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Andy Pearson

Bring on the Subsidy

BY ANDY PEARSON, PH.D., C.ENG., MEMBER ASHRAE

Last month we started thinking about the harsh economics of justifying a heat pump installation over a more traditional, cheaper but environmentally damaging heating system. As I mentioned then, it has been very hard for me to come to terms with the fact that, in the heat pump world, the cooling effect that I value so highly is often thrown away, whereas what I considered to be waste, and to be honest was often a pesky nuisance, is a highly valued commodity and can be sold for a handsome profit. It's a funny old world.

Heat pumps make the best economic sense when both the cold end and the hot end are useful to somebody. Not only do you not have to worry about disposing of the excess heat or cooling effect, but people will actually pay you for it. The combination of useful cooling and useful heating can be a match made in heaven. However, practicalities can often get in the way. The person who could use the cooling is too far away and the interconnecting pipe would be too expensive, or the cooling would need to be stored for several hours until it was needed because the cooling and heating demands are not synchronized. Sometimes a dependency on the neighbors for business critical cooling is deemed to be too much of a risk. Other times it is just considered too complicated to be worthwhile. This is a real shame because it is one of the few examples in life of a real "win-win situation."

When there is no immediate use for the cooling by-product from a heat pump, thoughts turn to government support to sweeten the proposition. There have been many types of subsidy tried in recent years, with a range of outcomes; some good and some not so good. In France the announcement of a grant for the installation of domestic heat pumps was so successful that the market boomed, bringing a huge number of underqualified or unqualified installers into the picture. The resultant drop in quality of installations produced a huge backlash. Heat pump technology got a terrible reputation for being unreliable and inefficient. The market slumped and the subsidy was withdrawn.

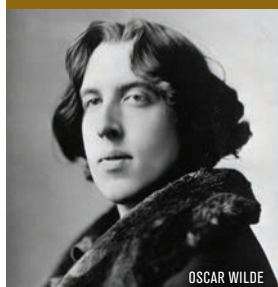
In contrast, when the Swedish government announced its intention to introduce a subsidy in 12 months time, the market immediately collapsed because prospective purchasers all said "I will wait for the sub." Several previously successful installation companies went to the wall in the downturn, with the result that when the subsidy

arrived, there wasn't enough capacity to meet demand. In the United Kingdom, the government has been subsidizing "renewable heat" for a few years now. The concept is laudable; if a user installs a heat pump to take heat energy from the ambient, for example, through air-source or ground-source heat pumps, they are paid a tariff for each kWh delivered. The tariff is sufficiently generous to cover the energy bill for running the heat pump and to recoup the capital spend in a short time.

However, there was a catch. Heat from "processes" was not covered, so valuable sources that are right there and would give efficient operation were thrown away in favor of less efficient, more difficult to obtain, "natural" heat. The whole affair has been subsidizing "bad" systems at the expense of potentially "good" ones. Happily, this is changing and a tariff has been introduced to recognize process heat as well as ambient heat.

Clearly, governments need to be very careful when they step in to offer incentives. A well thought-through scheme can be a powerful force for good, but the unintended consequences that flow from a badly planned incentive program can do serious and lasting damage. ■

There is only one thing in the world worse than being subsidized and that is not being subsidized.



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