

Clock Is Ticking on Climate Change

Experts report reasons for hope as well as dire warnings on global warning from COP 24 conference

Concerted action to reduce carbon emissions must happen now if the world is to avoid the catastrophic effects of a warming planet. This was the stark warning from COP 24, which took place in December in Poland.

Three Hong Kong-based experts discussed the key takeaways from the annual UN conference on climate change at a Chamber seminar on 16 January.

Grim, cold, overcast and polluted – this was the introduction to Katowice provided by Robert Gibson, Adjunct Professor, Division of Environment and Sustainability at Hong Kong University of Science and Technology.

The city that hosted COP 24 does not sound like much of a holiday destination. But Katowice, a coal-mining hub, also showed the visiting delegates that moving away from fossil fuels is not easy.

“The transition from coal to something else really knocks the guts out of the local economy,” Gibson said.

Gibson, like the other speakers, said that one of the biggest talking points at the event was the “Global Warming of 1.5°C” report – widely known as the 1.5 Report. Released in October by the UN Intergovernmental Panel on Climate Change, the report found that the world needs to cut its carbon emissions drastically by 2050 if it is to stay on track of 1.5°C warming above pre-industrial levels.

The report compared a 1.5°C increase with 2°C, which would have much more severe consequences, such as the melting of the Greenland ice cap, leading to sea levels rising by as much as 7 metres. But the world is currently not on track to achieve the 1.5°C target.

“We need to do good earth stewardship to get off this path towards ‘Hothouse Earth,’” Gibson said, adding that even to remain within the 1.5°C target was “a hell of an ask.”

But it is not impossible, and he presented a range of different options that would keep the Earth within a relatively safe temperature increase. The first does not involve the use of carbon capture. “To achieve this, we all live like monks, eat vegetarian and never

fly anywhere,” he explained. “Humanity will not vote for this one.”

Other options all involve differing degrees of BECCS – bio-energy with carbon-capture storage. “We need massive BECCS if we are to continue our current lifestyles,” Gibson said.

Fortunately, he explained, the necessary BECCS technology has already been developed, or is within sight. Other developments give reason for optimism. In the shipping industry, for example, a switch to hydrogen fuel is under way.

Gibson added that “Wright’s law” – the more you produce, the better the product – means that the cost of renewable energy should drop to the point where it can compete with fossil fuels.

John Sayer, Research Director at CarbonCare Innolab, shared with members two of the most discussed speeches from COP 24. One was by the British broadcaster David Attenborough, who warned of the collapse of civilization, and the other by Swedish teenager Greta Thunberg, who criticized governments for not listening to scientists.

One disappointment of COP 24 was that the plan to officially welcome the

應對氣候變化刻不容緩

專家匯報聯合國氣候峰會的結論，就全球暖化現象提出樂觀的理由和迫切的警告

1.5 Report was blocked by a handful of countries including the United States and Russia. This followed the decision by the U.S. to withdraw from the Paris Agreement.

But Sayer pointed out that most of the world is determined to work together and reduce their emissions. “We are still on track,” he said.

Mainland China has won plaudits in recent years for its attempts to tackle pollution, and was an active participant at COP 24.

“China played a leadership role and a positive role in brokering agreements between developed and developing nations,” Sayer said. “It is also leading on the development of renewable energy.”

But the Mainland is also helping to build coal-fired stations and investing in fossil fuels outside of China.

There are also worrying signs on climate policy from populist leaders, and not just in the U.S.. The local government in Katowice has said it wants to continue mining coal for another 200 years. But this may be a short-sighted approach. “The young people of Katowice do not want to be coal miners,” Sayer said.

He then turned his focus to cities, which are already responsible for three-quarters of the world's carbon emissions.

“There is strong evidence we must start now to achieve carbon neutrality. Cities must lead, and wealthy cities like Hong Kong must be the leader of the leaders,” he said.

So what is Hong Kong doing to reduce its carbon emissions?

Davie Kan, Principal Environmental Protection Officer (Cross-boundary) at the Environmental Protection Department, explained some of the Government's plans.

He told members that it had been his first time at COP, and that he had been struck by the commitment of his fellow attendees. “I could really feel the passion of people trying to do as much as they can to combat climate change.”

The Hong Kong Government is also committed, Kan said, and has been working hard to meet its Paris Agreement requirements. Beside the 2030 targets already in place, which include a significant reduction in emissions, it is developing targets for 2050.

Kan revealed the main source of carbon emissions in Hong Kong is electricity, which accounts for 67%. Of this, 90% is from buildings. “So there is a big need to do something about power generation if we are to reduce carbon emissions,” he said.

To meet its targets, the Government is looking at a range of options including energy and carbon audits, tax concessions and enhancing building efficiency. It has also created some innovative tools to help people understand the importance of the issue.

“We introduced a carbon calculator that has been widely used by schools and young people. It lets you know how your lifestyle is contributing to the problem.”

Transport is the second biggest contributor to Hong Kong's emissions, and the Government also plans to further promote public transport, walking and cycling to make it easier for the public to play their part.

