



Ensure access to affordable, reliable, sustainable and modern energy for all

Education

Department Highlight

Energy is inextricably linked to the development and sustainability of cities. HKBU is committed to increasing our students' awareness of renewable energy. The Department of Physics offers courses on green energy science that involve applications of scientific principles and technology. Students can gain hands-on experience through in-class learning, internships and overseas exchange programmes.



Course Highlight

PHYS2026 Renewable Energy Sources and Technologies II, which is also a service-learning course, investigates current practices and upcoming technologies in energy storage, distribution, and efficient energy utilisation. Students are required to create their teaching resources on renewable energy for students with special needs. The service projects are in collaboration with The Boys' and Girls' Clubs Association of Hong Kong and Hong Chi Morninghope School.

Facility

The Asian Energy Studies Centre (AESC)



The AESC, previously the Hong Kong Energy Studies Centre established in 1998, seeks excellence in academic research in sustainable green energy, with a special emphasis on governance in the Asian environment. The AESC aspires to become a globally recognised research hub for sustainable energy in the Asian region.

Event

T · PARK - A Green Journey of "Waste-to-Energy" and "Transformation"

HKBU students had the opportunity to visit the T · PARK, the first facility to turn waste into energy in Hong Kong. The Park embodies the idea of embracing "turning waste to energy" and putting into reality the infinite potentials of a green and sustainable lifestyle. Through the visit, our students gained green insights and learned how to pursue sustainability in their daily lives.





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Highly cited
27%

FWCI
2.27

262
Publications

In top
journals
59%

Research

Tin Halide Perovskite Solar Cells: An Emerging Thin-Film Photovoltaic Technology

This highly-cited research paper, co-authored by Dr Alvin Zhou of Department of Physics, discusses the critical challenges for the further development of TPSCs such as oxidation, high background carriers, uncontrollable crystallization, interface recombination, band alignment, and instability. The team also introduces potential directions for the future development of TPSCs including probing the formation mechanisms of tin perovskite, revealing the basic properties of Sn perovskite, overcoming the stability issue of TPSCs, and understanding TPSC device physics and structure engineering.

More information can be found here:
<http://www.doi.org/10.1021/accountsmr.0c00111>.

Dr Alvin Zhou
Department of Physics



Research

Cross-Border Governance and Sustainable Energy Transition: The Case of the Guangdong-Hong Kong-Macao Greater Bay Area

In this review article, Dr Daphne Mah, Associate Professor of Department of Geography, and HKBU research team provides a conceptual framework of the Guangdong-Hong Kong-Macao Greater Bay Area (GBA) as a top-down project of cross-border governance (CBG). It highlights the importance of the building of institutions for achieving effective cross-border governance, and shows that, for the regional energy cooperation of the GBA, while there is a shift towards environmental governance, attention on renewable and low-carbon energy remains weak. Details of study and the three key recommendations that the team subsequently made can be found here: <http://doi.org/10.1007/s40518-021-00178-4>.



Renewable energy makes up less than 1% of the current energy mix in Hong Kong. The government needs to make good use of the solar potential available at over 1,000 primary and secondary schools to avoid wasting natural resources.



Policy Mixes and the Policy Learning Process of Energy Transitions: Insights from the Feed-in Tariff Policy and Urban Community Solar in Hong Kong

Dr Daphne Mah and her research team bring together the key concepts of policy mixes and policy learning to examine how the effectiveness of renewable energy policies can be improved, with reference to a recent feed-in tariff (FiT) policy in Hong Kong focusing on two prospective solar communities. This paper, published in *Energy Policy*, one of the top journals in its field according to Scopus CiteScore, urges that policy makers should give closer attention to policy mixes and advanced forms of policy learning than choosing a single “most effective” policy instrument to unlock the under-used community solar potentials.

More information can be found here:
<http://doi.org/10.1016/j.enpol.2021.112214>.



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