Established in 2003 as a JV between DEWA and TECOM

Decreed company established by the Government to promote effective utilization of energy resources

Serves 30 large districts / projects with over 1,045,000 RT (Refrigeration Tons)

An end-to-end DCS provider
**Empower** — The world’s Largest District Cooling Provider

- **Key Projects:**
  - Dubai International Financial Centre (DIFC)
  - Jumeirah Beach Residence (JBR)
  - Business Bay
  - Dubai Healthcare City (DHCC)
  - Jumeirah Lakes Towers (JLT)
  - Palm Jumeirah Trunk (PJT)
  - Palm Jumeirah Crescent (PJC)
  - Discovery Gardens (DG)
  - Ibn Battuta Mall
  - Mirdiff Buildings
  - Al Khail Gat
  - TECOM Site A, B & C
Different kinds of cooling systems

- Window A/C
- Split unit A/C
- Central A/C
- Chillers
- District Cooling

- Efficiency
- Quality
- Comfort
- Environmental
**District Cooling** – The Concept

- Innovative, efficient and cost-effective concept for air-conditioning
- Production of chilled water at a central plant and then distribution of that cooling energy via an underground pre-insulated pipe network to buildings within a district
- Provide savings of up to 50% on power requirements for cooling as DCS utilizes 0.9-1.0 KW of energy compared to 1.6-1.8 KW of energy used by traditional cooling methods
- DCS results in cost savings for the master developers, building owners and individual unit owners
## District Cooling – Benefits

| Eco-Efficient Energy | 50% reduction in power consumption  
| | Reduces power generation infrastructure  
| | Reduces greenhouse gas emissions  
| Lower life-cycle costs | Reduces upfront capital investment  
| | Less financial risks  
| | Longer life cycle (30-50 years) vs. traditional A/Cs (12-15 years)  
| Reliable | Around-the-clock availability  
| | Reliable (“five nines – 99.999%”)  
| | Redundancy  
| Added Value to Buildings | DCS free up significant space in buildings  
| | Reduces vibration and noise problems  
| Easy to operate and maintain | Outsourcing of cooling operations  
| | Developers to focus on their core business |
Thermal Energy Storage (TES)

- TES helps in storing cooling energy at off-peak periods.
- TES helps in managing the load profile by shaving off peak load requirements.
- DCS with TES delivers reliable and consistent cooling services.

Thermal Storage units in Empower’s Business Bay District Cooling Plant.
Utilization of TSE water in District Cooling plants helps conserving potable water resources

The advantages of implementing TSE are:
- Environmental benefits of re-use
- Equivalent or higher cycles of concentration for district cooling
- Economic feasibility ensures cost savings compared to the use of desalinated water

Empower has been a pioneer in implementing and utilizing TSE water at its various District Cooling plants - for e.g. DHCC, DIFC, etc.
Rationalized Use of Energy through District Cooling

- Utilization of District Cooling Services leads to rationalized use of energy by:
  - Better utilization of available energy resources
  - Lower utilities infrastructure
  - Better energy accountability from end users resulting in energy savings (through sub-metering)

- District Cooling is a cost-effective alternative for individuals, master developers, government and the community as a whole

- District Cooling is the Way Forward!
District Cooling

Thank You