong Kong's coal-fired power stations (as an example of a "specified process") are licensed to emit stipulated maximum levels of 3 designated pollutants: nitrogen oxide, sulphur dioxide and respirable suspended particulates.

The electricity generators covered by these restrictions are the following power stations:

- Lamma and Lamma Power Station Extension
- Black Point
- Castle Peak
- Penny's Bay Gas Turbine

Factors taken into account by the EPD when assessing a licence application include: the aggregate of total electricity output; the aggregate of total "sent out" electricity output from the designated Renewable Energy System plus other clean energy systems regarded as relevant by the Secretary for the Environment.

The public has 30 days (from publication of the licence application) to object to the application. Grounds for objecting are limited to: (1) the subject emitting source (when operating) will jeopardise attainment of applicable APOs, or (2) the emissions will be prejudicial to health.

A licence is valid for the period specified by the EPD, which must not be less than 2 years: Part IV, APCO.

The electricity companies may trade their emission allowances on the market to meet their emission caps.

Enforcement of air quality standards

As the enforcement agency under the APCO, the EPD has two main avenues for ensuring compliance with the Technical Memoranda, namely: (a) issuing an abatement notice to the subject polluter requiring it to take the steps specified in the notice to abate the source of the polluting emissions, such steps to be completed within the time stated in the notice: Section 10, APCO; and (b) prosecuting the offender for an offence under the APCO (such as breach of a licence condition or an emission cap): Section 47 and 47A (personal liability of company offences).

Prescribed maximum penalties for APCO offences are a fine of HK$100,000-500,000 and 6-12 months gaol. The highest penalties apply to repeat offenders.

In fact, to date courts have invariably treated APCO offences as less serious than other crimes and so penalties have generally been very much at the lower end of the penalties scale, even for persistent repeat offenders. This is a point highlighted in previous editions of the UPELQ and will be touched on again in the next edition which will review the government's performance in securing improved air quality for Hong Kong.

Conclusion

Whilst the framework of the APCO is a solid foundation for achieving the much-needed improvement in air quality, more could be done to more effectively clean up our air, and to make the machinery of the legislation more robust in combatting Hong Kong's persistent air pollution sources. This will be the topic of the next edition of the UPELQ.

TOWN PLANNING

Approved Clear Water Bay Peninsula North Outline Zoning Plan amended

On 26 September 2025, the Town Planning Board announced amendments to the approved *Clear Water Bay Peninsula North Outline Zoning Plan (OZP).*

The amendments mainly involve:

1. rezoning a site at the junction of Clear Water Bay Road and Ngan Ying Road from "Green Belt" ("GB") to "Government, Institution or Community (1)" ("G/IC(1)") annotated Area (d) for the proposed campus extension of the Hong Kong University of Science and Technology;

2. rezoning a site to the east of Tai Po Tsai from "Comprehensive Development Area (1)" ("CDA(1)"), "GB", "Village Type Development" ("V") and areas shown as 'Road' to "Residential (Group B)"; and

3. rezoning four strips of land to the east of Tai Po Tsai from "CDA(1)" to "GB", "V" and "Residential (Group C)7" to reflect the as-built development.

[*Town Planning Board Press Release*, 26/09/2025]

Approved Shek Kong Outline Zoning Plan amended

On 17 October 2025, the Town Planning Board announced amendments to the approved *Shek Kong Outline Zoning Plan (OZP).*

The amendments mainly involve:

1. rezoning a site to the south of Kam Sheung Road and west of Lai Uk Tsuen from "Residential (Group D)" to "Residential (Group C)".

[*Town Planning Board Press Release*, 17/10/2025]

Approved Ngau Tam Mei Outline Zoning Plan amended

On 31 October 2025, the Town Planning Board announced amendments to the approved *Ngau Tam Mei Outline Zoning Plan (OZP).*

The amendments mainly involve:

1. taking forward the land use proposal for the Ngau Tam Mei New Development Area formulated under the Land Use Review Study for Ngau Tam Mei Area - Feasibility Study jointly commissioned by the Civil Engineering and Development Department and the Planning Department, which include rezoning of areas in Ngau Tam Mei for the development of the University Town (including the third medical school), the integrated medical teaching and research hospital, as well as a residential neighbourhood with government, institution and community facilities and open space; and

2. rationalising the zonings of various sites.

[*Town Planning Board Press Release*, 31/10/2025]

Approved Tung Chung Valley Outline Zoning Plan amended

On 31 October 2025, the Town Planning Board announced amendments to the approved *Tung Chung Valley Outline Zoning Plan (OZP).*

The amendments mainly involve:

1. rezoning a site at the junction of Yu Tung Road and Chung Mun Road from "Residential (Group C)2" to "Residential (Group B)" with stipulation of building height restrictions;

2. rezoning of six strips of land near Hau Wong Temple, Ngau Au and Shek Mun Kap from area shown as 'Road' to "Commercial (2)" ("C(2)"), "Open Space" ("O"), "Government, Institution or Community" ("G/IC"), "Village Type Development", "Green Belt", "Other Specified Uses annotated Polder" and "Conservation Area";

3. rezoning of a small piece of land near Hau Wong Temple from "G/IC" to "O"; and

4. revision of the stipulated building height restriction of a small piece of land to the south of Hau Wong Temple zoned "G/IC" from 4 storeys to 1 storey.

[*Town Planning Board Press Release*, 31/10/2025]

DIGEST OF LEGISLATION

Landmark ordinance to regulate subdivided units.

The Government has welcomed the Legislative Council's passage of the Basic Housing Units Bill on 26 September. The new Ordinance establishes a regulatory regime for subdivided units (SDUs) to ensure safe and reasonable living conditions, aiming to comprehensively address the long-standing issue of substandard SDUs.

The Basic Housing Units Ordinance mandates that SDUs meet minimum standards covering area, height, fire and structural safety, sanitation, and utilities. Letting an unrecognised SDU will be a criminal offence, with liability falling on the landlord, not the tenant.

The Ordinance will be gazetted on 3 October and take effect on 1 March 2026. A 12-month registration system for existing SDUs will begin simultaneously, granting a 36-month grace period (from 1 March 2027 to 28 February 2030) for owners to make necessary alterations and apply for recognition. Early applicants will benefit from fee reductions or waivers.

With approximately 110,000 SDUs housing approximately 220,000 residents, the Government will adopt a pragmatic enforcement approach from 1 March 2027, considering public housing supply and offering rehousing assistance where needed.

The Secretary for Housing, Ms Winnie Ho, stated that this policy, alongside other initiatives to boost public housing supply, aims to resolve the deep-rooted issue of poor-quality SDUs and ensure dignified living conditions for all.

Before the Ordinance takes effect, the Government will conduct publicity activities to help stakeholders understand and comply with the new regime.

[*Press Release, Government of Hong Kong*, 26/09/2025]

WEST KOWLOON CULTURAL DISTRICT

Quay opens as multi-modal gateway

The launch of the West Kowloon Cultural District (WestK) Ferry service and the opening of WestK Quay on 15 November 2025 represent a strategic urban planning intervention by the West Kowloon Cultural District Authority (WKCDA). This project directly supports key planning objectives for Hong Kong, including enhancing multi-modal transport connectivity, revitalising the Victoria Harbour waterfront, and establishing the West Kowloon Cultural District (WestK) as a premier cultural and tourism hub.

This initiative is a practical implementation of Hong Kong's long-standing transit-oriented development (TOD) principles and its harbourfront revitalisation policy. By creating a new, high-frequency ferry link to Central Pier No. 9 (an 8-minute journey), the project alleviates pressure on cross-harbour road and rail corridors while providing a scenic and efficient public transport alternative. WestK Quay itself is designed as more than a utilitarian pier; it is a key piece of public infrastructure that activates the water's edge. Its integration with the Art Park promenade and the introduction of curated food and beverage outlets transform the area into a vibrant leisure destination, embodying the goal of creating a dynamic, people-centric harbourfront.

