

## **Comment on the National Strategy for Policy and Abatement Measures relating to the Reduction of Greenhouse Gas Emissions**

### **Introduction – The structure of the report**

The main objective of the report is to persuade government to accept its recommendations and authorize the action and the expenditure required for the measures to be applied. Other interested parties are NGO's and the general public.

The report is very long and complex and will discourage stakeholders from actually reading it. There is a danger that it will suffer the fate of the First National Communication report, which was approved by Cabinet and promptly forgotten, none of its recommendations being actually implemented. So it is better to replace the executive summary and its full list of recommendations with one which describes only the recommendations which have the greatest impact and concentrate on the areas where the real decisions need to be taken.

### **The introductory chapters**

The most important content of the report is in chapters 4 and 5, the other chapters being introductory or supportive chapters. I have the following observations on these chapters:

There is a very comprehensive list of European and international legislation regarding climate change, but what I did not find was a summary of Malta's obligations. Such a summary would be a point of reference related to all the recommendations in the report.

In Recommendation 5, where the UNFCCC Clean Development Mechanism is discussed, it is not clear from the report if the CCC recommends that Malta will be the donor or the recipient country in CDM projects, i.e. should Malta obtain carbon credits by financing projects in other (non Annex1) countries, or should other countries finance projects in Malta to obtain carbon credits for themselves?

I get the impression that the second alternative is the one recommended. This will only benefit Malta financially and will not in any way contribute to achieving Malta's emission reduction targets, and may actually take up resources which would otherwise be used as part of Malta's effort. However I may have the wrong impression and the CCC should be clear about this point.

The concept of a shadow price for carbon (Recommendations 7 and 8) is one of the most important recommendations in the report and its mandatory application will change the way decisions on energy related matters are made. Up to now many decisions were often made according to the gut feeling of the man in charge and were sometimes wrong. The CCC should stress the importance of this measure, which, if ignored, would render much of the rest of the report useless.

## **Electricity Generation**

The report comes at a time when no new investment in power generation has been made for longer than any other period since the early fifties. However there is every indication that this will change following the reform in the electricity tariffs which will allow Enemalta to have the necessary finance.

With the mandatory closure of Marsa power station, future electricity generation is planned to be as in the charts in figures 34 and 41. The present sources will be virtually replaced by the Sicily cable and by new plant. This brings to mind a similar report about ten years ago that envisaged four combined cycle gas turbine blocks at Delimara by 2012. This plan was submitted to the Italian firm ENI who had made a proposal for a natural gas pipeline from Sicily in 2003. The CCGT program was not implemented for lack of funds and the gas pipeline project fell through with a change in the ministry. So, in order that this history will not be repeated, it must be ensured that the necessary funds will be available for implementing these ambitious projects.

Figure 31 shows how the CO<sub>2</sub> of the projected plant will be lower than the 1990 base figure. This assumes that the new plant will run on HFO and that the electricity derived from the cable will have no GHG debit. I doubt if the latter assumption is correct, unless the electricity imported comes from renewable sources, which in turn will totally change the economics. Still it is surprising that the decrease to pre 1990 levels is achievable, considering the fact that electricity demand rose by 86% since 1990 (see figure 12).

The CO<sub>2</sub> emission factors of HFO, gas oil, natural gas and imported electricity are not given, so that it is not possible to check the tables.

To date it is not known what the new plant at the next stage of the expansion of the Delimara power station will be, though the announcement is said to be imminent. It is hoped that the decision has been made taking into account the cost of the emissions when assessing the lifetime costs of the new plant.

The prospects for an electricity link to Sicily look good. It is hoped that the necessary feasibility study has been made as otherwise it will be too late for an alternative.

The resurrection of the natural gas pipeline project is also good news. The alternative of liquefied natural gas should be avoided as it is not only complex and hazardous, but any savings in the price of the raw material are wiped out by the prohibitive transport cost.

Both the cable and the natural gas pipeline will probably be owned and operated by private enterprise and this will change the way the public will pay for its electricity in the future. However this is not a matter for this report.

As stated in Recommendation 07, electricity generation will have the greatest impact on GHG emissions, by far overshadowing all other factors. Therefore government should see that it should be given top priority. It is also, as shown in the tables in the report, good economics.

