

## Technology Fact Sheet

### Solar water heaters<sup>i</sup>

#### 1) Technology status

In solar water heating technology, a set of solar panels are used to collect energy to heat water before the heated water is circulated into a tank. Large-capacity tanks can be used to store hot water during the night or when there is no sunlight.

This technology is developed and used globally.

In Vietnam, thousands of solar water heaters have been installed for household usage and this technology is useful for water heating for recreation, such as in hotels, motels, etc.

#### 2) Economic benefits

Solar water heaters have a significant role in reducing heating energy consumption in public and residential sectors. Most of energy consumed for heating is during peak time (18:00-20:00). Therefore, water solar heaters can help to reduce the pressure on electric power generation.

This technology has a good prospect, and will have a help to cut costs on fuel importing. As a result, the money saved can be averted to other socio-economic needs.

#### 3) Social benefits

Solar water heaters are widely used by communities because it is an environmentally friendly technology and user-friendly because it can easily be installed on the rooftop.

In terms of social benefits, this technology can contribute to the sustainable development, as it is simple enough for local people to carry out with a little training. As a result, it can help provide work, enhance life quality and reduce energy costs and reliance on fossil fuel imports and impacts of oil price fluctuation.

#### 4) Environmental benefits

Solar water heating can reduce fossil fuel consumption and subsequently GHG emissions. If 50-65% of households, equivalent to 125 million households, use solar water heaters by 2030, the emission reduction potential can reach 10,039 million tonnes of CO<sub>2</sub>.

#### 5) Application potential

Vietnam has an enormous solar energy source. At the present, solar energy can be extracted to heat water in place of electric heaters in urban areas and providing electric power to areas without access to the national grid.

Household income, especially in big cities, has increased in many parts of the country, and hot water has become a basic necessity. Many families want to include solar water heaters to their house's rooftop and hot water system designs. Moreover, hotels and motels in urban and

rural areas also use electric water heaters to supply hot water to customers. All of these create a prosperous market future for solar water heaters.

## **6) Barriers**

Solar energy potential in Vietnam is abundant, but development of this energy is still stagnant because of the following reasons:

- Solar energy is not a stable source, thus unable to meet the demand, especially in the winter.
- Extracting solar energy in areas where solar radiation is low and not stable is expensive.
- Lack of a support policy to appeal to investors and users.

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<sup>i</sup> **This fact sheet has been extracted from TNA Report - Mitigation for Vietnam. You can access the complete report from the TNA project website <http://tech-action.org/>**