WestK as a planning catalyst

The 40-hectare WestK is a cornerstone of Hong Kong's strategic planning to develop knowledge-based and cultural economies. As a flagship cultural hub featuring world-class institutions, such as M+ and the Hong Kong Palace Museum, its success is contingent on excellent accessibility. The Quay functions as a multi-modal gateway, accommodating not only the dedicated WestK Ferry but also other public water transport and, from 1 December 2025, pre-booked private vessels. This enhances accessibility for both local visitors and tourists, facilitating flexible itineraries that connect marine transport directly to the district's cultural venues and supporting broader economic and tourism objectives.

Event and service details

Timeline: A public trial run will be held from 10 to 13 November 2025, followed by an official ceremony on 14 November. Full public service commences on Saturday, 15 November 2025.

Celebratory Offer: To mark the launch, 3,000 free adult tickets and 500 free pet tickets will be distributed for the opening weekend (15-16 November), available from 8:00 am on 10 November at WestK Quay and Central Pier No. 8 (max. two per person).

Service Features: The ferry will depart every 30 minutes, with extended hours on weekends. The service is pet and bicycle-friendly. A monthly pass option is available for regular commuters.

The WestK Quay and Ferry project is a clear example of integrated urban planning, where transport infrastructure is leveraged, not just for mobility but as a catalyst for place-making, economic vitality, and the successful realisation of a major cultural district.

[*West Kowloon Cultural District Authority Press Release*, 07/11/2025]

NORTHERN METROPOLIS

2025 policy address unveils strategy to accelerate the Northern Metropolis

The Chief Executive's 2025 Policy Address has unveiled a comprehensive strategy to accelerate the Northern Metropolis project through new legislation and flexible policies. A key measure will be the introduction of dedicated legislation designed to streamline procedures across critical areas. This law will empower the government to establish statutory industry park companies, facilitate the cross-boundary flow of people and goods, expedite building approvals, and speed up land resumption compensation.

The governance structure will be reinforced by a new high-level committee, chaired by Chief Executive John Lee, which replaces the existing steering committee. This committee will oversee three specialised working groups. The Financial Secretary will lead a group focused on developing public-private partnership models, while the Chief Secretary will manage the planning of the Northern Metropolis University Town. A third group, led by the Deputy Financial Secretary, will oversee the end-to-end planning and implementation process.

To encourage private enterprise participation, the government will adopt flexible land policies. These will include allowing land tenancy terms to exceed seven years and using various grant methods, such as tender or direct allocation based on specific industry needs. A "pay for what you build" policy will base land premiums on the actual built area rather than the maximum permitted, with options for phased payments to reduce upfront costs for developers.

The development will integrate innovative construction approaches, including a trial "phased development" model in Hung Shui Kiu. Inspired by the Mainland's "1.5-level development," this approach involves building low-density retail and entertainment facilities first to attract businesses before the full-scale long-term development. This strategy aims to create early momentum for the project.

The plan also strengthens integration with Shenzhen, particularly in the Hetao Shenzhen-Hong Kong Innovation & Technology Zone. The first three buildings in the Hong Kong Park are already completed. The remaining five are scheduled for completion by 2027. The government will adopt a "moving in while construction is underway" approach for Phase 2, allowing companies to establish operations earlier. Additionally, the 210-hectare San Tin Technopole is positioned as a strategic innovation hub, with a detailed development plan to be released within the year.

[*The Standard,* 17/09/2025]

Government begins blueprint for Northern Metropolis university town

The government has begun work on a blueprint for the Northern Metropolis University Town (NMUT), with a conceptual development plan expected in 2026. Education Secretary Christine Choi Yuk-lin confirmed that universities have submitted preliminary proposals, which were adjusted after the NMUT site was expanded.

The plan aims to integrate industry and academia, fostering collaboration between institutions to enhance the Northern Metropolis development. Additionally, Hong Kong seeks to attract more international students, particularly from ASEAN and Belt and Road countries, with a new task force to promote higher education.

To boost overseas enrolment, Direct Subsidy Scheme (DSS) schools will be allowed to expand class sizes for self-financed non-local students, starting as early as 2026/27. However, Choi said that local students' admission chances will not be affected, as schools must ensure sufficient teaching resources.

The government sees China and India as key student markets, and emphasises diversity and internationalisation in higher education. The NMUT project aligns with Hong Kong's strategy to strengthen its role as a global education hub.

[*The Standard*, 28/09/2025]

HONG KONG BRIEFING

Environmental group urges decisive action on waste reduction

Following the government's announcement that it will shelve the municipal waste charge scheme, environmental group *The Green Earth* has urged authorities to take decisive action on waste reduction. The group expressed concern that without the charging scheme, which was intended as a key policy, the city may fail to meet its goal of cutting the per capita municipal solid waste disposal rate by 40 to 45 per cent by 2035.

The government defended its decision by citing public opinion, stating that approximately 70 to 80 per cent of residents believed it was inappropriate to implement the "punitive" charge at this time. Instead, the authorities plan to focus on "assistive and encouraging" measures, pointing to a recent decrease in waste disposal as evidence that current efforts are working.

However, The Green Earth countered that this decline may be a temporary result of the economic downturn rather than effective policy, and the volume could rebound. The group argued that the government's previous publicity for the scheme was ineffective and that the public did not understand its true environmental purpose. They called for in-depth educational work to regain public support for the principle of waste charging as a tool for environmental improvement.

[*Hong Kong Free Press*, 25/09/2025]

Chief executive announces plan to protect coastal environment

Chief Executive John Lee has announced that the government will strengthen the management of popular eco-tourism sites. This decision comes after the Sharp Island coastal site in Sai Kung was overwhelmed by a large influx of visitors during the National Day holiday period. *Greenpeace Hong Kong* reported that over 4,000 people visited the island on a single day, leading to activities that damaged the environment, including the illegal anchoring of boats in coral zones, and visitors disturbing coastal organisms, littering, and having illegal fires.

In response, Mr. Lee stated that the authorities would enhance their efforts by paying greater attention to environmental protection, reviewing transportation arrangements to the beauty spots, and deploying multiple government departmental peronnel on days when large visitor numbers are anticipated. Specific measures will include the installation of more signage and improved maintenance of site hygiene. Furthermore, the Agriculture, Fisheries and Conservation Department (AFCD) is considering the possibility of incorporating ecologically valuable coastal areas into the marine reserve system for greater protection.

The AFCD has confirmed that while the overall health of the coral around Sharp Island remains good, there is evidence of new damage to corals in shallow waters frequented by swimmers. The government aims to balance public access to natural beauty spots with the crucial need for conservation, ensuring that sites like Sharp Island, which is part of a UNESCO Global Geopark, are protected from the detrimental effects of over-tourism.

[*Hong Kong Free Press*, 14/10/2025]

Monitoring network reports success of regional air policies

A report on air quality in 2024 under the Guangdong-Hong Kong-Macao Pearl River Delta Regional Air Quality Monitoring Network, released on November 7, confirms a long-term improvement in regional air quality. The annual average concentrations of key pollutants—sulphur dioxide (SO_2), nitrogen dioxide (NO_2), carbon monoxide (CO), PM_{10}, and $PM_{2.5}$—have seen significant declines, dropping between 18% and 86% from their peak levels.