“There is a big scope for all of us to help out in reducing carbon emissions,” Kan said. 🌸



要避免地球日漸變暖的災難性後果，世界各地必須立即採取一致行動，合力減少碳排放。這是12月在波蘭舉行的《聯合國氣候變化框架公約》第24次締約方會議（COP 24）所作出的嚴厲警告。

在總商會1月16日的研討會上，三位香港專家分享年度聯合國氣候大會帶出的主要訊息。

陰沉、寒冷、多雲、污染——香港科技大學環境及可持續發展學部副教授Robert Gibson這樣形容波蘭城市卡托維茲。

COP 24的主辦城市並不像一般的旅遊城市。然而，有「波蘭煤都」之稱的卡托維茲正好向與會的各地代表展示，要減少使用化石燃料也非易事。

Gibson說：「由煤過渡到其他燃料，確實會對當地經濟造成嚴重影響。」

Gibson與其他講者一致表示，會議的討論重點之一是《全球暖化攝氏1.5度》報告，又稱《1.5報告》。該報告由聯合國跨政府氣候變化專門委員會於去年10月發表，指出要把全球暖化的幅度控制在不高於工業革命前水平的攝氏1.5度之內，全球必須在2050年之前大幅減排。

報告比較了氣溫上升攝氏1.5度和2度的影響，結果發現後者帶來的後果嚴重得多，例如格陵蘭的冰川融化，導致海平面上升達七米。不過，全球如今仍未步入實現1.5度目標的軌道。

Gibson說：「我們要做好地球管理，避免陷入『溫室地球』的危機。」但他續道，即使要把氣溫升幅維持在1.5度以內，亦「極為困難」。

但這亦非不可能的任務。就此，他提出各種不同的方案，讓地球氣溫的升幅維持在一個相對安全的水平。第一個方案並不涉及碳收集，他解釋：「要達標，就要人人跟和尚一樣茹素、足不出戶，人類不會支持這個選項。」

其他方案牽涉不同程度的「生物能源與碳收集和儲存」（BECCS）。Gibson表示：「要延續現有的生活方式；我們需要大量的BECCS技術。」

他解釋，幸好所需的BECCS技術已經開發，或即將面世。其他發展也趨樂觀。例如，航運業正逐步轉用氫氣燃料。

Gibson續道，「萊特定律」（Wright's law）指出生產得愈多，產品的質素也愈高，也就是說，可再生能源的成本應可跌到一個能夠與化石燃料競爭的水平。

低碳想創坊研究總監施日莊與會員分享COP 24的兩大熱門話題。其一是英國廣播主持人David Attenborough警告文明瀕臨崩潰，其二是瑞典少女Greta Thunberg批評各地政府無視科

學家的意見。

令人失望的是，原先打算在COP 24上正式通過《1.5報告》的計劃，受到美國和俄羅斯在內的少數國家阻撓。在此之前，美國決定退出《巴黎協定》。

然而，施日莊指出全球大部分國家都決心合力減排。他說：「我們仍然朝著目標邁進。」

近年，中國內地著手應對污染問題，贏得各方的掌聲，而且還積極參與COP 24。

他說：「中國在促成發達與發展中國家締結協定方面，扮演著積極的領導角色。當地還正引領可再生能源的發展。」

不過，內地亦在境外協助興建燃煤電廠和投資化石燃料。

民粹領袖的氣候政策也令人擔憂，而這個趨勢並不限於美國。卡托維茲政府表示，當地在未來200年會繼續採煤。但這種做法或許流於短視。施日莊說：「卡托維茲的年青一代並不想當煤礦工人。」

他接著把焦點轉移到佔全球碳排放四分之三的城市。

他說：「有充分證據顯示，我們必須馬上開始實現碳中和。城市要牽頭做起，而香港等一類富裕城市更要擔起領袖之首的角色。」

那麼，香港又有何行動減少碳排放？

環境保護署首席環境保護主任（跨境）簡頌德解釋政府的計劃。

他向會員表示，這是他首次出席氣候大會，他被其他與會者的投入和承擔深深打動。「我深刻體會到人們竭盡所能，全力應對氣候變化的熱誠。」

簡頌德表示，香港特區政府亦不遑多讓，不斷努力達到《巴黎協定》的要求。除了已訂下的2030年目標，包括大幅減排，當局亦正為2050年制訂目標。

簡頌德透露，香港碳排放的主要源頭是發電，佔總排放量的67%，而當中有九成來自建築物。他說：「因此，要減排的話，就要從發電著手。」

為實現這些目標，政府正探討各種不同的方案，包括能源和碳審計、稅務優惠，以及提升建築物能源效益。當局還推出了一些創新的工具，協助市民了解有關議題的重要性。

「我們推出了碳計算機，讓市民了解自己的生活方式對環境的影響，並獲多間學校和年青人廣泛使用。」

交通是本港第二大的排放源，而政府亦計劃進一步推廣使用公共交通、步行和踏單車，讓市民可輕鬆地出一分力。

簡頌德說：「人人都可出一分力，幫助減少碳排放。」