

Analyzing Combined Heat and Power in the US

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Abstracts

Combined heat and power (CHP) or cogeneration is the use of a heat engine or a power station to simultaneously generate both electricity and useful heat.

Conventional power plants emit the heat created as a by-product of electricity generation into the environment through cooling towers, flue gas, or by other means. CHP or a bottoming cycle captures the by-product heat for domestic or industrial heating purposes, either very close to the plant, or as hot water for district heating with temperatures ranging from approximately 80 to 130 °C. This is also called decentralized energy.

CHP is a thermodynamically efficient use of fuel. In separate production of electricity some energy must be rejected as waste heat, but in cogeneration this thermal energy is put to good use.

Perhaps the first modern use of energy recycling was done by Thomas Edison. His 1882 Pearl Street Station, the world's first commercial power plant, was a combined heat and power plant, producing both electricity and thermal energy while using waste heat to warm neighboring buildings. Recycling allowed Edison's plant to achieve approximately 50 percent efficiency.

Aruvian's R'search brings a research report that looks at the potential of CHP in the United States in its report Analyzing Combined Heat and Power in the US. The report takes a look at the basic understandings of CHP, applications and potential of CHP, the CHP industry in the United States, Usage of CHP in the US, regulatory framework impacting CHP, and much more. The report focuses on the major CHP developers in the United States such as ConEdison, Cupertino Electrics, etc.

A state-wise analysis is provided in the report along with other case studies.

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J. LEADING INDUSTRY CONTRIBUTORS

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