This success is attributed to coordinated efforts and tailored policies from the three regions:

- Hong Kong has implemented measures from its Clean Air Plan 2035 and Climate Action Plan 2050, including tightening Air Quality Objectives, phasing out older diesel vehicles, promoting electric vehicles (EVs), and establishing marine emission control areas.
- Guangdong Province has enacted various action plans and standards focusing on reducing emissions from volatile organic compounds (VOCs), industrial sources, and diesel trucks.
- Macao is promoting EVs through subsidy schemes, phasing out high-pollution vehicles, regulating VOC content, and increasing renewable energy.

The monitoring network, consisting of 23 stations across the region, is managed collaboratively. Looking forward, the three governments have committed to continuing their joint efforts to further improve air quality in the Greater Bay Area.

[*Press Release, Government of Hong Kong*, 07/11/2025]

ADVISORY COUNCIL ON THE ENVIRONMENT (ACE)

The 270th meeting of the Advisory Council on the Environment (ACE), held on 27 June 2025, featured an in-depth discussion of the update of the *Hong Kong Biodiversity Strategy and Action Plan (BSAP)* under Item 3 of the agenda. This discussion centred on progress achieved so far, proposed updates to the BSAP, challenges in biodiversity conservation, and new strategies to align with global and national frameworks. Members provided insights and suggestions to enhance Hong Kong's performance in biodiversity conservation, ensuring its contributions are significant on both local and international levels.

Update of the Hong Kong Biodiversity Strategy and Action Plan (BSAP)

The proposed updates to the BSAP were introduced by representatives from the Agriculture, Fisheries and Conservation Department (AFCD) and the Environment and Ecology Bureau (EEB). Members stressed the importance of aligning Hong Kong's four strategic areas and proposed actions with the 27 priority actions of China's *National Biodiversity Conservation Strategy and Action Plan (NBSAP*) (2023–2030) and the 23 targets of the *Kunming-Montreal Global Biodiversity Framework (KMGBF*). They believed such alignment would address public concerns about perceived gaps between local actions and global targets. Members noted that effectively mapping the BSAP's strategies to these frameworks would better demonstrate Hong Kong's commitments and contributions. In response, AFCD representatives assured members that the updated BSAP had been developed with full reference to both the NBSAP and KMGBF, while also considering Hong Kong's unique circumstances. Further improvements to the presentation of the updated BSAP were promised to ensure clarity and comprehensiveness.

Members discussed the global target under the KMGBF of conserving at least 30% of terrestrial, inland water, marine, and coastal areas by 2030. It was noted that Hong Kong had already designated over 40% of its land and approximately 5% of its sea as protected areas. While these figures were high compared to other jurisdictions, AFCD representatives assured members that efforts to enhance these areas would continue. For example, the Sham Wan Restricted Area had been substantially expanded to cover over 90 hectares of sea area near Lamma Island, providing greater protection for the sea turtle breeding ground.

The discussion also highlighted the need for measurable goals to track Hong Kong's progress. Members recommended setting key performance indicators (KPIs) and establishing a comprehensive baseline to ensure fair and accurate assessments of achievements under the updated BSAP. They suggested that public contributions to biodiversity efforts should also be highlighted to encourage wider participation. AFCD representatives agreed to consider adopting the City Biodiversity Index, which is a quantitative tool recommended by the Secretariat of the Convention on Biological Diversity to monitor progress relative to a baseline.

Some members raised the importance of including fisheries, agricultural activities, and the restoration of old villages in the updated BSAP. They argued that these areas play critical roles in the overall nature conservation landscape. AFCD acknowledged these suggestions and agreed to incorporate these elements into the updated plan.

The issue of gender equality in conservation efforts was also discussed. Members suggested that the government should invite more female participation in public advisory bodies related to nature conservation, as recommended in the KMGBF. AFCD confirmed that a benchmark for minimum female representation in public advisory bodies had been established and that gender representation would continue to be considered in future appointments.

Nature conservation

The discussion under this subheading acknowledged the government's success in improving biodiversity and water quality. Members praised initiatives such as the trawler ban and the Harbour Area Treatment Scheme (HATS), which had led to significant improvements in the biodiversity of Victoria Harbour. It was reported that more species, including 35 types of corals, were now thriving in the harbour. Members proposed that these successes could be leveraged to address climate change challenges. They suggested planting coral species reliant on photosynthesis in deeper waters, where improved water quality allows sunlight to penetrate further, to mitigate the effects of summer heatwaves on coral survival rates.

Concerns were raised about the decline in fish populations in the southern waters due to intensive use of purse seine fishing nets. Members argued that a multipronged approach was needed to ensure sustainable fishing. This would include regulating fishing equipment, vessel capacity, fishing practices and the intensity of fishing activities.

Emerging challenges in habitat restoration were also discussed, with members citing the example of an increasing population of long-spined sea urchins. Global warming had shortened their reproduction cycles, while warmer waters had reduced the availability of large algae. As a result, sea urchins were feeding on plants growing on corals, inadvertently damaging the corals. AFCD representatives confirmed that the government would continue to strengthen conservation measures to address such emerging challenges.

Members urged the adoption of innovative technologies to enhance biodiversity conservation. Suggestions included the use of environmental DNA, remote sensing, drones, and artificial intelligence (AI). AFCD said that AI systems were already being used to monitor hill fires and detect illegal wildlife feeding activities. They assured members that further exploration of new technologies would continue.

There was also a call for a comprehensive review of Sites of Special Scientific Interest (SSSIs) to ensure their scientific value remained relevant. Members recommended reviewing policies related to Other Effective Area-Based Conservation Measures (OECM) and incorporating concepts such as the ecological protection red line (EPRL). AFCD confirmed that these suggestions would be considered in conjunction with national updates.

Finally, members proposed updating outdated legislation, particularly those provisions related to illegal hunting. AFCD replied that ordinances were regularly reviewed, citing , as an example, recent updates to the *Wild Animals Protection Ordinance*, which prohibits illegal feeding of wildlife and strengthened penalties.

Publicity and education

The importance of incorporating biodiversity and nature conservation into school curricula was highlighted. Members recommended introducing relevant content at all levels, from kindergarten to university, to foster awareness from an early age. AFCD representatives shared that they were already collaborating with the Education Bureau (EDB) to organise experiential learning activities for younger students and promotional programmes for tertiary institutions.

Citizen science programmes were recognised as important tools for fostering community involvement. Examples such as sparrow censuses, reef checks, and other similar initiatives were cited as valuable for biodiversity monitoring and public engagement.

Members emphasised the need for experiential learning opportunities, especially for students. They suggested organising more parent-child activities and using videos or other media to showcase the government's environmental achievements. AFCD assured members that they would enhance educational efforts and expand opportunities for public engagement.

The formation of strategic partnerships with organisations like Ocean Park was suggested to improve public education on biodiversity. Members also proposed including marine parks and geoparks in educational initiatives. Additionally, members recommended establishing a nature history museum to showcase Hong Kong's biodiversity and promote tourism. AFCD agreed to explore these ideas further.

There was a recommendation to increase public awareness about the risks of hill fires, especially during grave-sweeping seasons. Members also proposed collaborations with companies and charitable organisations to promote tree planting and community education on proper animal release practices.

Deepening mainstreaming

Members praised the progress made in mainstreaming biodiversity within government departments, such as the Architectural Services Department and the Civil Engineering and Development Department (CEDD). They encouraged extending this effort to the business and finance sectors in the next phase of the BSAP.

Discussions of green finance highlighted the potential to fund biodiversity projects through sustainable investment initiatives. Members proposed including nature conservation as a specific category in the Hong Kong Taxonomy for Sustainable Finance and encouraging the use of green bond proceeds for biodiversity projects. AFCD confirmed that "Nature Conservation/Biodiversity" was already an eligible theme under the *Government Sustainable Bond Programme.*

Members also stressed the importance of clear definitions and guidelines for nature-based solutions to avoid greenwashing. AFCD informed members that guidelines were being developed in collaboration with CEDD and the Hong Kong Green Building Council.

