

**MALTA RESOURCES AUTHORITY**

**Annual Report 2005 - 2006**



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# The Authority

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Director for Energy Resources Regulation

# Mission Statement

The Malta Resources Authority seeks to serve the Maltese community through effective, coherent, holistic and transparent regulation of the energy, minerals and water resource sectors of the economy, ensuring their advancement and sustainable use to support the integrated environmental, social, economic and business development in the Maltese Islands. It further seeks to contribute to and participate in ongoing regional development and assist in the nation's efforts to fulfil its international obligations in these spheres.



# Foreword by the Chairman



This is now my second year since I have been appointed Chairman of the Malta Resources Authority. During this period we have been witnessing significant changes in the regulated sectors. The challenges which the Authority is facing are significant and I believe are crucial for the continued economic development of the sectors in Malta.

It is unquestionable that some decisions taken during this period will have a long-lasting effect on the sector and the national economy in general. Further

decisions which the country needs to arrive at include the development of the appropriate frameworks for the liberalisation of the fuel market, energy policy decisions including energy efficiency and renewable energy options, as well as other electricity generation options for the country.

It is acknowledged that modern economies are largely dependent on affordable and reliable basic energy and water services. Malta's accession to the European Union is a major driver for the country to adjust our market structures in sectors which up to now have enjoyed limited or no competition.

The inland fuel market is one such sector. The liberalisation of this market is expected to contribute towards increased efficiency, improved quality, lower retail fuel prices and greater consumer satisfaction and choice. These in turn should contribute towards greater competitiveness and community prosperity. The process however requires delicate reforms to be introduced as well as development and updating of legislative instruments, rules and operating practices.

The country has a few years back experienced a similar process with the liberalisation of the telecommunications sector. Moreover aviation fuel and marine bunkering services have already been liberalised since 2004 and 1995 respectively. There are therefore lessons to be drawn from these experiences.

In the consultation paper on fuel market liberalisation published by the Authority this year, it was noted that the consumer should be the main focus of a successful liberalisation programme. At the same time, I reiterate that the Authority is committed to seek to adopt knowledge and information-based regulation through monitoring and analysis of market behaviour and through taking cognisance of local and international developments. We will also seek to reduce bureaucracy, direct regulation and supervision and steer the industry towards self-regulation.

In this context there are a number of issues that will need to be addressed and resolved in this



# Foreword by the Chairman

liberalisation process such as:

- establishment of a new licensing regime;
- asset management, inspections and permitting;
- security of supplies and security stockholding;
- fuel quantity and quality monitoring and testing;
- safety issues including development of appropriate Codes of Practices, standards and regulations;
- economic performance of the fuel market.

The Authority is conscious of its sensitive role in this process, one that is dictated by principles of impartiality, diligence and clear understanding of the commercial, scientific and technical aspects, as well as, sensitivity to the expectations and concerns of both the stakeholders and the community.

I would like to acknowledge the efforts of the Members of the Authority. On behalf of the members of the Authority I would like to thank the management and all the employees for the excellent contribution made by them throughout this year. I look forward to continue working with them in the coming year, further addressing the challenges facing the regulated sectors for continued economic development of our nation.



Austin Walker  
*Chairman*

MRA

MRA

# Introduction by the Chief Executive Officer



It is my pleasure to once again introduce the Malta Resources Authority's Annual Report.

The year 2005 – 2006 has been a challenging year and one in which progress has been registered in the regulated sectors.

Liberalisation of the inland fuel market was and continues to be a priority, not least because of national commitments undertaken in the Treaty of Accession to the Union. Following the study commissioned last year on the subject, the Authority published a consultation paper including a number

of draft regulations (legal notices) for this eventual liberalisation process. The Authority considered the submissions received from various stakeholders who participated in the consultation process and is incorporating some of them in its revised submissions to Government.

Of significance was the work undertaken in preparation for amendments to the Malta Resources Authority Act to strengthen and enable the Authority to meet its new challenges in regulating the energy sector.

During the past year, the Authority continued to provide support to Government, mainly in areas related to policy development and technical support on matters being discussed and negotiated at EU level.

The Authority coordinated the drafting of an Energy Policy for Malta. This process eventually led to the submission of the draft Energy Policy document to Government as well as its publication for public consultation. In addition the Authority also assisted

Government in the development of a draft Renewable Energy Policy.

The Authority also provided other technical support and advice to Government in its dealings with the European Union on matters related to the regulated sectors. This included submissions and input to memoranda on proposals and other EU Commission communications, preparation of instruction notes and other technical input on proposals for new legislation. During the year a number of directives were also transposed into Maltese legislation.

Climate change is a global issue which is increasingly at the top of the international agenda. Europe is undoubtedly at the forefront in leading cuts in greenhouse gas emissions through the promotion of energy efficiency and renewable energy. These areas deserve significant efforts on our part. Following various studies on offshore wind energy potential carried out in 2005, late during this year the Authority, at the request of Government, published a call for expressions of interest for offshore windfarm

# Introduction by the Chief Executive Officer



development in Maltese territorial waters. This Call is seeking expressions of interest by would-be entrepreneurs for development of between 75 – 100 MW of offshore wind power on a public private partnership basis. Such a project would contribute around 10% of the total electric power demand. During the year preparatory work for a national education campaign on sustainable energy use was undertaken.

The Authority also extended its participation in various projects at EU level which are of national interest and which assist it in delivering on its core functions. The Authority further developed its networking approach with other Government agencies and entities on a variety of issues and across the three regulated sectors. A memorandum of understanding signed with the Customs Department in respect of monitoring imports and storage of petroleum products is an example. In the meantime we have also sought to provide high quality industry specific services, such as the Directorate for Minerals Resources Regulation

continuing its work on setting up an effective geological data bank.

The achievements reported were possible thanks to the efforts of all the staff of the Authority. It is through the team spirit, resourcefulness and dedication of all concerned that we can report with satisfaction on the work undertaken during this past year. I am confident that the Authority will continue to maintain this same level of efficiency and value for money in its work which I believe has characterised the Authority since its establishment.

I hope that this report provides you with a good indication of the work being undertaken and that it reaches your expectations. We welcome your constructive comments on the activities undertaken and ways in which we can serve you better.

A handwritten signature in dark ink, appearing to read 'A. Riolo', is positioned above the printed name of the Chief Executive Officer.

Antoine Riolo  
*Chief Executive Officer*

# 1 Corporate Issues

This report focuses on the activities undertaken by the Malta Resources Authority during the period 1st October 2005 to 30th September 2006.

## The Role of the Authority

The Malta Resources Authority Act (Act XXV of 2000) provided for the establishment of the Malta Resources Authority with regulatory functions regarding resources relating to water, energy and mineral resources.

The MRA is established as a multi-sectoral regulator with wide-ranging responsibilities. The functions of the Authority are established under Article 4 of the Act.

A draft bill necessary for the implementation of the liberalisation process and providing an overhaul to the Malta Resources Authority Act itself was presented to Government for its approval. The amendments therein proposed should also enable the Authority to better meet the demands of regulating the sectors.

## Quality Management System

During this financial year the Authority has embarked on

a project to introduce a Quality Management System in line with the guidelines outlined in ISO 9001:2000. A number of preparatory activities were completed. These included:

- Staff Briefing.
- Determination of the Quality Policy and Quality Objectives.
- GAP analysis on the current procedures.
- Identification of the activities of the Authority and the overall process applied for the achievement of these activities.
- Internal Quality Auditors training.
- Organisation of quality management meetings.
- Identification of major procedures.
- Logging and normalisation of forms.
- Drafting of the Corporate Quality Manual.
- Drafting of Quality Procedures, including procedures of document and record control and internal quality audits.
- Identifying the requirements for an effective Customer Complaints Procedure.

