

ACKNOWLEDGEMENTS

I would like to express my deepest gratitude to my advisor, Dr. Chumnong Sorapipatana, who has helped and supported me throughout the thesis research. I am grateful for my teacher, Dr. Nattapong Puttanapong, who has taught and provided a guideline of the CGE model. I would also like to thank to my thesis committee members: Asst. Prof.Dr. Jaruwan Chontanawat, Dr. Atit Tippichai and Dr. Chalotorn Kansuntisukmongkol for their encouragement and insightful comments.

I would like to thank the Joint Graduate School Energy and Environment (JGSEE) of King Mongkut's University of Technology Thouburi for providing the scholarship and research funds for this study.