CHAPTER VIII

CONCLUSIONS

The total cost of Natural gas combined cycle plant is 3.00 to 5.82 Baht/kwh in 2012 to 2030 which consist of production cost 2.75 to 5.56 in 2030 , environmental cost 0.22 Baht/kwh and social cost 0.0375 Baht/kwh.

The total cost of LNG combined cycle plant is 3.37 to 6.22 Baht/kwh in 2012 to 2030 which consist of production cost 3.12 to 6.02 in 2030 , environmental cost 0.22 Baht/kwh same as Natural gas and social cost 0.0375 Baht/kwh.

The total cost of Hydro power plant is 2.62 Baht/kwh in 2012 to 2030 which consist of production cost 2.60 Baht/kwh and social cost 0.02 Baht/kwh.

The total cost of Heavy Oil power plant is 4.94 to 9.29 Baht/kwh in 2012 to 2030 which consist of production cost 4.68 to 9.03 in 2030 , environmental cost 0.22 Baht/kwh same as Natural gas and social cost 0.0375 Baht/kwh.

The total cost of Diesel power plant is 9.62 to 17.72 Baht/kwh in 2012 to 2030 which consist of production cost 9.36 to 17.46 in 2030 , environmental cost 0.22 Baht/kwh same as Natural gas and social cost 0.0375 Baht/kwh.

The total cost of Coal power plant is 2.97 to 3.80 Baht/kwh in 2012 to 2030 which consist of production cost 2.62 to 3.45 Baht/kwh in 2030 , environmental cost 0.31 Baht/kwh and social cost 0.041 Baht/kwh.

The total cost of renewable power plant is 11.01 to 25.62 Baht/kwh in 2012 to 2030 which consist of production cost 11 to 25.61 in 2030 and social cost 0.01 Baht/kwh.

The total cost of Nuclear power plant is 2.84 to 3.21 Baht/kwh in 2012 to 2030 which consist of production cost 2.65 to 3.02 in 2030 , environmental cost 0.11 Baht/kwh and social cost 0.082 Baht/kwh.

The total cost of Electric purchasing is 3.88 to 7.22 Baht/kwh in 2012 to 2030.

The result show that Power Development Plan 2010 reflect the best electricity production cost performance as the lowest production cost per unit since 2012 – 2030 for 19 years because of operation of nuclear and coal power plant. Although Power Development Plan 2012 focus on energy efficiency (EE), PDP 2012 reflect the worst electricity production cost performance as the highest production cost per unit since 2012–2030 for 19 years because of much operation of renewable and co-generation power plant which have much higher cost than natural gas plant.

8.1 Recommendation

In the power plant project consideration should consider the environmental cost which is cost of emission treatment system and social cost in detail.

8.2 Further Study

8.2.1 Expanding the scope to full industrial organization (IO) study with what structure and conduct of electricity production will be.

8.2.2 Expanding the scope to cost performance analysis of sell price of electricity which include cost of electricity distribution from PEA and MEA.