The functions of the Authority could be divided into two major categories:

- Holistic regulation of the markets falling within the Energy, Minerals and Water sectors, so as to ensure market stability, environmental and customer protection and fair competition between operators.
- Giving a service to the Government through advice and drafting of policies.

These functions are performed through regulatory tools which include licensing and monitoring schemes and through focused specific projects.

The overall operational process of the Authority was thus defined as shown in Figure 1.

The introduction of the Quality Management System also offers MRA an opportunity to revise overall and document its administrative procedures, including the monitoring and licensing procedures currently in place and write new ones where the need is identified. New procedures and policies, such as the ICT Policy were in fact formalised during this year.

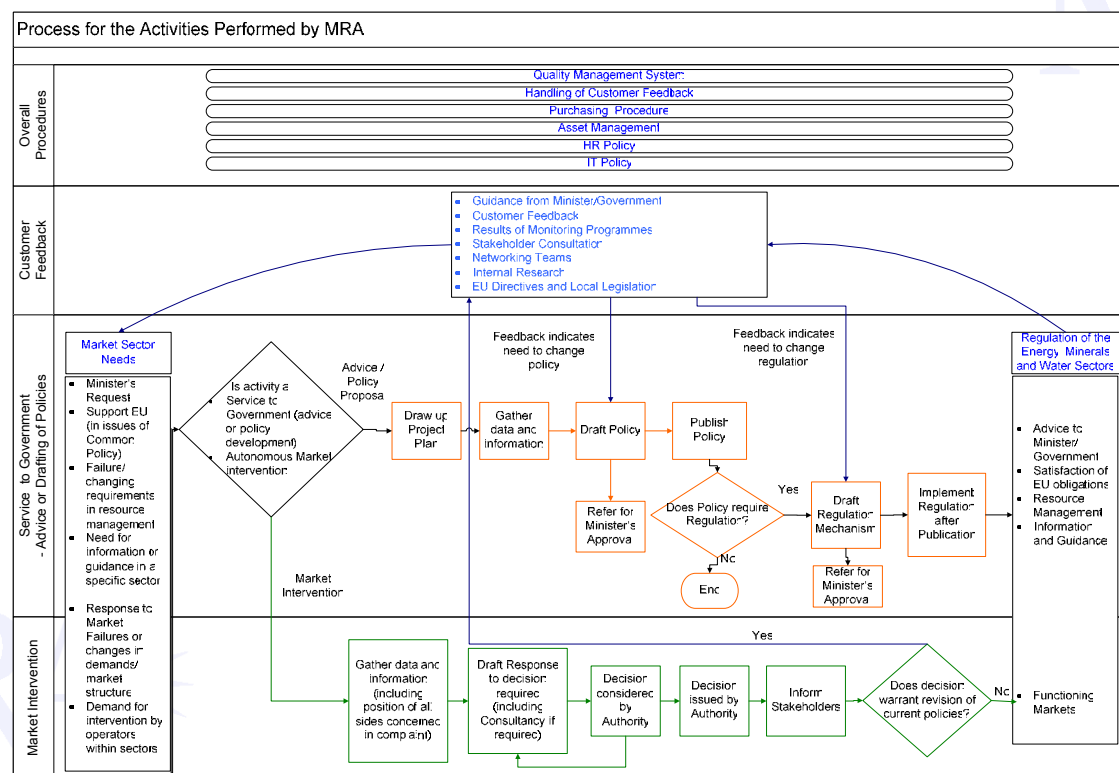
Substantial amount of work has also been carried out to revise the customer care procedures of the Authority and a robust customer care system is now in place. With the coming into force of the new monitoring programmes it is envisaged that customer contacts will increase.

The changes taking place also require that the Authority's structure be revised and manpower resources expanded significantly to meet the new demands. The Authority has embarked on a Manpower Needs Analysis to determine the changes required. The results of this study will help to determine a final Human Resource Policy for the organisation.

The Authority endeavours to follow good project management procedures to manage projects.

Many of the licences and other monitoring procedures currently in use require amendments to bring them in.

Figure 1 : Overall Process of Activities



# 1 Corporate Issues

## Website

The Authority's website continued to be periodically updated and developed. The website offers a medium for consultation for the general public on this work and in general has been positively well received. During the year various public consultation documents and other reports were posted on the website including:

- A proposal for an energy policy for Malta;
- The consultation paper on the liberalisation of the inland fuel market, including proposals related to the liberalisation of the importation, storage and wholesaling of fuels, which will bring the country compliant with obligations it undertook at the time of accession to the European Union.
- The Draft Network Code.
- Review of the Fuel Surcharge Mechanism to verify that the fuel surcharge levied to date by Enemalta Corporation was limited to cover shifts in the cost of managing fuel stocks required for the generation of electricity.





## Technical support with respect to EU legislative process

During the year under review, the Authority continued to provide technical support to Government in its dealings with the EU, particularly the legislative process. It was requested to review documentation on policies and proposals, formulate recommendations for positions to be established by Government and to attend meetings in Brussels.

The specific input required from the Authority included:

- preparation of memoranda on proposals or other commission communications dealing with the energy and water sector. These memoranda are approved at Ministerial, inter-ministerial, Cabinet and Parliamentary levels, with the input in certain cases of MRA staff;
- preparation of instruction notes for the Maltese Permanent Representation staff to allow them to participate actively in Council and

Commission meetings and to present Malta's case and position;

- attendance as necessary to Commission and Council working party meetings, and other meetings, where technical input was essential. This was particularly the case for the proposal on protection of groundwater from pollution, where MRA staff attended every meeting on Government instructions;
- preparation of background notes and other documentation for the bi-annual Council meetings where political level discussions and agreements are reached;
- drafting and proposing transposition of EU directives into Maltese law;
- monitoring and follow up of the reporting to the Commission required in the EU directives.

## *Pipeline legislation*

The Authority is involved in the process of assessing proposals and submitting comments to Government on new legislation issued by the Commission. The objective of the work carried out by the MRA is to present a summary of the proposal, to identify the impact of a



proposal on Malta and propose alternatives or amendments to the proposal. The technical advice to Government in the form of these memoranda is discussed at the inter-ministerial conference, approved by Cabinet, and subsequently presented by the Ministry to the Committee of the House of Representatives for Foreign and EU Affairs. The Authority was also responsible to produce instruction notes that are used by the technical attaches (energy and environment) during the meetings where the proposals are discussed.

The proposals discussed during this financial year are listed below in chronological order of their issue by the Commission.

***Com (2003)319 Proposal for a directive on the management of waste from the extractive industries***

The proposal is led by MRAE and the mineral directorate's contribution was limited to comments on the proposals. This proposal was published as Directive 2006/12/EC.

***Com (2003)550 Proposal for a directive on the protection of groundwater and pollution***

Groundwater is the only reliable non-seasonal natural source of water available for human consumption and

agricultural purposes in Malta. It is also important in providing the baseflow for some freshwater ecosystems and wetlands. At the same time, groundwater in Malta has certain natural 'coastal' characteristics that differentiate it from groundwater in continental Europe. Furthermore, the intensive land use in Malta also puts higher pressure on Malta's groundwater.

Article 17 of the Water Framework Directive (2000/60/EC), required the Commission to propose a directive to the European Parliament and the Council to adopt specific measures for the control of groundwater pollution by setting common criteria for good chemical status and trends.

The Proposal was launched for discussion in 2003 with specific measures as per Article 17(1) and (2) of Directive 2000/60/EC to prevent and control groundwater pollution. These measures include in particular:

- criteria for the assessment of good groundwater chemical status;
- criteria for the identification of reversal of significant and sustained upward trends and for the definition of starting points for trend reversals.

