

Losing our rooftops ...and still no energy plan

Anne Zammit



A typical solar photovoltaic grid-connected system installed in Madliena and used for generating electricity for home use. The system generates close to 10 units of electricity everyday and offsets three tonnes of carbon dioxide per annum that would otherwise have been generated at the power station for the same amount of energy.

MEEREA president Edward Scerri and secretary-general Charles Yousif speak to Anne Zammit about Malta's renewable energy potential

Why doesn't Malta make better use of natural energy sources like the sun and wind? European leaders agreed last month to have 20 per cent of their overall energy needs covered by renewables by 2020. How well are we faring?

The Malta Energy Efficiency and Renewable Energy Association (MEEREA),* a non-government organisation promoting the use of energy efficiency and renewable energy, is calling for Malta to play a more pro-active role. The NGO's areas of expertise include energy efficiency in buildings, energy auditing, promotion of technology, wind and solar energies.

Since the 1960s MEEREA president Edward Scerri has fostered solar energy in his career at University. In 1993 he was instrumental, as an early chairman of the Institute for Energy Technology, in securing funds along with his team of former students Robert Farrugia and Charles Yousif, for the first long-term scientific studies on wind and solar energies.

During that time, the first grid-connected photovoltaic system in Malta was installed and a detailed study of wind energy potential was initiated. Results of the research carried out are now being used locally and referred to internationally.

Targets need plans

Malta's Treaty of Accession to the EU set a target of five per cent of the total electric energy supply to be generated from renewable sources by 2010. In October 2005 the government reported to the EU that Malta's feasible potential for renewable sources as part of all energy production by 2010 adds up to a mere 0.31 per cent. On the other hand, a paper presented by the University's Institute for Energy Technology at the World Renewable Energy Congress in Florence last August has put the potential at 24 per cent. "Maybe not by 2010," says Mr Yousif, "but the potential is there. Is it possible that government is now choosing to make use of only a fraction of that potential when our declared target on joining the EU was five per cent?"

Having no energy policy in place puts on unstable ground any government-set figure of a percentage that is feasible.

"Malta has a good potential not only for solar or wind energy but also of human resources who can give of their expertise to the country. The only problem is that they are not given a chance. We must find ways to bring these experts together under one umbrella and, within a defined time, draw up a reasonable plan which takes into consideration all aspects. Only when we have this committee can we hope that a renewable energy plan will be developed that will not be a paper tiger."

"The social importance of solar energy is too great to leave the introduction of photovoltaic (PV) technology or wind energy solely to any energy agency. Renewable energy must be politically supported. It takes only one

political decision, one that would be a proof of our concern for future generations. It is possible to start, we have all the ingredients, everything is there... but we have not started anything," observes Mr Scerri. "Once the energy policy for this country is defined we can set targets and incentives," he says, hoping for change. Mr Yousif continues: "So far there has been no commitment on Government's side".

Disappointment over regulations

"It is not enough just to ask, in the building permit application, if renewable energy will be utilised. It was very disappointing that in the 2006 regulations issued by the Services Division of the Building Regulations Office, no move was made to make solar heating mandatory in new buildings.

"On the other hand, we know that MEPA has certain restrictive regulations. For example, a solar water heater cannot be installed within four metres of a façade and it cannot be higher than 1.5 metres. Up to now you can only dream of seeing photovoltaic panels on a façade because it is prohibited."

MEPA's Policy and Design guidance, effective as of last Monday, may overcome this hurdle by encouraging PV modules within the fabric of a building, subject to certain conditions. Still, there are worries about losing our rooftops:

"Now that the old houses are being torn down where can you put PV panels or a solar water heater on buildings of six storeys or more? The façade is the next potential. The roof is no longer available - especially in buildings with penthouses and even more in the case of new towers. In one way or another PV panels have to be integrated into the building. If there is no condition to integrate them into buildings at the design stage then it will be very expensive to integrate them later on.

"What I think will drive up energy consumption are not the thick-walled houses but new buildings with thin walls consuming so much electricity for heating and cooling, to the effect that the contribution of solar heaters will become insignificant eventually.

