

## Combined Heat and Power in New Zealand

- Landfill and sewage treatment plant Bio Gas equipment for Cow and Pig effluent Complete turn key Bio Gas Generator service

### CGEN CHP system- landfill and sewage treatment plant

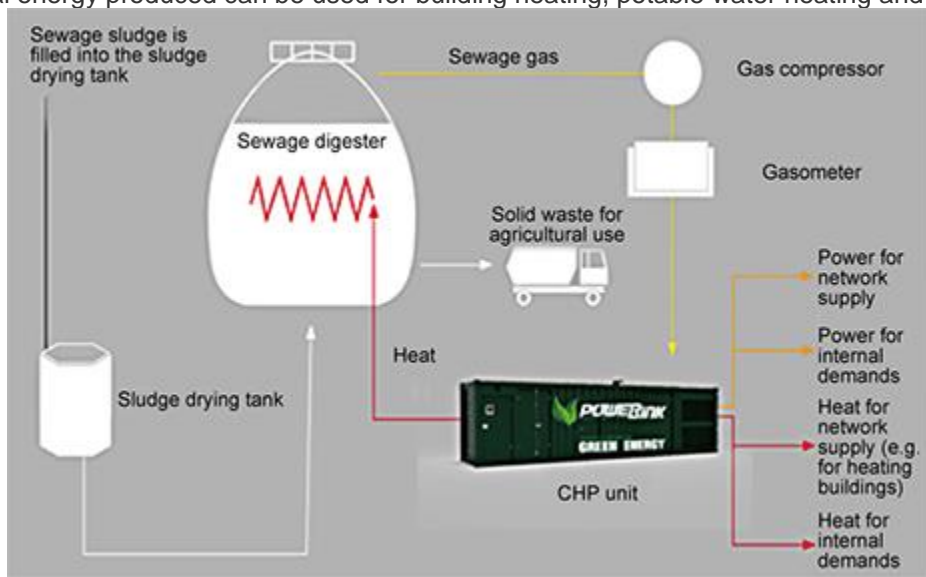


### Reduce operation cost through efficient CHP system and distributed power generation technology in New Zealand Electricity networks

Reduce operation cost through efficient CHP system and distributed power generation technology For sewage treatment plant producing large amount of biogas, Cgens CHP units can not only provide electric energy for power demand, but also provide thermal energy for heating demand of sewage treatment plant. Cgen CHP units can provide: Convert harmful gas into energy; Avoid transportation cost of diesel; Independent site power generation; Overall efficiency as high as 90%, power generation efficiency as high as 40%; Stable running when fluctuations occurred in composition and impurities; Output can meet standard gas unit; Avoid the release of methane into the atmosphere, which is 21 times the greenhouse effect of carbon dioxide; Stable running under the ambient temperature of -50°C; Small footprint; Fast installation and operation preventative maintenance systems provided to protect investment.

### Overall efficiency: 80%-90%, power generation efficiency 40%

Thermal energy produced can be used for building heating, potable water heating and domestic water



heating.

and environment preservation

Waste utilization

Biogas is produced in the process of storage and treatment in landfills and sewage treatment plants. Biogas is free resource, which can prevent stench, clean up the environment and reduce the incidence of disease of animals and humans.



**Low transmission loss**

To provide thermal energy, cold energy and electric energy locally to reduce loss of transmission and distribution (6-7%).



**Fast and easy**

### **installation**

Overall integrated solution, without having to install the engine room, small footprint, quick installation.

### Proven quality and reliability

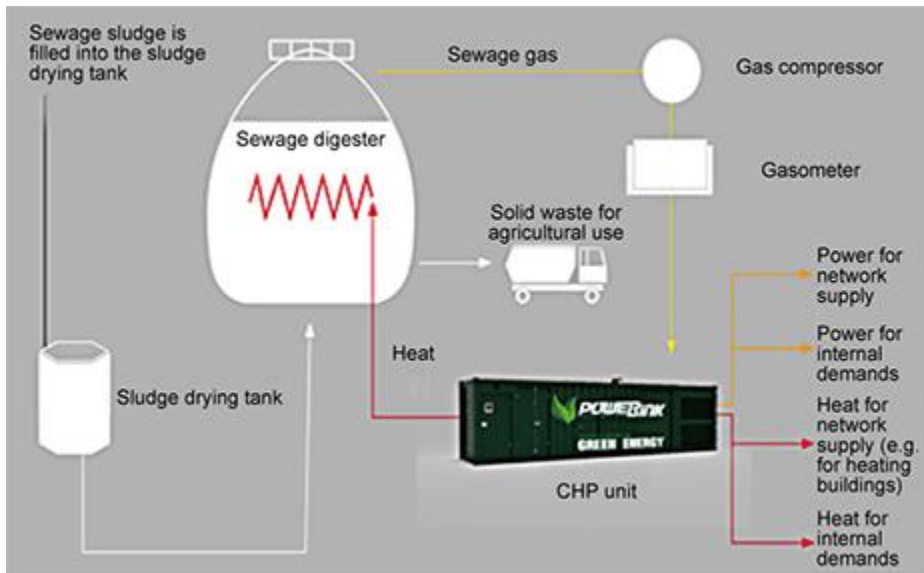
All the parts applied are with high quality, and proven reliable through strict. Quality control through manufacture and are designed for New Zealand conditions