The Proposal also establishes a requirement to prevent or limit indirect discharges of pollutants into groundwater. Political agreement on the dossier was obtained at the Environment Council on the 24 June 2005 (doc. 10167/05). The European Parliament voted on its second reading on 13 June 2006 (P6\_TA-PROV(2006)0251). On 1st August 2008 the Commission delivered its opinion on Council's agreement and the European Parliament's second reading in terms of Article 251(2) of the EC Treaty (COM (2006) 434, doc. 12368/06).

The Council, engaged in a trialogue with the Commission and the European Parliament to seek convergence on various points over which agreement was lacking. For Malta the two outstanding points of concern were the amendment linked with the definition of "deterioration" and that concerning the Nitrates package.

Our proposals were aimed to ensure implementation in a manner that allows the protection of groundwater to be consistent with Malta's natural and geographical characteristics, that does not result in disproportionate remediation costs, and that allows the sustainable exploitation of such groundwater.





Malta sustained that the definition of “deterioration” must be aligned with the understanding of deterioration as in Article 4 of Directive 2000/60/EC while it should be included in the operative part of the Directive and not as a recital.

On the issue of nitrates, Malta was against setting a “limit” value on nitrates in this directive as this would in real terms add more economic burdens to agriculture by exceeding what is legally required by the Nitrates

Directive. It is to be noted that the establishment of the 50mg/l limit on nitrate content in groundwater to be achieved by 2015 at the latest as required for limits established under the WFD will have a substantial financial impact on the agricultural sector in Malta – since in simple terms this will establish a time-limit for the pollution prevention measures of the Nitrates Directive to achieve the required results. Malta therefore favoured a less drastic approach that would allow gradual recovery of groundwater quality without

subjecting the agricultural community to excessive financial burdens.

This required the drafting of a memorandum to be submitted to Cabinet and subsequently to the House of Representatives, drafting of instruction notes for each working party meeting. The proposal was also discussed by a number of EU parliament working parties and a number of amendments proposed.

This proposal was published as Directive 2006/118/EC.

## *Com (2003)739 Proposal for a directive on energy end use efficiency and energy services*

The main issues identified were:

- identification of the potential cost of providing such services, based on the costs in other member states. As a pro-rata of the cost of energy services in Ireland, the cost for providing such services in Malta to achieve the targets identified in the proposal would be approximately €4million per year. As a result, the advice to Government was to support

indicative rather than mandatory targets as originally proposed.

- ensuring that the providers of energy services do not supply electricity so long as a derogation is implemented by Government in this respect. Instruction notes were prepared for the weekly working group meetings since the proposal was discussed in depth during this quarter. Discussions were held with ADT, Enemalta Corporation and the Ministry for Finance.

The Authority also prepared documentation to make a presentation on the current position of the proposal to the EU affairs committee of the House of Representatives. The presentation allowed the Committee to lift its parliamentary scrutiny reservation.

This proposal was published as Directive 2006/32/EC.

*Com (2003)740 Proposal for a directive on measures to safeguard security of electricity supply and infrastructure development*

Concerns were raised mainly on the original proposal on the importance given to interconnection, and the role of the

Commission in interconnection. The proposal was discussed in the council working group and the latest amended version is generally acceptable. It was also discussed in the EU parliament ITRE committee, where 125 amendments were proposed. The Authority is currently in the process of preparing a briefing paper for our MEPs for their use during the plenary voting session. As for other proposals, the Authority also prepared a presentation for the EU affairs committee of the House of Representatives, allowing the lifting of the parliamentary scrutiny reservation on this proposal as well.

This proposal was published as Directive 2005/89/EC.

*Com (2003)741 Proposal for a regulation on conditions of access to gas transmission networks*

Since the proposal was amended such that emergent and isolated systems (as defined in directive 2003/55/EC) automatically are eligible for a derogation from the regulation, the Authority did not continue to participate so actively in the drafting of the proposal. A number of amendments were proposed by the EU parliament and it was discussed twice at Coreper level. Instruction notes were required in all such cases.

The Authority also prepared documentation to make a presentation on the current position of the proposal to the EU affairs committee of the House of Representatives. The presentation allowed the Committee to lift its parliamentary scrutiny reservation on this proposal as well.

*Com (2003)742 Proposal for a decision laying down guidelines for trans-European energy networks*

The proposal essentially lists the projects that could be eligible for (10%) funding from the EU and the mechanisms of submission/ acceptance/ implementation of projects. Malta had proposed, and Council accepted, including the following projects as having a common (European) interest in Annex III:

- 2.33 (Electricity networks) – Submarine electricity connection Malta (MT) – Sicily (IT).
- 3.85 New wind energy connections in Malta.
- 6.15 LNG in Malta
- 8.38 Malta (MT) – Sicily (IT) pipeline.

The proposal was discussed at a number of EU parliament committees, (ITRE, TRAN, ECON, BUDG, ENVI, IMCO) where 83 amendments were proposed. One committee proposed deleting a number of projects including those of Malta, while another voted in favour of retaining the projects. The

Authority had to present its reaction to each of these amendments in the working group (in April). As for other proposals, the Authority also prepared a presentation for the EU affairs committee of the House of Representatives, allowing the lifting of the parliamentary scrutiny reservation on this proposal as well. This proposal was published as Decision 2006/1384/EC.

## *Com (2004)2 Proposal for a directive on services in the internal market*

The proposal envisages that market for services be opened in all member states, with barriers being removed and providers being subject to the legislation of the country of origin. Discussions are led in this case by the Ministry for Competitiveness, so our participation was limited to providing advice. In this case, the Authority recommended that electricity transmission, distribution and supply, gas transmission and distribution, water services and sewerage services be excluded from the country of origin principle – in other words, the legislation and standards of Malta apply to such providers, rather than the legislation of the country where the provider is established. This was accepted by the Council. The Authority also advised that this will mean that any restrictions on licensing of petrol stations (for example)

would need to be removed if this proposal becomes directive. The EU parliament IMCP committee has discussed the proposal and the amendments proposed to further liberalise the market.

## *Com (2004)475 Proposal for a regulation determining rules for financial aid in the field of trans-European energy and transport networks*

Action over the period considered focused on two fiches presented by the Commission with regards to the impact of enlargement on the TEN-E programme. Our reply on the

subject was submitted through the Malta Group on Financial Perspectives established under the Ministry for Finance.

## *Com (2005)265 Green paper on energy efficiency*

The Commission presented a green paper making a strong case for energy efficiency because of:

- high and volatile oil prices, which have led to a downgrading of the prospects of economic growth in Europe;



- its contribution towards competitiveness and the Lisbon agenda, since it believes that 20% of present energy could be saved;
- it is considered the quickest and most cost effective way of meeting environmental protection and Kyoto targets; and
- the need to reduce reliance on imports of oil in order to improve security of supply.

The green paper then proposes a number of key actions as ideas for discussion:

- establishing Annual Energy Efficiency Action Plans at national level. The plans could be complemented by a “benchmarking” and “peer review” process at European level;
- giving the citizens better information, for example through better targeted publicity campaigns and improved product labelling;
- improving taxation, to ensure that the polluter really pays, without however increasing overall tax levels;
- better targeting state aid where public support is justified, proportionate and necessary to provide an incentive to the efficient use of energy;

- using public procurement to “kick-start” new energy efficient technologies, such as more energy efficient cars and IT equipment;
- using new or improved financing instruments, both at Community and national level, to give incentives, but not aid, to both companies and householders to introduce cost-effective improvements;
- going further regarding buildings, where an existing Community Directive applies, and possibly extending it to smaller premises in a manner that ensures cost-effectiveness and minimum additional bureaucracy; and
- using the CARS 21 Commission initiative to speed up the development of a new generation of more fuel-efficient vehicles.

The green paper then put 25 questions that are intended to stimulate public debate. The Authority has reacted tentatively to the proposal by identifying the key issues that could be implemented in Malta, and will follow up with consultation with other involved Government entities.

