

Energy Management – Cooling Towers (冷卻塔)

Water cooled air conditioning systems

Cooling Towers Systems

Water-cooled systems use equipment called cooling towers remove heat from a process or a building. These water-based systems provide owners with significant benefits over air-cooled systems, including lower energy costs, smaller size, and lower sound level.

Cooling towers use just a small percentage of the total energy used by the cooling system. A well-maintained cooling tower enables the entire cooling system to perform more reliably and ensures that energy users get the most from their investment.

In 2000, 32% of the total electricity consumption in Hong Kong was used to drive air-conditioning converting to water based technology, i.e. cooling towers, offers superior energy advantages, reduces power station air pollution and helps keep more of your hard earned money in your pocket.



Pilot scheme

In June 2000 a co-operative effort between various government departments introduced the fresh water energy conservation pilot scheme. Under this scheme, commercial operations may choose to use fresh water for evaporative cooling; typically employing cooling towers for heat rejection.

Cost Savings

Air conditioning systems account for more than forty percent (40%) of commercial building energy usage in Hong Kong, and up to seventy percent (70%) of a buildings electrical usage. The total energy cost for water based cooling tower systems are typically 13-17% lower than the air cooled counterpart.

Furthermore, if we considering that the real cost of

energy never diminishes, charges have risen over the last ten years, the long term outlook for water based cooling, cost savings accrue very quickly. For example, an air conditioning system with a cooling capacity of 600 Kw (approx. 170 tons), converting could save you more than \$500,000 per year.

And assuming a conservative lifespan of let's say fifteen years, a cooling tower system would save approximately HK \$ 7.5 million.

Benefits

In addition to the direct cost savings, there are indirect benefits too; the reduced electrical consumption means lower environmental emissions at the power station trimming your environmental footprint.

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Pilot Zones

If a commercial building or unit is located within the permitted regions you may apply to join the scheme. And don't forget, you need not convert an entire building, individual premises, such as restaurants, etc. may also apply.

Planning

Government submissions are required therefore advance planning is necessary.

Further Information

For further information regarding cooling towers and energy management contact John Herbert at the Hong Kong office:

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