"These buildings which are being built today will remain with us for a very long time because of the shared ownership of land. What we are sowing today we will harvest for the next 50 years. These buildings will be consuming lots of power and the problem will remain for a long time."

We need regulations that will ensure that within the next 50 years we will have as little energy consumption as possible. "If you are not going to put a regulation to include solar water heaters in all new homes at the design stage then we cannot pretend that they will be installed later."

Mr Yousif is concerned that building upward will cancel out gains from houses which have installed solar water heaters either because of shading by nearby tall buildings or because these same homes have been pulled down.

"The available flat roof area is shrinking as terraced houses are being replaced by apartments with penthouses so the roof is no longer available for solar water heaters. For houses that are today without solar water heaters the potential is there for people who want to invest Lm300-Lm400 with a payback time of about four years. But eventually solar water heaters will be lost when the houses are pulled down to build upwards.

"People ask why Cyprus and Israel have so many solar water heaters and we don't. It is clear - we are not interested, we are not informed and we just want to throw our money down the drain. MEPA knows it but they are probably afraid of making too many regulations for the developers. Because developers are offering jobs, it is very difficult to go against their wishes. It takes a courageous person to impose regulations on them that at the end of the day will give benefit to the owners rather than the developers.

"But such regulations will also create jobs in the solar energy industry for importers, installers etc... and this helps both individuals and communities, which in turn strengthens the nation's economy."

Isn't it high time that developers see energy efficiency as a new marketing tool in today's world? With only a slightly higher loan, home-buyers could easily invest in an energy efficient home and a more comfortable environment.

"Contractors should consider trying some smart buildings. They will charge more when they sell them but what is the difference between taking a bank loan of Lm40,000 and a loan of Lm45,000? The difference will be minimal and at least you will have a well insulated house with a lower energy bill. In Gozo, there was a development where units were being sold with double glazing, solar water heating and insulation on the roof. The Housing Authority has already committed itself to building lower energy intensive housing units. Why is no one following their example?"

MRA too slow

"The EU Commissioner for Energy, Andris Piebalgs, is coming this week. I think his first question will be - where is your energy policy?"

"I think Mr Piebalgs will ask the government: 'Your incentives for solar heating and PV and roof insulations are based on what? What is your target for the next five, ten, 15 years?'"

"All these things should be tied to a policy. If there is no policy the incentives just go down the drain."

A draft of the Renewable Energy Policy was published last August by MRA for comments. MEEREA and other

entities gave their suggestions but have heard nothing since.

"Back in 2001 MRA held a public consultation on the development of a strategy for the exploitation of renewable energy sources for electricity generation and within a few months all the comments were available on their Website. That should be the next step with regard to the energy policy - to see who commented what.

"Based on that document they issued a tender to evaluate the potential of renewable energy. The tender was won by a foreign consultancy firm. The report was finalised but nothing was published. The draft energy and renewable policies have been shelved, left pending. Instead of first having a policy, then a plan, then incentives, we start off with the incentives without any policy or plan.

"The proof that incentives are not yielding the right results is that in one year only 1,400 solar water heaters were installed. If one considers that there are 130,000 homes in Malta and 10 per cent already have solar water heaters, then the remaining 117,000 would need some 80 years to have a solar water heater. Can we wait so long to have a simple solar water heater on all homes?" The same goes for photovoltaics and small wind incentives. Only a few applications have been made during the past year."

MEEREA sees incentives without a monitoring plan as counter-productive.

"Don't give incentives if you are not monitoring how these installations are going to be made. Are they going to be properly installed to yield the good results expected? Or does Government just give an incentive and then expect that this alone will save money or reduce carbon dioxide emissions?"

"The government needs to form a group of local experts who can proceed with finalising the energy and renewable energy policies and not leave it in the hands of a government entity like Malta Resources Authority. MRA has several things to deal with. It is impossible to leave such an important issue pending now that the EU has agreed on the 2020 targets."

Mr Yousif indicates the despair felt by young engineers who had gone abroad and made progress in the field of renewable energy.

"They were disappointed when they came back to Malta because they could not find a job and ended up working as normal engineers."

MEEREA has never been contacted directly by any entity from government to send them or tell them where to find experts. Yet every week the organisation receives requests from the EU asking for information on biogas, combined heat and power, statistics on photovoltaics, etc. They are asking MEEREA for information while Government seems to hesitate to recognise this NGO and support its activity.