### *International: EU – Russia energy dialogue; EU-OPEC dialogue; South – East Europe Energy Treaty*

MRA’s participation on this subject was limited in view of Malta’s isolation. However, although these processes will not have an immediate/ direct impact on Malta, at least until it connects to the European market, these initiatives should theoretically lead to more stable and environmentally friendly supply of energy to the European Market, lower demand by the parties concerned and hence lower and less volatile energy prices at international level.

### *Transposition of Directives*

#### *Directives to be transposed during next financial year*

A number of new directives have been issued during 2005/2006, that require transposition under the MRA Act. The following directives will need to be transposed during 2006 and 2007 .

Government is also considering whether to transpose Directive 2002/91/EC through regulations issued under the MRA Act rather than through the proposed Building Control Act as initially envisaged by Government.

*Table 1 : Directives to be transposed into Maltese law*

Directive title	Comments
Directive 2004/8/EC of 11 February 2004 on the promotion of cogeneration based on a useful heat demand in the internal energy market and amending Directive 92/42/EEC	Co-generation is defined as the simultaneous generation of thermal and electrical energy. Typical applications in Malta would be in small electrical generators where thermal energy is recovered for use in space heating/cooling or for industrial heating applications.
Council Directive 2004/67/EC of 26 April 2004 concerning measures to safeguard security of natural gas supply	Considering that there is no natural gas in Malta, this directive has no immediate impact, though it may be a significant factor in the cost-benefit analysis of future developments.

Directive 2004/8/EC aims is to increase energy efficiency and improve security of supply by creating a framework for promotion and development of high efficiency cogeneration of heat and power based on useful heat demand and primary energy savings in the internal energy market, taking into account the specific national circumstances especially concerning climatic and economic conditions. Although the use of large scale cogeneration is

probably limited in Malta, there may be scope for small scale cogeneration units in industry or large buildings (for cooling). Little work has been carried out so far on this directive.

Directive 2004/67/EC has little relevance while there is no natural gas in Malta.

### *Notifications of technical legislation*

In terms of Directive 98/34/EC as amended by Directive 98/48/EC, EU Member States are required to transmit to the European Commission their draft technical regulations. Subsequently, the European Commission retransmits the drafts to all the EU Member States and each Member State may submit its own observations on the draft to the Commission. The Maltese Notification Point is the Malta Standards Authority, which requests comments from the MRA where any such notified legislation concerns the water or energy sector.

None of the transmitted legislation received so far required any objection from the Authority.

However, the draft Enemalta Corporation network code was notified to all Member States and to the Commission in parallel to its publication for public consultation in Malta. The Commission reacted by advising the insertion of a clause on electromagnetic compatibility, to emphasise the relationship between the network code and national legislation transposing EU directives on electromagnetic compatibility.

### ***Reporting to the EU Commission***

Practically all recent directives require Member States to report regularly on their implementation. Substantial reporting was required this year in connection with the Water Framework Directive, and then more reporting will be required next year as part of the tri-annual cycle reporting requirements of the environmental water *acquis*. In the energy sector, reports were required in connection with the implementation of the natural gas and electricity directives and with the use of biofuels. Monthly reporting continued in connection with the oil stocks directive, and an annual report on the implementation of the co-generation directive was also requested. All these reports were provided by the Authority.

### **Support to Government in its dealings with the European Union**

#### ***Annual report on the electricity and gas market***

EU Directive 2003/54/EC required the Authority to report in July 2006, on:

- measures adopted to fulfil universal service and public service obligations, including consumer protection and

environmental protection, and their possible effect on national and international competition, whether or not such measures require a derogation from this Directive;

- security of supply issues. This monitoring shall, in particular, cover the supply/demand balance on the national market, the level of expected future demand and envisaged additional capacity being planned or under construction, and the quality and level of maintenance of the networks, as well as measures to cover peak demand and to deal with shortfalls of one or more suppliers.
- effective competition and the efficient functioning of the market, monitoring in particular:
  - ♦ the time taken by distribution undertakings to make connections and repairs;
  - ♦ the publication of appropriate information by distribution system operators concerning interconnectors, grid usage and capacity allocation to interested parties, taking into account the need to treat non-aggregated information as commercially confidential;
  - ♦ the effective unbundling of accounts as to ensure that there are no cross subsidies between

generation, transmission, distribution and supply activities;

- ♦ the terms, conditions and tariffs for connecting new producers of electricity to guarantee that these are objective, transparent and non-discriminatory, in particular taking full account of the costs and benefits of the various renewable energy sources technologies, distributed generation and combined heat and power;
- ♦ the extent to which distribution system operators fulfil their tasks;
- ♦ the level of transparency and competition.
- market dominance, predatory and anti competitive behaviour. This report shall, in addition, review the changing ownership patterns and any practical measures taken at national level to ensure a sufficient variety of market actors or practical measures taken to enhance interconnection and competition.

The Authority prepared a report to meet these requirements in the format as agreed at the European Group of Energy Regulators.





## Energy Policy Development

### *A Draft Energy Policy for Malta*

Government had requested that the Authority drafts a national energy policy for its consideration. Energy policy is not the sole prerogative of one particular Ministry, but cuts across a number of Ministries. Various Government entities are also involved in implementing policy that is, albeit sometimes indirectly, a pillar of energy policy or a policy that influences radically the direction of energy policy.

The Authority therefore identified its role primarily as a coordinator of the process, though it also has a substantial input to propose in parts of the proposal. The first task was to establish the objectives of the policy, and the strategic areas – the framework – that will lay the foundation of the policy proposal.

The policy considered that a secure, competitively priced, and environmentally sound energy supply is a basic requirement for a competitive Maltese economy. Without an energy supply with these characteristics,

sustained economic growth, employment and prosperity will be jeopardised.

The draft energy policy, not yet approved or adopted by Government, proposes the following policy areas:

- Ensuring that the demand is justified and that no energy is wasted.
- Reducing dependence on foreign sources for energy.
- Ensuring fuel availability and protecting against price volatility by diversifying sources of energy and planning for disruption.
- Ensuring that the delivery of energy in Malta meets highest international standards in term of quality of service, standards and competitive pricing.
- Participating in research and development activities and ensuring an educated workforce capable of serving the sector.
- Applying a fiscal policy that supports the objectives of the energy policy.

Ministries, departments and entities which are currently formulating or implementing energy related policy were then identified. All these entities were consulted through

# 3 Energy Resources Regulation

an initial letter requesting their opinion of the considerations that they believe should form part of an energy policy and which specific measures and targets are recommended, together with information on financing and implementation measures. Each entity was also asked about their role in implementing the recommended measures.

These letters were followed up with a meeting and in most cases, written feedback was submitted.

This Authority then proposed a consolidation of the input from various Ministries, and is proceeding with the second round of consultation.

A finalised draft was submitted to Government and this was issued for public consultation during 2006. The Authority was also notified by the SEA Audit Team that a Strategic Environment Assessment is required.



## **Liberalisation of the Inland Fuel Market and Regulation of the Sector**

### *Consultation Paper on Liberalisation of the Fuel Market*

A major effort was undertaken by the Directorate for Energy Resources Regulation to prepare and present for Government's consideration, the legislation necessary to put into effect the liberalisation of the inland fuel market.

In April 2006, the Authority published a Consultation Paper on the Liberalisation of the Inland Fuel Market. Accompanying this Paper upon publication were three Draft Legal Notices, on :

- The Petroleum for the Inland Fuel Market Regulations
- The Biofuels Market Regulations
- The Bulk LPG (Installation and Use) Regulations

A new set of licence conditions made necessary by the introduction of this new legislative and regulatory framework was also published alongside these draft regulations.

The responses to the consultation document were taken into account in a draft policy paper, entitled the



'Liberalisation of the Inland Fuel Market: The Way Forward' which was prepared and submitted to Government for its consideration.