**Easy operation and**

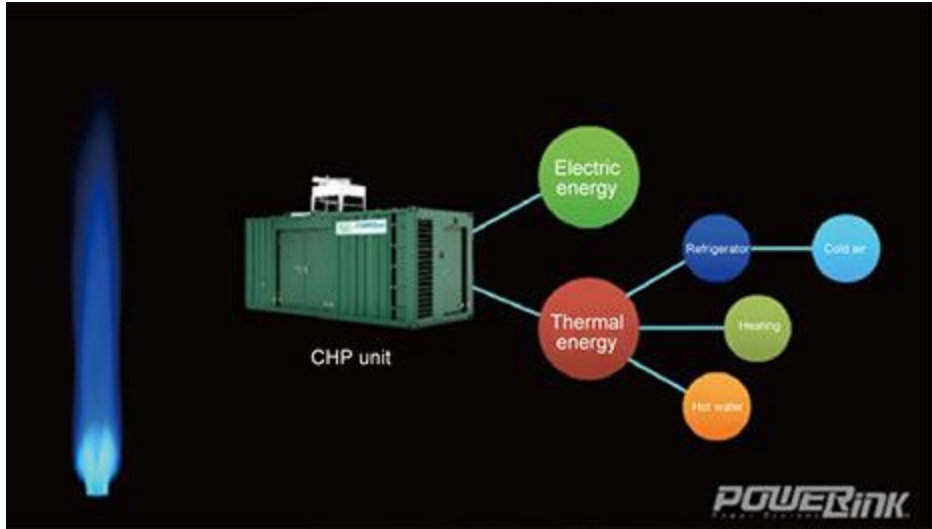
### **maintenance**

Our CHP units apply modular design which is humanized, with high safety and easy to maintain.



**Processed gas**

Biogas produced in the landfills and sewage treatment plants contains of sulfide, chloride and water vapor. Before using the gas to generate power, you must apply desulfurization, dechlorinating treatment to reduce contamination to the machine and pollution to the air.



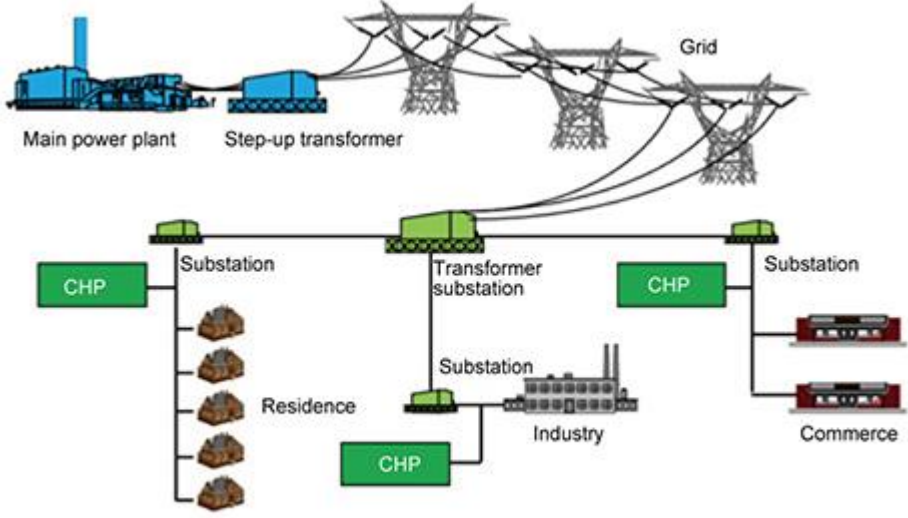
Trigeneration of cold,

**thermal and electricity energy**

Besides power supply, the CHP units when combined with heat source absorption refrigeration equipment, can realized the trigeneration of cold, thermal and electricity energy to meet the need of domestic water heating, steam heating and chilling.

**Sellable thermal energy and electricity energy**

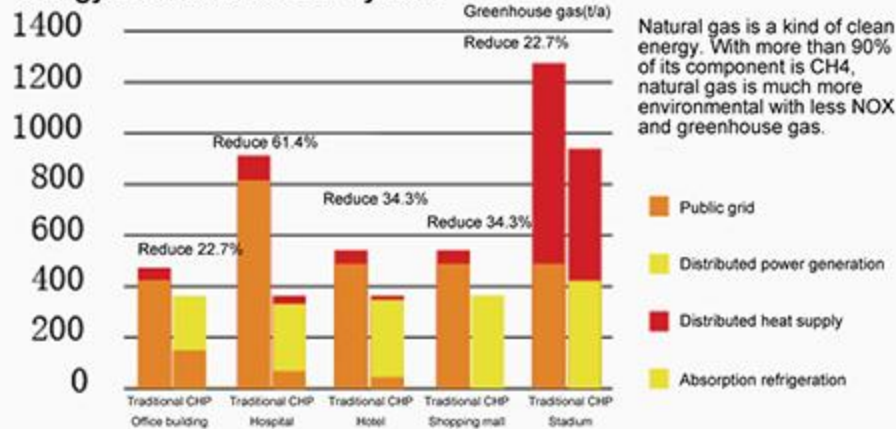
- The thermal energy and electricity energy produced can be sold and get according payment.
- Air conditioning cold water: 1-1.6 km
- 1 MPa steam: 12 km
- Heating and hot domestic water: 4-5 km (about 60°C)



**Energy safety**

CHP system helps to realize energy diversification and reduce dependence on the mains grid.

### Comparison of greenhouse gas emission of traditional energy method and CHP system



**Low environmental**

### impact

PowerLink CHP unit's emission of sulfur dioxide and solid waste are almost zero; the emission of nitrogen oxides reduces by 80%; the floor area and water consumption can also reduce by more than 60%. The noise produced during operation can be reduced dramatically through combined noise reduction measures.



**Sewage treatment plant**

### size and generation capacity

Biogas produced by 50,000 tons of sewage can be used by 1MW CHP units to meet the energy needs of sewage treatment plant.



**Standard configuration**



**Optional configuration**



**Complete Product**

**configuration**



Complete parts

management system



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