

Propositions

- 1) The rapid increase in distributed renewable energy systems dramatically impacts the long-term economic relationships between electricity retailers and customers, especially in the residential sector. (Thesis)
- 2) An increasing amount of attention is being given to issues of equity and fairness in electricity tariffs. What is considered “fair” in this context continues to be hotly debated. (Chapter 2)
- 3) Using advanced metering infrastructure (“smart meters”) to measure electricity consumption and generation is very important for maintaining tariff fairness, whereas using separate meters for a household’s electricity consumption and generation has a relatively minute effect. (Chapter 3)
- 4) As distributed renewables continue to grow, the fairness and economic efficiency issues of traditional tariff designs will continue to worsen, whereas those of novel tariff designs are less impacted. (Chapter 4)
- 5) How we choose to price distributed renewables has a very strong impact on how much welfare is lost by households, and how much renewables they choose to install. (Chapter 5)
- 6) The balance between fairness and efficiency for tariffs must swing more towards efficiency in the renewable energy era. As more renewables are installed, efficiency losses become more important.
- 7) Advanced information and communications infrastructure can play a very significant role in ensuring our current energy transition proceeds in a socially and economically desirable manner.
- 8) The surge in distributed renewables has and will continue to morph the relationship between electricity retailers and their smaller customers into a more proactive engagement.
- 9) Energy’s historic status as a public (common-pool) good will gradually change to a private good during the renewable energy era, as complementary access, information, and storage become widespread.
- 10) Although renewable energy subsidies reduce greenhouse gas emissions from electricity generation, their disproportionate and immediate burden on poorer households demands diligence and care.
- 11) There are quick-and-dirty and slow-and-steady solutions to everything; wisdom is knowing which to use in each situation.