### ***Guidelines on Regulatory Accounts***

During the year under review, the Authority, with the assistance of Deloitte and Touche, prepared a set of guidelines for the separation of accounts for activities related to petroleum importation, wholesaling, primary storage, and the importation and, bottling of LPG and manufacturers, wholesalers and retailers of bio fuels.

The primary purpose of accounting separation is to ensure that the charges of an operator are cost based, there is fair value and costs are transparent and non-discriminatory. The guidelines also describe the accounting and financial information which would have to be provided by licence holders to the Authority.

### ***Inspections of Petroleum-filling stations***

Officials of the Authority carried out an Audit Inspection of all Petroleum Filling Stations and Kerbside pumps situated in Malta and Gozo, in conjunction with

APEA (the Association for Petroleum and Explosives Administration). The objective behind the exercise was to take stock of the condition of local petroleum filling stations and advise owners of the necessary upgrading, emphasising safety. The MRA will compile a comprehensive database with the condition reports, diagrammatic plans and photographs produced as a result of these inspections.

The inspections were carried out with the full cooperation of the the General Retailers and Traders Union, the trade association which represents most petrol station owners, and the owners themselves.

### ***Security Oil Stocks***

As the competent Authority for oil stocks security stockholding, the Authority continued its monitoring and reporting of such stocks in compliance with Directive 98/93/EC

Officials of the Authority through a TAIEX funded program participated in a study visit to the German fuel stockholding agency to see best practice in regard to stockholding methodologies. The information gained

was very useful and Enemalta, the currently designated security stockholder was requested to guide itself by such methodologies.

### ***Monitoring the Price of Fuels***

The Authority monitors the prices of fuels. On a monthly basis Enemalta Corporation, which is to date the only importer of fuels sold in the inland market, works out the price per litre of each fuel type. The price is based on the cost of each respective consignment of fuel, fiscal dues (Excise and Vat) and a profit margin, according to a policy established by Government. The Authority verifies the workings submitted by Enemalta Corporation and notifies the price of fuels for the following month.

### ***Appeal against a decision of the Authority – Shell vs. Enemalta Corporation***

The Authority filed a reply in November 2005 to the appeal filed on the 22nd September 2005 by Shell Aviation Limited to the Resources Appeals Board. The Appeals stage continued throughout the year in review with the participation of the Authority.

The appeal was made in regard to Decision 02/ED of

the 9th June 2005 on the Complaint of Shell Aviation, as represented in Malta by Attard Services Limited, against Enemalta Corporation with regard to the providing of fuel and oil handling services at the Malta International Airport.

The MRA had decided, in the appealed decision, that its function at law was to regulate price structures and mechanisms and not to stipulate actual prices for the services in question, as it had been asked by Shell, represented by Attard Services Limited. It had also directed the parties to negotiate in good faith to arrive at a mutually agreeable fair cost-based charge for the providing of fuel and oil handling services within 4 weeks of the issuing of the decision, failing which they had to give the MRA or another mutually acceptable competent entity, a mandate to establish such charge.

#### ***Memorandum of Understanding with the Customs Department***

In order to develop a streamlined system in respect of monitoring imports and storage of petroleum products, a memorandum of understanding was signed with the Customs Department. This agreement will ensure a



regular and timely flow of information for the Authority to monitor the market, eliminating duplication of work with the Customs Department that might otherwise occur.

Such monitoring enables the Authority to ensure that there is a secure supply of quality fuel at fair prices.

#### **Study of the LPG Market in Malta**

The Authority is currently carrying out a review of the LPG market. This includes an evaluation of the existing import,

bottling and distribution sectors and identification of their strengths and weaknesses. Through surveys carried out among consumers of cylinder and bulk users, the present state of the market for LPG has been established. The Authority intends to propose measures in order to render this service more efficient and effective. When the market review is completed, the Authority will be better equipped to recommend future investment needs, consumer education and price policies. All stakeholders will be consulted in due course.

## Upgrading the Local Bulk LPG Sector

The Authority, through its Energy Directorate, worked with the Centre of Registered Gas Installers (CORGI) of the UK. on an initiative designed to enhance safety, efficiency and good practice in the local LPG sector. Between November 2005 and 2006 CORGI and MRA officers shared ideas on a legislative framework suitable for Malta. Site visits were made to a sample of market players including industrial and commercial LPG storage sites. The visits served to demonstrate professional inspection routines to officers of the Energy Directorate.

## Other Activities

Several consultative meetings with international producers of petroleum dyes and markers, were held with a view to establish a workable fuel marking and traceability policy that is tailor-made for Malta. A holistic perspective has been adopted and excellent liaison has been maintained with the Customs Department.

Officials of the Authority also visited an Autogas conversion factory in the United Kingdom as part of the work being carried out in connection with the eventual introduction of Autogas in Malta..

The on-going cooperation with the UK Council of Registered Gas Installers (CORGI) was profitable and instructive. This included a visit to major gas installations and meetings with major market operators and stakeholders in the U.K. An agreement for the adoption and customisation of the U.K. Codes of practice for use in Malta has been discussed.

An experience-sharing meeting was held with the Authority's counterparts in Cyprus focussing on the Cypriot experience in regard to the liberalisation of the inland fuel market. Discussions also were held on consumer protection and competition issues, pricing, monitoring of operations, the type and frequency of technical tests needed, the right of access to storage infrastructure, the licensing regime, unbundling of accounts, security stocks, right of access to storage infrastructure and storage installation and performance bonds and penalties in Cyprus.

## Regulation of the Electricity Sector

### *Network Code*

The Malta Resources Authority has instructed Enemalta Corporation, as the network operator in Malta, to draft technical rules establishing the minimum technical design and operational requirements for the connection to the system of generating installations, distribution systems, directly connected consumers' equipment, interconnection equipment and direct lines.

The network code is primarily of interest to potential new entrants in the generation business, contractors and installers, and also consumers. Stakeholders were invited to submit their comments on the draft network code, focusing on issues that included safety criteria, impact on stakeholders, and interoperability and organisation of network operations.

The Network Code was subjected to a public consultation process and notification to the European Commission and Member States.

# 3 Energy Resources Regulation



The comments that resulted from the public consultation, from the EU Commission and MRA recommendations were referred to Enemalta Corporation for consideration and a final position is closed to be adopted.

## *Electricity Tariffs*

It is Government's policy that consumers pay a surcharge over and above the basic electricity tariffs to cover part of the additional costs arising from fluctuations in international fuel prices. Enemalta Corporation absorbs

part of these additional cost. This revision takes place on a bi-monthly basis as from November 2005.

Enemalta Corporation works out its costs, and hence the surcharge, which is then referred to the Authority.

Following to the complaints received from the general public and the Office of Fair Competition regarding the lack of clarity in the bill format currently used, the MRA started discussions with the Water Services Corporation and Enemalta Corporation to investigate how the format

of the bill can be modified. Final direction was given by the Authority to Enemalta Corporation and Water Services Corporation to this effect.

## *Verification of Surcharge Mechanism*

In March 2006, Enemalta Corporation requested the Authority to carry out an independent exercise to verify whether the surcharge imposed on electricity bills was solely due to fluctuations in the price of fuel and not to cover other costs associated with the generation of electricity.

The Authority retained Deloitte and Touche to carry out the required review.

The final report conclusion was that "the Corporation is not including its operational costs beyond fuel stocks in the surcharge model," and the model is not affected by any unauthorised inefficiencies.

A presentation of this report was given to the Malta Council for Economic and Social Development by senior officers of the Authority and the consultant.

## ***Wireman Licence Revision***

A proposal for the updating of the wireman licensing process is being prepared by the Authority, after having established the continuing utility of such a license. The underlying concept has been reviewed to make it more relevant to current circumstances and the best way to put in place an effective mechanism that is harmonised with the national qualification schemes has been proposed. In order to ensure acceptance of any new proposals, the MRA conducted extensive consultation with interested stakeholders to develop procedures, regulations and other necessary tools (including training guidelines and methods of assessments, etc.)