Which is the best choice for Malta - solar or wind energy?

"We must have a mix. All of them have to go at the same pace. Those with expensive capital outlays like photovoltaics should be given higher incentives. Those with lower capital intensity needs like wind energy - because they would get their money back faster - should be given a lower incentive. All of them have to be pushed forward together so economically they would be on common ground. When you come to choose they would cost the same."

Tariff disincentive

The advantage of photovoltaics on faades or rooftops is that people own it and are more careful to save energy in their homes with the aim of selling electricity to Enemalta. But if Enemalta buys the electricity at 3c per kilowatt per hour and is charging 6c per kWh to the consumer then this is a disincentive. So until we have a decent tariff nobody will invest in any source of renewable energy."

Mr Scerri adds: "PV works best when there is sunshine. When it is sunny that is when people switch on their air conditioners. It could be shown that it is worth investing two to three thousand pounds worth of photovoltaic panels. The savings on the electricity surcharge will soon pay for the panels.

Mr Yousif goes on to explain the added power of solar concentrators: "Photovoltaics have a maximum efficiency of 15-17%. Nowadays there are PV products on the market that utilise the effect of lenses as concentrators so that the PV price is cheaper because less photovoltaic material is utilised for the same amount of energy output.

"If we are going to invest on a large scale we should be very careful not to invest in a technology which is of the last decade. We should not just go for the flat plate photovoltaics but go for the more efficient ones now emerging on the market. We also have to be careful to adapt any technology to our local climate and needs."

An EU directive requires public buildings to reduce energy consumption by one per cent every year. All the ministries now have PV systems. The largest is 10 kW at the Ministry of Gozo. But most of these installations are not easily visible.

"Unless you show photos, have open days for the public with schoolchildren going on visits... it is not going to yield any results," says Mr Yousif. He is also concerned over whether or not these systems are being technically monitored.

"Photovoltaics is a silent system. When it stops operating no one would realise for days, even months - unless daily monitoring is taken up as a routine exercise."

Pouring our human resources into Clean Development Mechanism (CDM) financing, which is available under the

Kyoto Protocol, is another concern.

"The price of carbon credits are at their lowest and this makes CDM projects less attractive for investors. There are other sources of investment that can be attracted to Malta to invest in renewable energy projects. Let's look for them."

Malta as a laboratory for technologies which can be disseminated in the Mediterranean, would be one idea to look into under the EUROMEDITI initiative, which includes renewables.

"Are the structural funds all being used or do we have too much money and too few projects?" Mr Yousif queries.

"Why don't we have large structural projects in solar heating, solar photovoltaics on hospitals and schools?"

Golden opportunity

Malta is presently passing through an opportunity window with the availability of the Cohesion Funds and the fact that as a member state we are still new in the European Union.

"Now is the best time for us. The advantage of other European countries ready to help us will soon diminish as the focus moves to newer countries like Bulgaria and Romania. If Germany has incentives that have worked for the past 20 years why don't we see what they have done and adapt them to Malta. Let's not copy them exactly because the Maltese environment is different, but learn from their experience."

On the visit of EU Energy Commissioner Andris Piebalgs: "I think Mr Piebalgs is coming here not only to shake hands but to see what Government has really done and what it intends to do. Now we have to wait and see what Government has to say. So far we have no information except that there are moves to conduct an educational campaign on energy efficiency. He is coming for one day so I think it would be a good idea if Government decided to organise a one-hour open discussion with Mr Piebalgs for all NGOs and people interested to see what are the best options for Malta as the public sees it."

MEEREA has asked the host ministry for an appointment with the Commissioner and is waiting for an answer.

"We would like to ask Mr Piebalgs - Where do you see Malta going in the next 10 years? How can we help?" We want Malta to be a leader in renewable energy in the EU. That's the niche market of Malta - it's a small country with regard to energy efficiency and renewables. Small is beautiful, one can control the parameters easily and set a good example not only for other islands but for cities. Malta could be a leader in Europe if we really want to have niche markets of renewable energy applications. It's a dream but it's one that can be worked on and realised."

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