Capacity building

There was a discussion of the global trend of companies to integrate biodiversity into their environmental, social, and governance (ESG) policies. Members noted that while enterprises were willing to incorporate biodiversity into their practices, they often lacked the technical knowledge for implementation. They stressed the importance of capacity building and collaboration with enterprises to address this gap.

To support accurate environmental reporting, members suggested establishing a working group comprising representatives from both the academic and financial sectors. This group would focus on gathering reliable data for scope 3 carbon emissions and other biodiversity-related reporting requirements.

Collaborative partnering

Regional collaboration within the Greater Bay Area (GBA) was identified as a priority for enhanced biodiversity conservation. Members sought more details on plans for cross-boundary conservation efforts. AFCD explained that the NBSAP served as a policy-level framework, guiding efforts to develop mechanisms for regional collaboration. Specific initiatives included the conservation of wetlands, ecological corridors, and marine life in partnership with Guangdong Province and Shenzhen.

Members proposed leveraging the expertise of local and international experts to enhance biodiversity efforts. AFCD confirmed that experts had been involved in developing the first BSAP and subsequent implementation work, and this collaboration would continue.

Conclusion

The discussion on the update of the BSAP demonstrated strong support from ACE members for the government's efforts in biodiversity conservation. Members provided detailed recommendations concerning aligning the BSAP with global and national frameworks, setting measurable targets, utilising innovative technologies, and enhancing public education and engagement. They also emphasised the importance of mainstreaming biodiversity across sectors, fostering regional collaboration, and leveraging green finance to support conservation initiatives.

AFCD assured members that their feedback would be incorporated into the updated BSAP, with a more concrete proposal expected by the end of the year. Members commended AFCD's achievements in the first phase of the BSAP and encouraged the department to maintain its momentum in positioning Hong Kong as a leader in biodiversity conservation.

CLIMATE CHANGE

This year will be among top three warmest years on record

In a stark reminder of the accelerating climate crisis, the World Meteorological Organization (WMO) has announced that 2025 is set to become the second or third warmest year ever recorded. This finding, published in the State of the Global Climate Update for 2025, means that the past eleven years (2015-2025) will individually stand as the eleven warmest in the planet's 176-year observational history, with the last three years being the very hottest.

The global mean temperature for the first eight months of 2025 was 1.42 °C above pre-industrial levels, underscoring a sustained and exceptionally high warming trend. While this figure is slightly below the record 1.55 °C of 2024, it firmly places the world on a trajectory that makes it "virtually impossible to limit global warming to 1.5 °C in the next few years without temporarily overshooting this target," according to WMO Secretary-General Celeste Saulo.

Key indicators of a changing planet

The WMO report highlights several key climate indicators that continue to signal alarm, painting a comprehensive picture of a planet in distress.

- **Record greenhouse gases**: The atmospheric concentrations of carbon dioxide (CO_2), methane, and nitrous oxide reached record-high observed levels in 2024. Preliminary data from 2025 suggest they are rising even more than feared, ensuring global long-term temperature increase.

- **Ocean heat and sea level rise**: The ocean, which absorbs over 90% of the excess heat trapped by greenhouse gases, reached a new record heat content in 2025. This warming contributes to higher sea-levels, which have nearly doubled in rate since the early 1990s.

- **Cryosphere in decline**: The Earth's frozen zones are under severe stress. Arctic sea ice extent after the winter freeze was the lowest on record. Meanwhile, glaciers worldwide have suffered their largest annual mass loss on record, contributing significantly to sea-level rise.

- **Extreme weather impacts**: Throughout 2025, extreme events—from devastating rainfall and floods to brutal heatwaves and wildfires—have had cascading impacts on lives, livelihoods, and food systems, contributing to displacement and undermining economic progress across multiple regions.

A dual reality: climate crisis and growing resilience

The report arrives as world leaders gather for the UN Climate Change Conference (COP30) in Belém, Brazil, serving as a science-based reference to anchor negotiations in authoritative evidence. UN Secretary-General António Guterres cited the findings, warning that "Each year above 1.5 °C will hammer economies, deepen inequalities and inflict irreversible damage".

Amid the dire warnings, the WMO also highlights critical progress in global resilience. Significant advances have been made toward the UN's Early Warnings for All initiative, which aims for universal coverage by 2027. Since 2015, the number of countries reporting multi-hazard early warning systems has more than doubled, jumping from 56 to 119 in 2024. This expansion is credited with saving lives and protecting community livelihoods. Similarly, nearly two-thirds of national meteorological services now provide climate services, a substantial increase from just 35% five years ago.

The path ahead

Despite this progress, gaps remain. Forty percent of countries still lack multi-hazard early warning systems, indicating an urgent need for continued investment. The WMO also emphasises that as the climate crisis influences renewable energy supply and demand, integrating climate data is essential for building reliable and flexible clean energy systems for the future.

Secretary-General Saulo concluded with a message of resolve, stating that while a temporary overshoot of the 1.5°C target is now almost certain, the science is "equally clear that it's still entirely possible and essential to bring temperatures back down to 1.5 °C by the end of the century". The report stands as a urgent call for action "at great speed and scale" to make the overshoot as small, short, and safe as possible.

[*World Meteorological Organization*, 06/11/2025]

How solar power is shaping geopolitics

In the month of May this year, China created more new wind and solar capacity than the electricity, from all sources, that Poland installed in the entirety of 2024. The sheer scale of Chinese industrial policy has made the mass global proliferation of clean energy a very real possibility. Could it eventually save the planet?

"Ninety percent of new electric generation around the world last year came from sun and wind and batteries," said Bill McKibben, speaking on FP Live. "This isn't 'alternative' anymore. It's the most obvious way to proceed."

McKibben is an environmentalist whose 1989 book *The End of Nature* is widely seen as one of the first to bring the idea of climate change into public consciousness. His new book, *Here Comes the Sun*, is altogether more hopeful, arguing that advances in solar panels and batteries could make a real dent in the race to reduce the impacts of climate change.

It could also have a profound impact on geopolitics.

"Think about what the geopolitics of our planet would have looked like over the last 100 years if oil had been of relatively trivial value," McKibben said. "Think of the wars and coups and assassination attempts and terrorist plots that would have been avoided if the world was running on power sources available everywhere. It's a remarkable shift to go from a commodity that can be hoarded and stored and that produces extraordinary wealth for a relatively tiny coterie of people to an energy system that runs on something that happens every day, every place. We're starting to see people and countries recognize that."

Has the United States ceded this space to China? "When world historians write about the last nine months, they'll describe the voluntary self-surrender of global leadership from the United States to China," McKibben said.

[*Foreign Policy*, 21/11/2025]

COP30 secures key finance and adaptation wins

The UN climate summit COP30 concluded on a note of deep division this past Saturday, failing to secure a global consensus on a pathway away from fossil fuels. The final agreement, however, delivered landmark financial commitments for climate adaptation and new initiatives to spur implementation of existing climate plans.

The conference, held in the Amazonian city of Belém, was billed as a moment of truth a decade after the Paris Agreement. It instead revealed a fractured global consensus, with more than 80 countries supporting a formal roadmap to end fossil fuel use and over 80 others, led by major petrostates, firmly opposing it.

A summit of contrasts

The outcome of COP30 is a tale of both significant achievement and profound disappointment. The most glaring omission was the failure to include any direct reference to fossil fuels—the primary driver of climate change—in the final decision text, despite a strong campaign from some nations, including the UK, EU, and Colombia.

In a closed-door meeting that underscored the tensions, a Saudi delegate reportedly told EU negotiators, "We make energy policy in our capital not in yours". This deadlock forced the Brazilian presidency to propose a face-saving compromise: the development of voluntary roadmaps on fossil fuels and deforestation outside the formal UN process, the legal standing of which remains uncertain.