These consultees included MCAST, the Examinations Unit of the Education Department, the Occupational Health & Safety Authority (OHSA), Electrical contractors, Electrical engineers, Enemalta Corporation and ETC.

## **Energy Link with Europe**

The Government of Malta has decided in favour of an HVDC cable interconnection with Sicily intended to eliminate the electrical isolation of the Maltese Islands.

This initiative is intended to enhance the security of supply of electrical energy by supplementing on-island generation taking into consideration the future demand and generation infrastructure in Malta, including possible large-scale offshore wind.

The Authority issued a tender for consultancy services for the study of the optimal sizing of an HVDC cable interconnection with Sicily, and its technical and regulatory implications and impact on market operations and structure..

The study is intended to consider options for diversification of fuels for on island generation – by considering natural gas and liquefied natural gas as alternatives to the existing fuel oil/gas oil mix.

These services are to include the carrying out of feasibility and other studies and hence final recommendations to Government. The study shall also be used to support an application to the European Commission for financial assistance under the TEN-E or other programmes, or for other applications for funding.

## **Participation in National and International Fora**

### ***CEER and EGREG***

The Council of European Energy Regulators was set up in 1997 as a voluntary association of national energy regulators with the objectives of ensuring cooperation among regulatory authorities and with EU institutions, providing a framework for discussion and development of regulatory issues and exchange of experience, and work towards common policies among members towards agreed issues.

The European Regulators Group for electricity and gas (EREG), which the Commission was set up on 11 November 2003 by Decision 2003/796/EC, to act as an advisory group of independent national regulatory authorities to assist the Commission in consolidating the Internal Market for electricity and gas, by ensuring a consistent application in all Member States of the electricity and gas directives. The group will provide a transparent platform for co-operation between national regulatory authorities and between these authorities and the Commission.



The MRA registered its membership of CEER during the General Assembly of September 2004. It became automatically a member of EGREG on the 1 May 2004 and has now started to participate in both groups.

The Authority attends meetings whenever items of relevance to local circumstances are on the Agenda.

#### *Energy Charter Treaty*

The Energy Charter Treaty was ratified by Malta in 2001, joining another 50 states in a legally binding multilateral instrument covering investment protection, liberalisation of trade, freedom of transit, dispute settlement and environmental aspects in the energy sector.

The energy charter protocol on energy efficiency and related environmental aspects (PEEREA) is also a legally binding instrument that was signed together with the Energy Charter Treaty. A requirement of the protocol is the formulation of energy efficiency strategies and policy aims, the establishment of appropriate regulatory frameworks, the development of specific programmes for the promotion of efficient energy usage and the reduction of harmful environmental practices in the energy sector.

During this financial year, the MRA limited its participation in meetings to those where the most relevant issues were being discussed, due to resource constraints.

#### *MSA IEC and CENELEC committee*

The MRA continued to participate in the joint IEC / CENELEC National Committee. The International Electrotechnical Commission (IEC) is a global organisation that prepares and publishes international standards for electrical, electronic and related technologies. These serve

as a basis for national standardization and as references when drafting international tenders and contracts.

European Committee for Electrotechnical Standardization (CENELEC) comprises the National Electrotechnical Committees of 23 European Countries and creates standards requested by the market and also harmonized standards in support of European legislation. These voluntary electrotechnical standards help develop the Single European Market/European Economic Area for electrical and electronic goods and services removing



barriers to trade, creating new markets and cutting compliance costs.

The responsibilities of the National Committee include implementing the policy of the international bodies, recommending voting position of the MSA on CENELEC drafts, and also making policy recommendations to the MSA.

During the meetings, the adoption of a Maltese wiring standard as a replacement of BS7671 was proposed and discussed. The timing is propitious since BS7671 is also due for revision by end 2008. A subcommittee was appointed and it was accepted as an observer of the BS7671 review committee of the British Standards Institution.

### ***Training senior staff in matters of Regulation***

Officers of the Authority participated in various fora, meetings and training courses related to regulation of the energy sector. This included:

- (i) ERRA Training Courses on Regulatory Information and Public Participation and on Monitoring

activity of Energy Regulatory Commissions. These training courses were held in Budapest, Hungary and dealt with the following issues:

- Regulatory Information, transparency and availability of Information, customer complaints and dispute resolution, consultation processes, public outreach, organisational support for public participation and codes of ethics and conflicts of interest.
- Monitoring & Enforcement – theory and licensing, service quality, electricity markets, IT and communications.

- (ii) a training course organised by the Florence School of Regulation on the regulation of energy utilities. The course combined visits to the School with distance learning where the participants were required to download the course notes for the different topics and submit assignments at the end of each topic. The courses included 13 modules including transmission, distribution tariff methodology, supply and generation, wholesale

market electricity and gas, supply issues and legal issues related to EU Directives in force.

### **Working with Government Agencies on Energy Issues**

The Authority firmly believes in and promotes networking with other stakeholders. Networking permits the mobilisation of the best available human resources and knowledge-base to bear on issues at hand. Among a long list of other authorities and entities with whom the Authority cooperated during the year are , the Malta Environment and Planning Authority (MEPA), the Occupational Health and Safety Authority (OHSA), the Department of Customs, the Office of Fair Competition (OFC), the Malta Maritime Authority (MMA), the Consumers Division, the Office of the Data Protection Commissioner and the Malta Transport Authority and private organisations such as the General Retailing and Traders Union (GRTU) and the Federation of Industries (FOI) and Enemalta Corporation.

# 3 Energy Resources Regulation

## *National Emission Allocations*

The Authority participated in the consultative process for the drawing up of the national allocation plan in connection with the emission trading Directive 2003/87/EC. The Malta Environment and Planning Authority is the lead agency for implementation of this Directive.





## Promotion of Energy Efficiency

### *National education campaign on sustainable energy use*

During the year preparatory work was undertaken in connection with a national education campaign on sustainable energy use. The overall objective of this project is to increase the level of the general public and consumers' awareness on sustainable energy use.

The aims of this campaign are:

- (i) to educate consumers through dissemination of information and knowledge :
  - on Malta's dependency of oil;
  - associated measures that may be implemented to reduce this dependency on oil including energy efficiency measures, energy conservation measures and integration of renewable energy sources;
  - benefits of sustainable energy use to the environment and society as a whole;
- (ii) to increase public participation and change consumers' behaviour towards more sustainable energy use.

Tender documents were prepared and published and at the time of writing of the report, the offers received were being assessed.

## Promotion of Renewable Energy

### *Renewable Energy Policy*

The Authority provided support to Government in the preparation of a draft Renewable Energy Policy. The policy document was drafted on behalf of Government and this was subsequently published in August 2006.

The Renewable Energy Policy was developed following the publication of the National Energy Policy for public consultation. It builds up on the National Energy Policy focusing in greater detail on one specific segment of the energy sector.

In the RE policy Government identified three key objectives namely:

- **Promotion of RES** - Recognising the benefits of long term energy and environmental sustainability in the short and long term, and Malta's obligations as a member of the international community,

Government is committed towards adoption of RES. Government will promote renewable energy by setting ambitious goals and targets for penetration of the market by these energy sources



A Draft **Renewable Energy Policy** for Malta

# 4 Energy Efficiency and Renewable Energy

as well as putting in place appropriate support schemes and regulatory measures to encourage meaningful public investment and participation. Government will also lead by example.

- **Quality of Life** - Improvement in the quality of life is an overriding objective of Government's policies. While appreciating the benefits of RES, Government is also mindful of their impacts and characteristics. In considering and promoting their development, it will seek to ensure that the quality of life of citizens is not compromised or negatively affected by the choices made.
- **Support facilities and services** – Government will

seek the holistic, most suitable and robust adoption of RES by ensuring that support services and development facilities are available and accessible. These facilities and services include access to and dissemination of information, the promotion of public participation and acceptance of RES projects as well as human resource development to participate meaningfully and with excellence in the development and uptake of RES.

