

# Chinachem Group Sustainability Conference 2022

Creating Social Impact on the Zero Carbon Journey in Hong Kong



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## Summary

### *Design a Net Zero World - A Roadmap to Net Zero*

- Since 1880, the earth's temperature has risen by 0.08°C per decade, but the rate of warming since 1981 is more than twice that: 0.18° C per decade.
- To preserve tomorrow, we must manage over-urbanisation and over-consumption; and tackle the issues of rising seawater and food resilience.
- The net zero equation - reduce emissions + eliminate emissions = net zero - has yet to be solved.
- Is net zero possible? During Covid-19, carbon emissions dropped by 6.4%. Changes to the way people live and work have brought about some positive changes.
- Closing the loop
  - Circularity plays a key role in helping us get to net-zero. Business example: Interface.
    - Start - Audit current emissions and examine current work processes.
    - Operate - Embed net zero in operations, from embodied carbon to waste reduction and logistics; promote behavioural change and accelerate digitalisation.
    - End - Recycle, reuse and upcycle.
- There is a diversity of approaches, including brown economy, which involves partial elimination, and green economy, which starts right, from day 1.
- The net zero building, e.g. Google HQ
  - It is challenging to yield enough energy in high density environments especially in the tropics, i.e. onsite renewable energy production of 5-10%. Behavioural change is key and can result in 10-20% energy savings. Purchase of offsite renewable may account for 70-85%.
  - There are five new paradigms; namely, 1. Intelligent solarisation; 2. Change methods of construction; 3. Rethink how buildings are planned; 4. Smart water management; and 5. Smart waste management.
  - And paradigm shifts. For example, horizontal solarisation is more effective; Mass Engineered Timber to be default; and rethinking the paradigms of live, work and play.
- The net zero culture, eg. Costa Rica, Denmark and Japan
  - Net zero requires a change in organisation, from volunteers, through to C-suite executives until a net zero culture thrives and sustainability is embedded in everyone.
  - A good example of a sustainability culture is Denmark, where around 50% of energy is supplied by renewable sources, and due to the usage and popularity of bikes.
- Roadmap to net zero
  - Net Zero People - People are the most important drivers of net zero change. We must encourage both top-down and ground-up leadership in the net zero movement.
  - Net Zero Education - A movement must be supported by knowledge. We must invest more effort in sharing ways to achieve net zero.
  - Net Zero Campaign - Efforts must be made to raise awareness of net zero especially among those who don't yet know.
  - Net Zero Innovation - New technology and innovation is critical to advancing net zero. This movement could spark a new renaissance in:
    - Urban planning
    - Architecture and Engineering
    - Transportation and aviation
    - Food and agriculture
    - Finance and economy
    - Information and Communication
- To achieve a net zero world we must commit to taking decisive action while we still have time.



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## 可持續發展論壇 2022 香港零碳之旅 · 創造社會效益



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### 重點

#### 設計淨零世界 - 達至淨零路線圖

- 地球溫度自1880年起每十年上升攝氏0.08度，但由1981年起變暖速度加快至每十年上升攝氏0.18度，比之前超出一倍多。
- 為未來著想，我們必須慎防過度城市化和過度消費；並解決海平面上升和糧食系統韌性等問題。
- 淨零方程式：減少排放 + 停止排放 = 淨零，而這仍有待解決。
- 淨零可行嗎？在2019冠狀病毒病期間，碳排放量下降了6.4%。人們生活和工作方式的改變帶來了一些正面的影響。
- 循環不息
  - 循環不息為實現「淨零」發揮重要作用。商業例子：環保地材品牌Interface。
  - 開始 - 審核現時排放情況及檢視工作流程。
  - 營運 - 從隱含碳以至減廢和物流，將淨零目標融入營運中，促進改變行為習慣，並加快數碼化。
  - 終結 - 回收、重用和升級循環再造。
- 採取多元化的途徑，包括涉及部份廢減的「棕色經濟」(brown economy)和從一開始便全面廢減的「綠色經濟」。
- 淨零建築，例如谷歌總部
  - 在高密度環境中產生足夠能源絕非易事，尤其是在熱帶地區，例如：在現場生產可再生能源的產量僅為能源需求量的5-10%；行為改變至為關鍵，可節省10-20%的能源；而購買外來的可再生能源佔70-85%。
  - 五種新模式：1. 智能日曬；2. 改變施工方法；3. 重新思考建築規劃；4. 智能水利管理；5. 智能廢物管理。
  - 模式轉變：例如：採取更有效的水平式日曬、以採用大規模工程木材 Mass Engineered Timber (MET)為恒常做法，以及重新思考生活、工作和娛樂模式。
- 淨零文化，例如：哥斯達黎加、丹麥和日本
  - 要達至淨零，機構內每個人，從義工至最高管理層都必須作出改變，直至可持續發展的思維植根各人心中，並將淨零文化發揚光大。
  - 丹麥是可持續文化的一個好例子，當地人普遍以單車代步，並且約有50%的能源由可再生能源提供。
- 達至淨零路線圖
  - 淨零人 - 人始終是淨零轉變的最重要推手。要成功推動淨零運動，我們必須分別「由上而下」以及「由下而上」積極推廣。
  - 淨零教育 - 推廣運動需要灌輸有關知識和教育，我們必須投放更多努力分享實現淨零的方法。
  - 淨零運動 - 必須努力提高大眾對淨零的認識，尤其是對淨零仍不太了解的人。
  - 淨零創新 - 新技術和創新對於推進淨零至關重要，並可在以下領域引發新的思維和帶來復興：
    - 城市規劃
    - 建築和工程
    - 運輸和航空
    - 糧食和農業
    - 金融和經濟
    - 資訊和溝通
- 為了實現淨零世界，我們必須及早採取果斷行動。



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