

## News

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### Solar powered sustainable home built by IIT shunya team

When you add a parameter called Green (basically energy efficiency by using renewable sources) in building a nice house, a whole lot of new designs and approaches are required to build a comfortable home operating at high energy efficiency and consuming energy from the greener resources mainly solar and wind. More important is making it sustainable.

The world's most interesting competition in building solar powered energy-efficient house is Solar Decathlon. In this competition, engineering students from around the world are asked to build a highly energy-efficient sustainable house which not only need to be energy-efficient also comfortably enough to the present day standards. By using renewable energy sources only, the house should generate energy and put back to the grid by consuming whatever is required for a typical small family. The designer should not use any storage batteries, they can use the grid power during night and cloudy weather, but they should generate and feed the grid enough electrical energy exceeding what they have consumed during night time.

The other environment friendly technologies such as water harvesting, electric car for commuting all need to be used. Strictly no use of fossil fuels.

The presently going on event Solar Decathlon 2014 Europe has 20 teams who have built solar powered energy efficient homes. Solar Decathlon Europe 2014 Competition (SDE-2014) is an international competition organized by the French Ministry of Housing and the U.S. Department of Energy.

First-time a team from Indian Institute of technology Bombay and Academy of Architecture is one of the 20 teams. The team called Shunya has built two-bedroom 680 square feet Vaastu compliant energy efficient house with some of these below highlights:

Solar PV tracking with Solar Oven, Clothes Dyer using Waste Heat, Smart Automation and Control. The total net energy demand is reduced to 1/3rd and green Waste treated at Source.

Shunya team has used Phase Change Materials (PCM) from PLUS Polymers to store excess heat.



"This model represents an ideal integration of traditional and advanced technology and goes to prove that with imagination and perseverance guiding us in the right direction, we can design our living spaces to be zero energy, or even energy negative without compromising on the comforts of modern life." comments Dr. R K Pachauri, Director General TERI.

"The Sun is showering us with enormous energy and we only need to harness it. I am very happy that the young sons of India have taken up this task and I am sure they will succeed. Blessings to the whole team," said His Holiness Sri Sri Ravi Shankar.

Architecture and material usage is also important in this competition. One of the competitor named "Techstyle Haus" has used high performance textiles for roof and walls instead of wood/metal. The solar panels used are also of flexible type in Techstyle Haus.

To know more on Solar Decathlon Europe 2014 Competition (SDE-2014) visit: [www.solardecathlon2014.fr/en](http://www.solardecathlon2014.fr/en)

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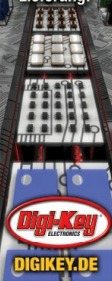
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