Complementary to these key policy objectives, Government also identified a series of strategic measures and actions. It intends to pursue these measures to attain its policy objectives. In so doing, Government values the

crucial role of all stakeholders including business, social partners, civil society organizations and the consumers.

## *Offshore windfarm development - site specific studies*

Various studies on offshore wind energy potential carried out in 2005. The sites that were investigated and examined in detail included: Sikka 1-Bajda, Ras il-Griebeg, Il-Ponta ta l-Qawra, Ghallis Rocks, Marku Shoal, Madliena Shoals, St. George's Shoals, Sikka 1-Munxar, Benghajsa Patch and Hamrija Bank.

These sites are all located very close to the foreshore, Sikka 1-Bajda being the most distant at approximately 2 km from the coast. Following review of the impacts identified



through a Governmental department, entity and authority-wide approach, it was decided that deepwater sites should be investigated further. The main limitation for such deepwater offshore windfarm development is that this technology is not yet commercially proven.

## *Call for expressions of interest for offshore windfarm development*

At the request of Government, the Authority issued a call for expressions of interest for offshore windfarm development in July 2006. The Call was open to all interested parties that are capable and willing to undertake offshore wind projects in Maltese territorial waters on a public private partnership basis. This approach also coincided with a decision taken by the Government that the national electricity distribution grid was to be interconnected with the European grid. Thus such an interconnection would render the system stable and robust and permit scale of operations sufficient to make the project economically feasible and the Call was open for proposals for development of between 75 and 100 MW of power (peak). This is estimated to contribute some 10% of the total electric power demand on project completion.

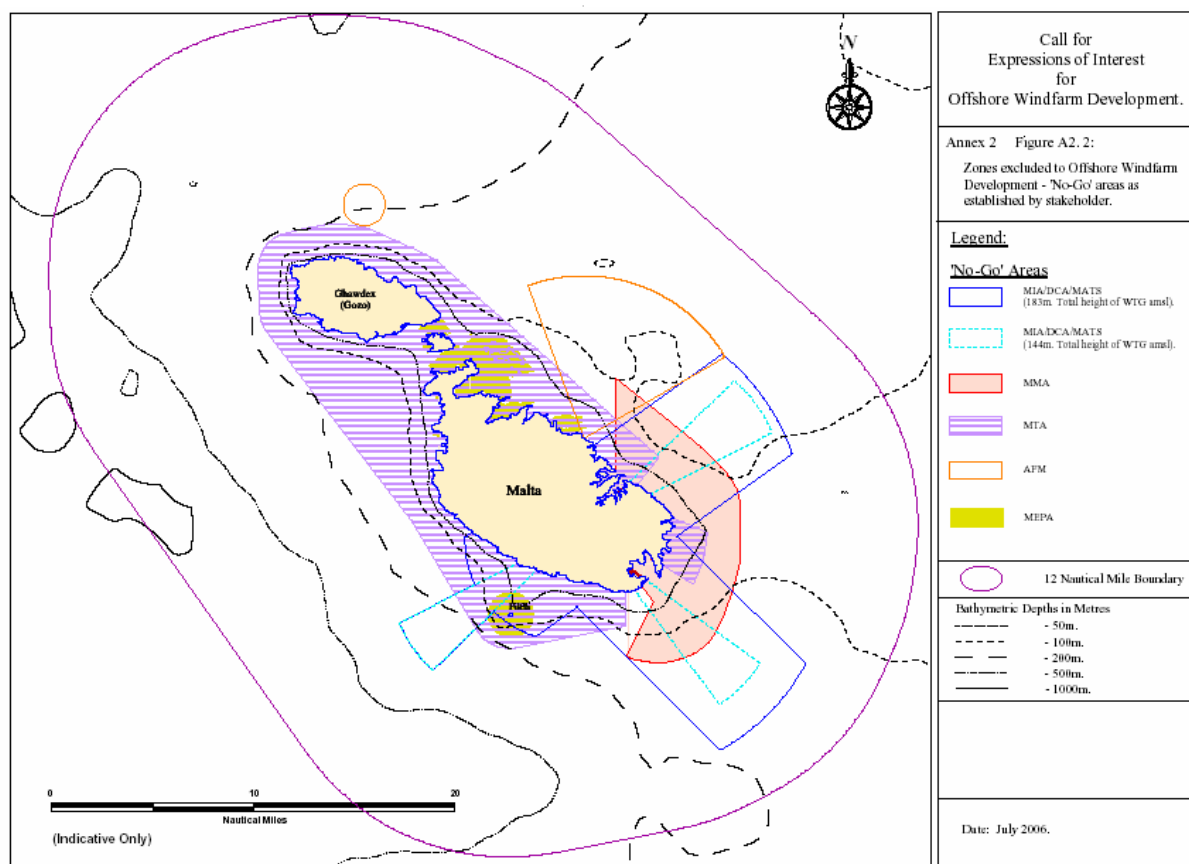
In preparation for issuing this Call and to ensure a focused and one-stop shop approach, the Authority carried out an extensive consultation with key Government entities and authorities. On the basis of this work, the territorial waters were categorised in 3 types of zones:

1. Areas which *a priori* to the Call were established by the key Government entities and authorities as “no go areas” in view of the unacceptable impacts or risks associated with any offshore wind development in these areas. The “no go areas” identified included:
  - the harbour approaches and shipping lanes including areas of heavy maritime traffic, waiting areas identified as important for coastal navigation and the Gozo Channel;
  - approaches to airport runways and areas identified as posing unacceptable impact on aviation or radar operations;
  - marine protection areas, nature reserves (area in the vicinity of Filfla), areas of environmental significance – (selected areas where seabed is colonised by *posidonia oceanica* meadows);

- areas marked for military purposes including firing practices areas or those previously used as explosives dumping grounds;
  - areas identified as important from a tourism perspective e.g. diving sites, wrecks etc. This includes Sikka 1-Bajda and an area around the coast and extending up to 3 km seawards.
2. Sensitive zones as identified by the key Government entities and authorities were defined as areas which were noted as being potentially restricted to windfarm development in view of serious conflict(s) with important key economic activities or due to possible adverse negative impacts arising from any such development. The level of such impacts and risks would have to be determined at an early stage before any further consideration and consent is given by Government. This may be due to:
    - the significance of that particular impact which warrants investigations in detail;
    - lack of precise knowledge of the impacts at present or to their site-specificity which needs to be determined.

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Figure 2: Identification of Areas for Offshore Windfarm Development



This included:

- the areas (130 sites) established as dolphin fish distribution in accordance with EU Council Regulation 813/2004 and areas established as trawlable areas around the Maltese coast.
- areas identified by the Civil Aviation Department as potentially affecting the performance of VOR coverage.
- areas which if developed may result in other unacceptable impacts or such as impacts on tourist-related activities.
- areas identified by the Malta Communications Authority as possibly posing unacceptable impacts on telecommunications.
- areas identified by the Malta Maritime Authority as posing possible unacceptable impacts on navigation, bunkering or other related activities;
- areas identified by MEPA as important from an environmental perspective including rafting zones for particular protected bird species, maerl beds and other ecological concerns (including *posidonia* communities and coral banks in deepwater waters) that are known to occur but have not yet been mapped; other reefs; aquaculture installations;

submerged wrecks and archaeological features and areas of visual concern and landscape value.

3. Other areas which were not included in the no go areas or the sensitive areas were *prima facie* considered as areas which are available for offshore wind development subject to normal environmental impact assessment and other studies in accordance with the Environmental Impact Assessment Regulations.