Alongside these setbacks, the summit also achieved several notable breakthroughs:

- **Climate finance:** In a landmark decision, nations pledged to mobilise $1.3 trillion annually by 2035 for developing countries, with a specific call to triple adaptation finance by the same year. However, the 2035 timeline for adaptation was later than the 2030 date many vulnerable nations had urgently sought.

- **Fossil fuels:** The final text contained no formal roadmap for a transition away from fossil fuels. This was a major disappointment for the over 80 supporting countries. The Brazilian Presidency will instead develop an external, voluntary roadmap, highlighting the deep divisions that petrostates successfully used to oppose binding language.

- **Implementation:** To close the ambition gap, COP30 launched a Global Implementation Accelerator and the "Belém Mission to 1.5°C". These initiatives are designed to move from negotiation to action by helping nations actually achieve their existing climate plans (NDCs).

- **Nature & forests:** A major win for the host nation was the launch of the Tropical Forests Forever Facility, which successfully raised over $6.7 billion to pay tropical countries for forest conservation. While a positive step, it fell notably short of its initial $25 billion target.

Leadership and geopolitical tensions

The Brazilian leadership of COP30 came under intense scrutiny. While President Lula vocally championed roadmaps away from fossil fuels, the COP President, André Corrêa do Lago, prioritised consensus, knowing that forcing the issue would rupture the talks. This internal tension complicated negotiations.

Geopolitics also played a significant role. The absence of a US delegation, following President Donald Trump's decision to leave the Paris Agreement, created a power vacuum. Veteran negotiator and former Germany climate envoy Jennifer Morgan noted this was a "hole" in the negotiations, leaving allies like the EU without a key counterweight to oil-producing nations. China, meanwhile, maintained a low political profile, focusing on commercial deals in the clean energy sector.

The road ahead after Belém

In the wake of the summit, the work is far from over. The Brazilian COP30 Presidency has committed to developing its own roadmaps for a just transition away from fossil fuels and for halting deforestation outside the formal UN process. The newly launched Global Implementation Accelerator and Belém Mission to 1.5°C will also begin their work, with a mandate to report on progress at COP31 in Türkiye next year.

The legacy of the Belém conference may well be that it forced the world to confront the gap between its climate ambitions and its political will. While it delivered crucial financial tools and a new focus on implementation, the failure to tackle the root cause of the climate crisis has left many questioning the future of the COP process itself. The challenge for COP31 will be to prove that international cooperation can still rise to the greatest challenge of our time.

[*BBC,* 23/11/2025]

Triple planetary crisis demands integrated policy solutions

In a press release delivered on 26 November 2025, the Organisation for Economic Co-operation and Development (OECD) has warned that the interlinked crises of climate change, biodiversity loss, and pollution are being exacerbated by fragmented government policies. The report, titled "The Triple Planetary Crisis: How to Address the Interlinked Threats of Climate Change, Biodiversity Loss and Pollution," argues that a siloed approach is inefficient and that integrated solutions are urgently needed to address these challenges effectively.

The OECD's analysis highlights the profound connections between the three crises. For example, climate change accelerates biodiversity loss by forcing species to adapt to rapidly shifting temperatures, while the destruction of ecosystems like forests and peatlands—which are vital carbon sinks—worsens global warming. Similarly, certain pollutants not only harm human health and wildlife but also contribute directly to climate change.

"These crises share common drivers, notably in our fossil fuel-based energy systems and resource-intensive consumption patterns," said OECD Secretary-General Mathias Cormann. "But they are also linked in their solutions. We cannot solve one in isolation from the others."

The report identifies a critical "policy gap," where government actions to address one problem can inadvertently worsen another. The OECD cites the example of biofuels, which are often promoted to cut carbon emissions but can lead to biodiversity loss if their production involves converting wild lands into monoculture farms. Similarly, some measures to combat pollution might consume high levels of energy, thereby increasing a nation's carbon footprint.

To bridge this gap, the OECD is calling for a more coherent and synergistic policy framework. The key recommendations include:

1. **Aligning climate and biodiversity targets:** Governments should ensure their national climate plans (NDCs under the Paris Agreement) are fully aligned with their national biodiversity strategies (under the *Kunming-Montreal Global Biodiversity Framework*). This means prioritizing nature-based solutions, such as protecting and restoring wetlands and forests, which simultaneously capture carbon, support rich ecosystems, and filter pollutants.

2. **Repurposing environmentally harmful subsidies:** The report identifies a major opportunity in reforming the nearly $1.8 trillion spent annually by governments on subsidies for fossil fuels and agriculture that are harmful to the environment. Phasing out these subsidies and redirecting the funds toward clean energy and sustainable farming would tackle all three crises at once while freeing up significant public money.

3. **Adopting a "whole-of-government" approach:** Policy-making must break out of its silos. Environmental ministries cannot solve these problems alone. The report urges greater coordination between ministries of finance, energy, agriculture, and transport to develop policies that create "co-benefits" across climate, nature, and pollution goals.

The economic case for this integrated approach is powerful. The OECD points out that acting synergistically is far more cost-effective than dealing with each crisis separately, saving public funds and reducing the future costs of inaction.

"With public budgets under strain, improving the efficiency of climate, biodiversity and pollution-related spending is more essential than ever," the report states.

The findings serve as a crucial input for upcoming international negotiations, including the COP30 climate conference. The message to world leaders is clear: the path to a sustainable future requires policies that work in concert, recognising that the health of the planet, its ecosystems, and its people are inextricably linked.

[*Organisation for Economic Co-operation and Development*, 26/11/2025]

REGIONAL & INTERNATIONAL

AFRICA

Africa's forests now emit more carbon than they absorb

In a stark reversal with profound implications for the global climate, Africa's vast forests have been transformed from a vital carbon sink into a net source of carbon emissions, a major new study has concluded. The research indicates this critical shift occurred after 2010, meaning the continent's forests are now adding more carbon dioxide to the atmosphere than they are absorbing.

The comprehensive study, published in the journal *Scientific Reports*, was conducted by an international team of scientists. They utilised high-resolution satellite data, machine learning, and extensive field measurements to create a detailed map tracking changes in biomass across Africa.

Their analysis reveals a dramatic turn. Between 2007 and 2010, the continent's forests were a net sink, gaining a substantial amount of biomass each year. However, this trend reversed decisively in the following years. From 2010 onwards, the continent began to experience a net loss of forest biomass annually. This loss equates to a weight comparable to over one hundred million cars being released into the atmosphere each year.

The primary cause of this shift is identified as extensive deforestation, particularly within tropical moist broadleaf forests. Nations such as the Democratic Republic of Congo, Madagascar, and several in West Africa were highlighted as experiencing the most severe losses. While some gains in biomass were noted in savanna regions, these were far too small to compensate for the destruction of dense, carbon-rich forests.

Senior scientists involved in the study have described the findings as a "critical wake-up call for global climate policy." They warn that the loss of this natural carbon sink means deeper and faster emissions cuts will be required from industrial and energy sectors worldwide to meet international climate targets. The authors are urging policymakers to strengthen forest protection laws and scale up international financial initiatives designed to pay tropical nations for preserving their forests.

[*The Guardian*, 28/11/2025]

AUSTRALIA

Heaviest trucks go electric with zero-emission freight depot

Transport is shaping up as one of Australia's biggest carbon challenges, and one of the hardest to solve.

Already the nation's third-largest source of greenhouse emissions, it is on track to become the highest-emitting sector by 2030 as electricity generation continues to clean up.

The federal Department of Climate Change, Energy, the Environment and Water 2023 projections show transport emissions will continue to rise slightly to 2030 while other sectors are expected to decline.

