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Powerful solution

College student finds way of generating electricity from diesel generator waste

By Arundhati Ranade

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Shantanu Joshi

While everybody is worried about load-shedding, here is an enterprising student who has found a way to stay cool by using the heat generated by the diesel generators that we use to beat the heat! Confused? Don't be.

This is how the story goes: Shantanu Joshi, a last-year mechanical engineering student of Vidya Pratishthan's College of Engineering, Baramati (VP-COE), recently presented a paper in a project competition which suggests that the waste heat of a diesel generator could be used to run a central air-conditioning plant.

Elaborating on the system, Shantanu said, "I experimented with the 510 HP capacity generator in our college.

The generator gives out 450 degree Celsius of heat which is enough to run a 27-tonne AC."

He added, "There are two types of circuits in an air conditioning system. Normally, vapour compression circuits are in use.

If we use the vapour absorption system, the exhausted heat put out from the generator could be used for energy purposes."

Shantanu also collected data from various industries regarding generator usage. "Commercial data available from various industries shows clearly that engine gensets normally have about 40 per cent overall electrical efficiency, the balance 60 per cent goes waste. These wastage could be utilised," he said.

The implementation of this technology will surely help in lowering fuel and electricity consumption in the industry, Shantanu claims.

He has already won a few prizes for this project. The paper got third prize in a national level project competition held in beginning of this year at his college.

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