### **Renewable sources**

Malta is committed to generate 10% of its energy from renewable sources by 2020. This is a difficult target and its objective is to reduce greenhouse gas emissions. It is not clear in the report if this is a percentage of electricity generation or of all energy use (including hot water). I assume it is the former.

The CCC recommends that 4% will be achieved through photovoltaic technology. This would look plausible considering the amount of sunshine we have in Malta. However the cost and the area required are prohibitive.

The amount of pv required for 4% is approximately 28 000 kWp, which, at €6 000 per kWp would amount to €168 million. This contrasts with the € 0.5 million budgeted this year for assistance to individuals installing such panels.

Unless very favourable feed in tariffs are instituted, it will not be economically feasible to install such panels and there will be no sudden jump from the present penetration of just 227kWp. So the figure of 4% is highly optimistic and definitely not practically achievable.

Wind energy is possibly the only cost effective source of renewable energy unless heavy fiscal charges are imposed on fossil fuels.

It is a fact that government has declared itself against land based wind farms, but this should not deter the CCC from stating its views. It is my belief that government's opposition to windfarms comes from pressure from land speculators who view any ODZ area as a potential site for golf courses/tourist complexes/open air discos etc, and fear that wind farms would spoil their dream projects.

The ideal location for a wind farm is Marfa ridge. It is admirably located to receive the prevailing wind, it is sufficiently large in area, and no objection was found for a radar station on it, so why would a wind farm be different?

Another favourable location, larger in area but slightly inferior wind-wise is the Xaghra l-Hamra area between Golden Bay and Popeye Village. Both these areas are rocky uninhabited areas and of no economic use, though the Xaghra l-Hamra has hydrological importance, which will not be effected by the wind farm.

A third area, suggested by Prof E Mallia, is the Wied Rini area, near Bahrija, which is already 'spoilt' by wireless masts, so wind turbines would not be out of place there.

There is no reason why wind turbines should all be in one location, so that once the principle is accepted, individual wind turbines would be possible in remote areas.

The proposed wind farm at the Sikka l-Bajda will be beneficial, but will present problems in its construction as well as in its operation and maintenance. Far better to start with a land based installation and progress to the offshore wind farm after experience is gained in its operation.

Government states that the Sikka l-Bajda wind farm will cost € 130 million, i.e. of the same order as a PV installation of comparable size. Given the expected load factor of both PV installation and the offshore windfarm, together with the operation and maintenance costs, government should make a comparative study and determine which option is the more cost effective. It is also significant that the PV installation gives the best output in summer when it is most needed.

Of course, land base windfarms are by far the cheaper option.

### **Water use**

The report deals with the matter of water conservation, and questions the practice of not excavating wells in newly built dwellings. In this respect it is also known that a large proportion of existing wells are in bad repair and are not being utilized. Government should encourage house owners to maintain their wells and should device a grant scheme to assist the owners to repair their wells.

### **Transport**

Recommendation 64, on the revision of the single lane road policy now needs to be extended further. The new speed camera policy which, for fiscal reasons, has reduced the speed limits to 60 kph in dual carriageways, will mean more congestion as described very well in Sections 04.51 and 05.52. The CCC should state clearly that this is unfavourable in a climate change context.

### **Street Lighting**

While the use of energy saving lamps in households is being encouraged, the trend in street lighting seems to be the opposite. At various places, especially on the coastline, street lights are being installed consisting of a mercury halide lamp pointing upwards with the light reflected from an often rusty plate which is supposed to diffuse the light. The overall efficiency of this system must be a small proportion of that of a SON lamp.

The inefficient method referred to is being used in the new seafront road at Xghajra, where dozens of lamps are being installed. The proximity of the sea ensures that the 'reflectors' are already rusting, with the lamps barely installed. I have seen such lights at Paceville, Marsalforn and the Bugibba raised beach. Such lamps should be banned.

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### **Personal note**

I have only commented on areas in which I feel I am competent to comment. Previous to my retirement I was employed with Enemalta in various positions including Manager Generation and Manager EU Affairs. I was involved in the drafting of the first National Allocation Plan on emission trading and also attended various conferences and discussions on the matter. I have also personally walked through all the sites I suggested as suitable sites for onshore wind farms.

These comments are being made solely on my initiative and I do not have any connection with any political, trade union or commercial organization.

John Pace