

Performance Contracting Approach for Energy Projects

Ir Dr F.C. Chan
General Manager
CLP Engineering Ltd

Agenda

- **Concept of Performance Contract**
- **Our Approach**
- **Key Element - Innovation**
- **Business Environment**
- **Case Study**
- **Conclusion**

Concept of Performance Contract

- Paid upon you saved
- No or little upfront cost depends on the package

Energy
bill

Energy
bill
ESCO

During PC

Energy
bill
Owner

After PC

Economical Impact – Performance Contracts

Major steps in performance contracts

- **Building up the baseline energy consumption**
 - Open and partnering approach – win-win situation
- **Formulating the corresponding energy adjustment factors**
 - Few variables approach
- **Measuring and calculating (M&V) the energy performance**
 - Simple and easy understanding approach

Approach for PC

- **4Ps Principle**
 - **Package Solution**
 - **Performance Guarantee**
 - **Professional Measurement & Verification**
 - **Partnering**

4 P

Key Element - Innovation

- Application of new Technologies
- Total Solution approach
- The CORE Theory
 - Curiosity
 - Open-mindedness
 - Risk
 - Energy

Business Environment - Favourable

- High energy cost
 - Oil
 - Coal
 - Natural Gas
 - Electricity

Business Environment - Favourable

- **High Technologies**
 - **Cooling Towers & high COP chillers**
 - **LED lightings**
 - **High efficiency heat pump**
 - **CO₂ heat pump**
 - **Induction cooking**

Business Environment - Unfavourable

- Low Interest Rate
- High Inflation – material and labour cost
- High cost in new technologies – long payback e.g. Renewable energy

For the case of HK

- Weak Currency
- Relative energy costs

Case Study – Hot Water System in Hotel

- **Replace diesel plant with electric heat pumps**
 - High diesel cost
 - Total Solution including transformers and capacitors upgrading works
 - Electricity Tariff benefits

Case Study – Steam Generation in Factory

- **Install new electric steam generators for new production lines**
 - **Increasing gas/diesel cost**
 - **Total Solution including electricity upgrade with new high rise transformer rooms**
 - **Innovation: On-peak and Off peak demand control**

Conclusion

- **PC – an innovative financial tools for energy projects**
- **Overcome high initial cost**
- **4P approach for successful PC**
- **Innovation in energy solution**
- **New Technologies help PC**
- **Recently the market for PC is not very favourable**
- **Business Environment affected by a lot of factors e.g. energy cost, interest rates and inflations**
- **Flexibility - adjust our business dependence on PC when economy situations are not favourable**