"Australia is an extremely road freight-dependent country," said Daniel Bleakley, co-chief executive and co-founder of New Energy Transport.

“We’re the second-most road-freight-dependent country in the world after the United States, and we also have the heaviest trucks in the world. “If we can decarbonise heavy freight, we can make a huge impact on reducing transport emissions overall.”

New Energy Transport plans to establish a pilot fleet of heavy electric trucks in Wilton, south-west of Sydney, by the middle of 2026. The company says it will be Australia’s largest electric trucking depot.

The site will initially house up to 50 heavy electric prime movers, with plans to grow the fleet to 200 vehicles by 2031.

Wilton hub

The depot will be set up alongside Australia 's busiest freight route – the Hume Highway.

“It's a fantastic location because we've got good access to the Hume Highway and down to the Illawarra,” Mr Bleakley said. “There are approximately 5,000 trucks going up and down Picton Road to the Illawarra every day, and about 3,800 heavy trucks on the Hume Highway. We're positioning ourselves right in the middle of this extremely dense freight corridor.”

The depot will be powered by a mix of grid electricity and on-site solar, about 3 to 5 megawatts, with high-powered chargers capable of fully recharging the 600 to 700 kilowatt-hour truck batteries in under an hour.

“If we can run these electric trucks on low-cost renewable energy, we can reduce both emissions and the cost of heavy road freight,” Mr Bleakley said.

Electric trucks ‘light years ahead’

The concept was put to the test recently in what New Energy Transport believed was the longest single-charge electric truck delivery ever completed in Australia.

Partnering with Multiquip, a major poultry transport and logistics company based in Liverpool, the team ran a 36-tonne electric prime mover from Picton to Beresfield in the Hunter and back again, about 480 kilometres on a single charge.

Multiquip national compliance manager David Muir, whose company supplied the chicken, said the test was a revelation. “I was sceptical at the start I still love proper diesel trucks,” he said. “But this thing was light-years ahead. It was significantly faster uphill, kept up with traffic easily, and the torque delivery was immediate. Each direction we saved about 20 minutes compared to our diesel trucks.”

Multiquip, which operates a fleet of about 500 trucks nationwide, found the electric truck not only matched diesel for range and cost, but offered surprising advantages.

“It was extremely quiet, [and] the driver said it was just so easy to drive,” Mr Muir said. “Less noise, less vibration, no exhaust fumes, it's a far better environment for drivers. They were able to arrive at their destination still feeling pretty fresh.”

He said the trial showed that for hub-to-hub freight within a few hundred kilometres, electric trucks could already compete. “The electricity it used compared to diesel was a fraction,” Mr Muir said. “It's early days, and infrastructure is the big challenge, but what we've seen so far is very promising.”

Mr Bleakley believed those challenges were surmountable and that regional Australia could be at the forefront of powering a zero-emission freight future. “If we transition the entire truck fleet to electric, we'll need about 20 per cent more electricity nationally,” he said. “But unlike diesel, that energy can be produced locally from renewables. That means we can make our freight network more resilient, cut costs, and keep food and goods moving even if global fuel supplies are disrupted.”

[*ABC Business*, 03/11/2025]

Thousands blockade world's largest coal port

In a powerful fusion of protest and festival, thousands of activists have converged on the port of Newcastle, New South Wales, to stage a six-day blockade of the world's largest coal export hub. The annual event, orchestrated by the group Rising Tide, has become a major fixture in Australia's environmental calendar, drawing citizens from across the nation to demand urgent government action on the climate crisis.

The gathering, dubbed a "protestival," combines direct action with a celebratory community atmosphere. While hundreds of protesters in kayaks and small boats have formed a flotilla to physically halt coal shipments, the shore has been alive with music concerts and a protest camp, creating a determined yet festive atmosphere.

Organisers estimated that over 7,000 people would participate throughout the weekend. The heart of the action has been the sustained waterborne blockade, where activists have successfully prevented multiple coal carriers from entering or leaving the port, demonstrating the potency of their peaceful civil disobedience.

The protesters have united behind three core demands: an immediate halt to all new coal and gas projects in Australia, a government-funded fair transition for fossil fuel workers and their communities, and a hefty tax on fossil fuel export profits to fund climate initiatives.

The authorities have responded with a firm stance. New South Wales police established a marine exclusion zone across most of Newcastle Harbour and adopted a "zero-tolerance approach" to breaches. A government minister defended the safety restrictions, arguing that entering the

shipping channel intentionally endangered lives. By the weekend, police reported over 140 arrests, with some activists facing charges under stringent anti-protest laws that carry potential prison sentences.

The personal motivations of attendees spanned generations. A 22-year-old organiser, who has been protesting since she was 15, explained, "People are terrified about the impacts of climate change… They're angry our government isn't doing more and is still continuing to approve new coal and gas projects."

This sentiment was echoed by an 85-year-old great-grandmother from Queensland, attending for her third year. "I'm here because I have grandchildren and great-grandchildren and I'm really concerned about their future," she said. "What am I leaving for them?"

For many, the risk of arrest was a calculated cost. One Newcastle parent who entered the water as part of the protest stated that the personal consequences of being arrested "pale into insignificance compared to the consequences that runaway climate change will have on our community and the lives of our children."

As the event continues, the Newcastle "protestival" stands as a vivid symbol of increasing public impatience, blending direct action with cultural expression to pressure the government for a faster transition away from fossil fuels.

[*The Guardian*, 28/11/2025]

BRAZIL

Cows for Climate

Brazil's JBS, the world's largest meat company, has delivered 123,765 ear tags to individually track cattle in Para state, according to a statement on Monday, marking a possible turning point in efforts to halt deforestation in the Amazon.

Para passed a law in late 2023 requiring that ranchers in the state identify their cattle by the end of 2026.

Under the initiative, JBS said it aims to deliver 2 million tags in partnership with the Nature Conservancy, a non-governmental organization, to small ranchers in the state.

Of the total tags so far delivered to farmers, 65,902 are already attached to animals' ears on 89 farms in the state, JBS said. The move enabled JBS' Maraba beef plant to process individually tracked cattle in Para for the first time.

Individually tracking each animal in Para represents a daunting task, as the state boasts a cattle herd of 26 million, about the size of the one in Australia.

But the move could be a turning point in the struggle to halt the destruction of the world's largest rainforest, as cattle and soybean cultivation have been a key driver of deforestation in the region.

[*Nature Conservancy Press Release*, 10/10/2025]

CHILE

Indigenous agricultural systems honoured for climate resilience and heritage

In a significant recognition of traditional farming practices, two ancestral agricultural systems in Chile have been designated as Globally Important Agricultural Heritage Systems (GIAHS) by the United Nations Food and Agriculture Organisation (FAO). These sites, rooted in the knowledge and culture of Indigenous peoples, are celebrated for their sustainable methods, biodiversity conservation, and resilience to climate change, offering vital lessons for the future of global food production.

The newly recognised systems are located in the contrasting environments of Chile’s northern Andean highlands and the southern Pehuenche mountain ranges. They bring Chile’s total number of GIAHS sites to three, contributing to a regional total of 11 systems across five Latin American countries. Globally, 104 such systems are now recognised for their unique contributions to heritage, biodiversity, food diversity, and climate resilience.

In the arid, high-altitude regions of Antofagasta, Arica y Parinacota, and Tarapacá, Indigenous Aymara, Quechua, and Likan Antay communities have sustained an integrated agricultural system for centuries. Operating between 3,000 and 4,500 metres above sea level, it skilfully combines the herding of camelids—primarily llamas and alpacas—with the cultivation of native crops like quinoa, maize, and potatoes. This system is uniquely adapted to extreme conditions, including severe temperature fluctuations, aridity, and scarce water. Practices such as rotational grazing, seasonal transhumance, and the use of terraced fields with micro-irrigation sustain the fragile landscape. Crucially, collective water governance, based on customary norms, ensures equitable and sustainable resource use. Women are central to this system, leading seed conservation, food processing, and the intergenerational transmission of knowledge, thereby strengthening both cultural continuity and community nutrition.

