Energy policy initiatives can have a significant impact on electricity market prices. For example, programs for renewable energy development and demand-side-manage tend to reduce electricity prices, whereas CO₂’s cap and trade, retirement of nuclear power and coal generation tend to increase them.

Recognizing the information needs of private companies and government agencies, I have been working with researchers in the U.S. on the price effect of carbon trading, leading to the following A* publication: Woo, C.K., A. Olson, Y. Chen, J. Moore, N. Schlag, A. Ong, T. Ho (2017) “Does California’s CO₂ price affect wholesale electricity prices in the Western U.S.A.?” Energy Policy [4.6], 110, 9-19.

The key finding of this paper is that while California’s carbon trading program is effective in internalizing the marginal CO₂ emissions cost of natural-gas-fired generation, it has a limited geographic scope, causing it to be ineffective in reducing the overall CO₂ emissions in the Western U.S.A.

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

I will use the prize money to augment the funding from other sources (e.g., TDG and private donation) for my on-going projects:

(1) An online assessment system for individual scores (OASIS) that now has 10+ committed users in Hong Kong, China and India.
(2) Public transportation demand analysis for Hong Kong.
(3) Demand side management of vehicular fuel consumption in Hong Kong.

C. Expected research outcomes/outputs/impacts arising from this prize.
Based on the three projects listed above, I plan to submit three papers to A* (SSCI) journals with impact factors > 2. If or when these papers will be accepted, however, is presently unknown.