

THE EDUCATION UNIVERSITY OF HONG KONG
FACULTY OF LIBERAL ARTS AND SOCIAL SCIENCES

Research Output/Impact/Knowledge Transfer Prize
for the Dean's Research Fund 2018-19

Brief Introduction of Awardee's
Research/KT Publication/Study/Output and Future Research/KT Development

Awardee (Dept): Prof. Woo Chi Keung, Professor (APS)
Publication Title/KT project: Estimation of Electricity and Transportation Demand

A. *Briefly introduce your research/KT publication/study/output for which you have received the prize.*

To solve real-world problems in electricity and transportation, I use parsimonious regression systems based on the constant-elasticity-substitution or Generalized Leontief specification to document the limited effectiveness of price-management of demand because of the low price elasticity estimates for (a) retail energy demands in North America and Hong Kong; and (b) tunnel usage patterns in Hong Kong.

The policy implication for electricity is that demand-side-management (DSM) through energy efficiency programs and standards will continue to play an important role in achieving a clear and sustainable future for Hong Kong and elsewhere (e.g., Canada and the U.S.). Cases in point are the DSM programs implemented by China Light and Power in Hong Kong and electric utilities in North America, as well as the federal and state building and appliance standards in the U.S.A.

The policy implication for transportation is that mitigating Hong Kong's tunnel congestion will require such policy measures as restricting private car ownership and implementing electronic road pricing. This is because the Hong Kong Government's recently proposed toll changes can only modestly alter tunnel usage patterns.

B. *How you used/will use your prize and perhaps its usefulness to your research/KT development?*

The prize funds my ongoing research on energy policy for a bright electricity future. Its usefulness is underscored by my planned publications on electricity market design and renewable energy development to mitigate global warming.

C. *Expected research/KT outcomes/outputs/impacts arising from this prize.*

My expected output is two papers on electricity market design. The non-technical paper to appear in a B journal is intended for industry practitioners. The technical paper to appear in an A* journal is intended for academics, policy analysts and policy makers.