

# **Geothermal Cooling Solutions**

GIBSS<sup>™</sup> provides best value energyefficient and environmentally responsible systems that not only help buildings reduce cost and raise productivity, but also sustain high performance for life. GIBSS<sup>™</sup> is committed to enable building owners in making responsible decisions, reducing overall building life cycle expenses and helping building occupants live more efficiently.

Fundamentally, GIBSS<sup>™</sup> GEOSINK Solution uses the constant temperature of earth approximately 22-25 degrees to cool the building. By displacing this steady flow of heat in the earth through out the year, a geothermal system can save building owners 70% in cooling costs as compared to conventional systems.



# **Drawbacks in Existing system**

The conventional air-conditioning systems use either an air-cooled condenser or a cooling tower to reject building heat in the atmosphere. Systems that use air-cooled condensers are called air-cooled systems and systems that use cooling towers are called water-cooled systems. Just how water-cooled engines (car engine) are efficient than air-cooled engines (motor bike engine), water-cooled air-conditioning systems are more efficient than air-cooled systems. That said; both conventional air-cooled and water-cooled systems have their own drawbacks.

- High energy consumption
- High water consumption
- Use of hazardous cleaning chemicals
- Lesser life
- High maintenance
- Higher space requirements
- High noise levels

# **GIBSS GeoSINK system**

GIBSS range of geothermal systems for buildings is a preferred choice for air-conditioning applications in the tropical regions like India. While geothermal heat exchange continues to be common in colder countries like the US or most parts of Europe, the use of the technology in tropical climates has knowledge and technology barriers. GIBSS range of 13 geothermal product lines has been specially designed to overcome all such barriers.



With GIBSS Geothermal systems, commercial and residential building owners can replace conventional HVAC systems with full time or part time geothermal systems. The innovative solution will not only reduce operating costs of buildings, but also reduce carbon footprint significantly.

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# The Geothermal Advantage

# **Business impact**

• Significant reduction in operating costs

• Improvement in labour productivity

• Improvement in purchase process productivity

Reduction in inventory

 Space conservation – no additional space above ground

Carbon credits

### **Environmental impact**

- Water conservation
- Water harvesting

• Significant reduction in CO2 emissions

Hazardous waste reduction

### **Social impact**

• With dearth of power resource in the country, every 1000 KWHR saved can light up 2 small villages in India

• Water harvesting and conservation through the invention will significantly contribute to address water shortage issues

• With buildings accounting for over 30% of energy consumption, if most buildings utilized the invention, 10-15% of the total power usage can be reduced and diverted to areas where there is no power available even to light home



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