Far to the south, in the forested valleys and mountains of the Ngulumapu territory, the Mapuche-Pehuenche people maintain a deeply spiritual and diversified system. It harmonises biodiverse homegardens, forest gathering, and the seasonal movement of livestock between highland and lowland pastures. At its heart is the sacred pewen, or Araucaria araucana tree, the edible seeds of which, known as piñones, are a nutritional cornerstone and central to social identity and ceremonial life.

The homegardens, managed primarily by women, host hundreds of cultivated and medicinal species, bolstering food security, health, and agro-biodiversity. The practice of transhumance helps maintain the productivity of high mountain ecosystems, whilst forest gathering reinforces

profound cultural and ecological bonds. The entire system embodies the Mapuche principle of *Itrofil Mogen*—respect for all life—expressed through ceremonies, reciprocal exchange networks, and collective territorial governance.

The FAO's GIAHS programme aims to identify, safeguard, and support such agricultural systems precisely because they represent a living, evolving foundation for the future. As noted by Kaveh Zahedi, Director of the FAO's Office of Climate Change, Biodiversity and Environment, these designations remind us that agricultural heritage is not merely a relic of the past. Instead, they demonstrate how food production, biodiversity conservation, and cultural identity can powerfully reinforce one another. In an era of climate uncertainty, these systems offer concrete, time-tested pathways for making global agrifood systems more resilient and sustainable for coming generations.

This recognition is also the result of long-term efforts in Chile to document and strengthen agricultural heritage, supported by a Global Environment Facility-funded initiative implemented by the FAO in partnership with the Chilean Ministry of Agriculture. By honouring these landscapes, the international community highlights the invaluable role of Indigenous knowledge and traditional practices in forging a sustainable and climate-resilient future for all.

[*Food and Agriculture Organization of the United Nations*, 13/11/2025]

EUROPE

Water reserves are drying up

A stark new scientific analysis has revealed that vast swathes of Europe's vital water reserves are drying up, offering a clear signal of climate breakdown on the continent. The findings, which track two decades of data, show a pronounced north-south divide, with freshwater storage shrinking dramatically across southern and central Europe.

Scientists from University College London (UCL), working with Watershed Investigations and the Guardian, analysed satellite data from 2002 to 2024. The satellites track minute changes in Earth's gravitational field. Because water is heavy, shifts in groundwater, rivers, lakes, and soil moisture effectively allow the satellites to "weigh" how much water is stored across the continent.

The data paints a picture of a continent increasingly split by its water fortunes. The north and north-west—particularly Scandinavia, parts of the UK, and Portugal—have been getting wetter. Conversely, large swathes of the south and south-east are drying out. This affected area includes parts of Spain, Italy, France, Switzerland, Germany, Romania, and Ukraine, as well as the drier eastern regions of the UK.

Professor Mohammad Shamsudduha, a professor of water crisis and risk reduction at UCL, stated that this should be a "wake-up call" for politicians, as the world is now witnessing the consequences of heading towards 2°C of warming above pre-industrial levels. He confirmed that the trends in total water storage broadly correlate with climate data.

A critical part of the analysis involved isolating data for groundwater storage —the hidden freshwater reserves in underground aquifers. The research found that trends in these typically more climate-resilient water bodies mirrored the overall picture, confirming that Europe's foundational freshwater reserves are being depleted.

The trends within the UK are mixed but concerning. "Overall, the west is getting wetter while the east is becoming drier and that signal is getting stronger," explained Professor Shamsudduha. He highlighted a key challenge: rainfall patterns are changing, with heavier downpours that lead to runoff and flash floods, and longer dry spells. This can shorten the winter groundwater recharge season, posing a serious threat to south-east England, where groundwater supplies about 70% of public water.

Hannah Cloke, a professor of hydrology at the University of Reading, expressed distress at the long-term trend. She warned that without sufficient rainfall, England could face severe water restrictions in the coming spring and summer, making "everybody's life very difficult." Official warnings have already been issued that England must prepare for a drought that could continue into 2026.

Whilst the government has pointed to the development of new reservoirs, Professor Cloke argued that this is not an immediate solution. She advocated for a faster rollout of conservation measures , such as water reuse, using less water and implementing nature-based solutions.

The drying trend will have "far-reaching" impacts beyond direct water shortages. It threatens food security, farming, and water-dependent ecosystems. Professor Shamsudduha pointed out that Spain's shrinking reserves could directly affect the UK, which relies heavily on that country and others for fruit and produce.

The study underscores that the kinds of climate impacts long seen across the global south are now "much closer to home." Professor Shamsudduha called for better water management and an openness to new ideas, including widespread rainwater harvesting in countries like the UK.

"We need to accept that climate change is real, it's happening and it's affecting us," he said.

[*The Guardian*, 29/11/2025]

SINGAPORE

Singapore's shade offers a blueprint for cooler cities

As global temperatures rise, cities worldwide are grappling with the deadly urban heat island effect. One nation, however, has long treated shade not as a luxury but as a critical piece of urban infrastructure: Singapore. This island city-state's decades-long, systematic cultivation of shade offers a compelling model for how metropolises can adapt to an increasingly sweltering world.

The origins of Singapore's shaded landscape are historical. The concept of covered walkways, known as "five-foot ways," was codified in the very first town plan by British colonial official Stamford Raffles in 1822. This vision was revived and radically expanded by modern Singapore's founding prime minister, Lee Kuan Yew. Believing humidity stifled economic productivity, Lee pursued shade with fervour, famously frequently chastising planners over poorly designed footpaths.

Under his direction, Singapore developed a multi-faceted approach. The government erected over 200 kilometres of covered walkways and canopies, linking housing estates to public transport. Crucially, urban planning mandates ensure new developments contribute to this "shade network," often requiring building overhangs. Unlike in cooler climates where building shadows are discouraged, Singapore's planners encourage them, to cool public plazas.

While "grey" shade from structures is widespread, greenery remains paramount. Lee demanded a "clean and green" Singapore, seeing it as vital for attracting investment. His government integrated trees into planning from the outset, burying utilities to allow for lush, broad-canopied growth along streets. Strong policies, including eminent domain and conditioning building occupancy on planted trees, ensured greenery flourished across all neighbourhoods, making shade an equitable resource rather than an indicator of wealth.

The results are striking. From 158,600 urban trees in 1974, Singapore now boasts 1.4 million, with almost half the island covered in vegetation, even as its population has grown by millions. This demonstrates that urban density and green space can coexist.

Experts note that Singapore's success stems from a rare alignment of political will, long-term vision, and a favourable tropical climate. As former researcher Daniel Burcham notes, Lee's government provided the sustained "material resources and political support" needed. This coherence allowed Singapore to become simultaneously denser and greener.

The benefits are measurable. Studies suggest walking under shaded walkways feels 14% shorter than in full sun. In the afternoons, skyscraper shadows create the city's coolest zones, while at night, leafy public housing estates can be 1-2°C cooler than commercial areas. This directly impacts public health, as shade mitigates the risks of heat-related illness.

Singapore's model is not without caveats. Its unique governance structure and climate are significant advantages. Yet, the core lesson is transferable: intentional, government-led planning of shade infrastructure is a powerful tool against urban heat. For cities from Miami to Manila, Singapore proves that a cooler, more liveable urban future is within reach—if there is the will to plan for it.

[*BBC*, 23/09/2025]

SOUTH KOREA

Fishing industry caught in climate change's vicious cycle

The fishermen of South Korea are paying the ultimate price for a warming planet, with a deadly spike in maritime accidents linked directly to the escalating impacts of climate change. In 2024, 164 people were killed or went missing in the seas around the Korean Peninsula—a staggering 75% increase from the previous year—with most victims being fishermen.

The primary driver is a rapidly changing marine environment. The seas around South Korea are warming at more than double the global average, with surface temperatures rising by 1.58°C since 1968. This intense warming is fuelling more frequent and unpredictable extreme weather. Government data reveals that official marine weather warnings for gales, storm surges, and typhoons surged by 65% between 2020 and 2024 alone.

"The weather has changed, it's getting windier every year," said Hong Suk-hui, chairman of the Jeju Fishing Boat Owners Association, who lost five crew members when a sudden whirlpool capsized his vessel. "Whirlwinds pop up suddenly. We fishermen are convinced it is down to climate change."

This dangerous new normal is creating a perfect storm of risk. Warmer waters are causing staple fish species, like the valuable silvery hairtail and anchovy, to migrate northwards or vanish from traditional grounds. Catches of squid have plummeted by 92% over the past decade, forcing fishermen to journey farther into deeper, more perilous waters to secure their livelihoods.

"Since we're operating farther away, it's not always possible to return quickly when there's a storm warning," explained boat owner Kim Seung-hwan. "If we stayed closer to shore it would be safer, but to make a living we have to go farther out."

The crisis is compounded by a hollowed-out workforce. With young people abandoning the struggling industry, almost half of all South Korean fishermen are now over 65. Elderly captains increasingly rely on migrant crews from Vietnam and Indonesia, who often lack sufficient safety training and face communication barriers, heightening the danger.

Authorities recognise the urgency, launching a government taskforce which has identified climate change as a major cause of the accidents. New safety measures are being rolled out, including mandatory life jackets, safety training for foreign crews, and better real-time weather

updates. Some regions are even offering to buy hauled-in jellyfish—a species thriving in the disrupted ecosystem—to help clean the seas and provide alternative income.

However, with the UN forecasting South Korea's total fish catch to decline by nearly a third by 2100 if emissions continue, the future remains bleak. For veteran anchovy fisherman Captain Park Hyung-il, the romance of the sea has faded into a daily struggle. "The sea is a mess, nothing makes sense anymore," he lamented, his nets now filled more with jellyfish than fish. "These days it's just really tough."

[*BBC*, 24/10/2025]

WORLD

Green turtles no longer endangered

Green sea turtles are bouncing back thanks to decades of sustained conservation action, the International Union for Conservation of Nature (IUCN) announced earlier this month.

The species' latest assessment was carried out in December 2024 and showed that the global population has increased since the 1970s, leading to its reclassification on the IUCN Red List of Threatened Species from "endangered" to "least concern".

Established in 1964, the list is one of the world's most comprehensive source of information on the global extinction risk status of animal, fungus and plant species. It counts 172,620 species, of which 48,646 are threatened with extinction.

"Conservation efforts have focused on protecting nesting females and their eggs on beaches, expanding community-based initiatives to reduce unsustainable harvest of turtles and their eggs for human consumption, curtailing trade, and using Turtle Excluder Devices and other measures to reduce the accidental capture of turtles in fishing gear," the IUCN said in a press release.

Roderic Mast, Co-Chair of IUCN's Species Survival Commission Marine Turtle Specialist Group, said the recovery is a "powerful example of what coordinated global conservation over decades can achieve."

"Such approaches must focus not only on the turtles, but on keeping their habitats healthy, and their ecological functions intact," Mast added.

Conservation groups worldwide welcomed the reclassification.

WWF's Global Marine Turtle Conservation Lead Christine Madden called is "a major win for turtle conservation and proof that coordinated action can reverse populations at risk of extinction."

"This is a major milestone globally, but it's not a time to be complacent. Conservation efforts must continue for green turtle populations to continue to thrive and recover in areas where they remain threatened by fishing gear entanglement, overfishing and loss of habitats," she added.

The green sea turtle is the second largest of seven sea turtle species and has an incredibly wide geographical distribution, nesting in over 80 countries and inhabiting the temperate, tropical coastal waters of approximately 140 countries.

For decades, threats such as habitat loss, climate change, pollution, invasive species, commercial fishing and the illegal wildlife trade continue to contribute to the species' decimation. Throughout the late 20th century, global populations experienced a 48-67% decline, according to the IUCN. But conservation efforts allowed the species to bounce back, with a population increase of approximately 28% compared to 1970s and 1980s levels.

"Despite multiple, consistent, and in some cases increasing (e.g., climate change impacts) threats, conservation efforts to protect nesting females and their eggs, and those to reduce harvest pressure, have been successful in many places around the world," the IUCN said.

However, some subspecies, including those living in Costa Rica and Hawaii, remain threatened, and changes to their population numbers could lead to a reclassification of their Red List status in the future.

Global biodiversity still dropping

While the comeback of green turtles is a reason for celebration, the Red List's latest update confirmed what scientists have long warned: global biodiversity is dwindling at an alarming rate due to human activities (like habitat destruction) climate change and pollution.

The IUCN found that 61% of bird species have declining populations – up from 44% in 2016. Of the 11,185 bird species assessed, 11.5% are threatened, primarily by deforestation and habitat degradation.

In the Arctic, which is warming four times faster than the rest of the world, seals are closer to extinction, mainly due to sea- ice loss.

Meanwhile, six new species moved to the Extinct category, including the Christmas Island shrew (*Crocidura trichura*); a species of cone snail (*Conus lugubris*); the slender-billed curlew (*Numenius tenuirostris*), a migratory shorebird; and *Diospyros angulata*, a species in the same genus as ebony trees.

[*Earth.Org Press Release*, (21/10/2025]

This Quarterly Report does not constitute legal advice given on any particular matter. Whilst all effort has been made to ensure completeness and accuracy at the time of publication, no responsibility is accepted for errors and omissions. Further information and enquiries in respect of this quarterly should be directed to Fred Kan & Co.

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Convictions under environmental legislation: September to November 2025 (December 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:

September 2025

Fifty-six convictions were recorded in September 2025 for breaches of legislation enforced by the Environmental Protection Department.

Seven of the convictions were under the Air Pollution Control Ordinance, 2 of the convictions were under the Environmental Impact Assessment Ordinance, 16 were under the Noise Control Ordinance, 5 were under the Public Cleansing and Prevention of Nuisances Regulation, 1 was under the Product Eco-responsibility Ordinance, 23 were under the Waste Disposal Ordinance and 2 were under the Water Pollution Control Ordinance.

A company was fined $20,000, which was the heaviest fine in September, for contravening the provisions of a licence.

October 2025

Twenty-three convictions were recorded in October 2025 for breaches of legislation enforced by the Environmental Protection Department.

Five of the convictions were under the Air Pollution Control Ordinance, 6 were under the Noise Control Ordinance, 1 was under the Public Cleansing and Prevention of Nuisances Regulation, 3 were under the Product Eco-responsibility Ordinance, 8 were under the Waste Disposal Ordinance.

A company was fined $50,000, which was the heaviest fine in October, for failing to take measures to control air pollutant emission.

November 2025

Fifty-four convictions were recorded in November 2025 for breaches of legislation enforced by the Environmental Protection Department.

Four of the convictions were under the Air Pollution Control Ordinance, 9 were under the Noise Control Ordinance, 32 were under the Public Cleansing and Prevention of Nuisances Regulation, 2 were under the Product Eco-responsibility Ordinance, 6 were under the Waste Disposal Ordinance and 1 was under the Water Pollution Control Ordinance.

A company was fined $15,000, which was the heaviest fine in November, for using powered mechanical equipment without valid construction noise permit.

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