It was envisaged that the developer/s that are subsequently granted authorisation(s) would finance build, and operate offshore wind farms, with the Government providing the marine site(s) on a concessionary basis and the distribution network operator (Enemalta Corporation) purchasing the energy so produced at agreed fixed tariff(s) and terms.

## RES-E

During the year, the Authority also provided input and support to Government on issues related to exploitation and promotion of renewable energy sources and particularly with respect to Government's dealings with the EU Commission on the subject.

Following the submission of Malta's Report to the EU Commission on the implementation of the EU Directive 2001/77/EC that was submitted in September 2005, the Authority provided input to a second report to Government outlining further clarifications on the implementation of this Directive. This report was also prepared in response to queries raised by the EU Commission. It outlined further information on measures taken and planned to meet the Malta's national indicative target for RES and was intended also to clarify certain misunderstandings of the Commission on the technical aspects of the subject.

Proposals and preliminary studies to review and recommend for Government's consideration support schemes for electricity generated from small scale renewable energy sources particularly (photovoltaic installations and micro-wind turbines) were also carried out during the year.

## Annual report on use of biofuels

The use of Biofuels or Other Renewable Fuels for Transport Regulations, 2004 require the Malta Resources Authority to prepare a report annually on:





# 4 Energy Efficiency and Renewable Energy

- the measures taken to promote the use of biofuels;
- the national resources allocated to biomass for energy uses other than transport; and
- total sales of transport fuel and the share of biofuels.

The Authority's report is intended to form the basis for the annual report from Malta to the Commission. During the period under review, biofuel production continued to increase substantially.

## Working with Industry

### FP6 Projects

#### *SOLATERM*

The Authority is participating in Solaterm a project submission under the EU FP6 programme. The European Union assessed the project favourably and contract negotiations were carried out during the year. It is expected that the project's kick-off meeting bring together all project partners and involved will be held in Germany in November 2006.



The overall objective of the project is the widespread application of solar thermal systems for the hot water preparation, space heating and climatisation in the Mediterranean partner countries in order to meet the increasing demand for hot water and cooling and to exploit the high potential of solar energy in the region.

The project's specific objectives are :

- to transfer technological know-how on solar thermal and cooling systems to the Mediterranean partner countries adapt new technologies to the specific needs of these countries;

- to broaden the spectrum of solar thermal and cooling applications in the Mediterranean partner countries through the promotion of cost-effective solutions e.g. combi-systems;
- to support the R&D and application of solar thermal and cooling systems in the Mediterranean partner countries with political measures.

Further details are also posted on the project's website <http://www.solaterm.eu>.



### *Participation in national and international fora*

#### *Energy efficiency*

The Authority participated in a seminar on Efficiency in Pubic Light. The aims of this seminar were at developing the thoughts on public lighting in the framework of

sustainable development. The presentations focused on problems as energy efficiency solutions that allow to reduce the energy consumption, to reduce the energy bill and to fight against climate change. The different energy economy system in Public Lighting including examples of new energy efficient lighting technologies were presented. There was also a presentation from Berlin Energy Agency on the developments for Public Lighting -Model for the public market and energy services (ESCO arrangements).

The Authority also participated in the European conference on “Education on Energy” organized by ARENE Ile-de-France within the framework of the Intelligent Energy-Europe(IEE) programme. The conference participants included teachers, actors in the environmental education, elected members, technical staff from territorial authority, energy agencies and managers in the fields of the environment and sustainable development. In this conference discussions were held on the cooperation between energy world and education world and the integration of energy issues in education programs.

## *Offshore wind power*

An international conference and high level European Policy Seminar on Offshore Wind Power organised in Copenhagen. The International Conference and Exhibition on Offshore Wind Power was organised by the Danish Wind Industry Association, the Confederation of Danish Industries, the Danish Offshore Industry the Danish Energy Authority, and the Danish Wind Energy Society. The European Policy Seminar was held on 27<sup>th</sup> October and organised by the Danish Energy Authority.

The conference brought together the main industry players, regulators, academics and other stakeholders to the offshore wind industry. It dealt with Policy and Planning issues and on Synergies and Risks to the offshore wind industry. In addition parallel sessions Business, Operations and Grids and Offshore Technology and on Policy, Wind Technology and Offshore Technology were also conducted.

The main objective of the Policy Seminar was the finalisation of the Copenhagen Strategy on Offshore Wind Power Deployment. Discussions and workshops



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were held on: market development; grid integration and environment with respect to offshore wind power.

Officials of the Authority also participated in a number of conferences organised as apart of the Amsterdam Forum on Sustainable Energy. This was organised by SenterNovem under the authority of the European Commission, Directorate-General for Energy and Transport and the Dutch Ministry of Economic Affairs.

The Forum's objectives were:

- to develop the European Union's energy policy in a way that contributes to the objectives of sustainability increased competitiveness and security of supply.
- To provide opinions on any Commission's initiative in the field of renewable energy sources (RES) and energy efficiency ((EE), including transport) policies. The basis for the work of the Forum would be the different directives and Commission documents on these topics.
- To serve as an observatory and monitoring assistance centre for those policies.
- To help facilitate the interaction and integration of RES/EE in concrete applications in supply and demand.

- To help define corrective measures to solve the problems/concerns associated to the RES access to the grid.
- To assist the Commission in organising and analysing debates and other actions in the framework of RES/EE policies.







## Regulation of the Sector

The Directorate for Minerals Resources Regulation is responsible for promoting and regulating the exploration and exploitation of Malta's mineral resources. The objective, for which the Directorate was set-up, is to facilitate the development of the mineral extractive industry, while meeting contemporary expectations for social, economic and environmental outcomes.

To accomplish the strategic objectives of the

directorate various actions were undertaken during these years.

### *Licensing, Monitoring and Enforcement Licensing*

During the period covered by this report there were a total of 66 quarries operating in Malta and Gozo, 42 softstone quarries and 24 hardstone ones. The MRA processes applications for licence renewals and extensions of existing licences. All these are set up in the database. The database has identified that a

number of licences were in fact not compliant with MRA policies and appropriate actions were taken.

Efforts to restore disused quarries were sustained during the years and as a result, several disused softstone quarries were being reclaimed by filling with inert stone waste. This practice is expected to reduce the negative visual impacts of extraction works on the environment. Other tasks were undertaken and they are discussed below.

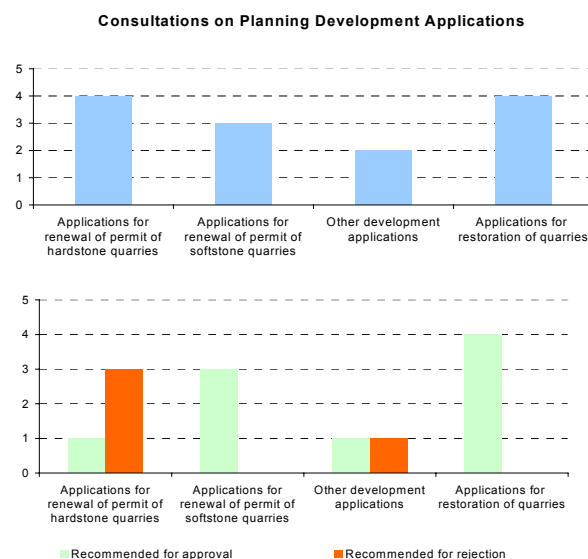
### *Administration of mineral resources – development applications*

The development applications in Malta and Gozo are regulated through a development permit issued by MEPA after due consultation with the Directorate for Minerals Resources Regulation within MRA, which issues the operating licence. This process has been established to ensure the harmonisation of planning, environmental and mineral resource requirements. Several consultations were held with the MEPA on applications for the extension of softstone quarries, hardstone quarries, other development planning applications and applications for restoration of exhausted quarries (Figure 3). This figure also shows

# 5 Minerals Resources Regulation

the number of the applications which were recommended for approval or otherwise. Recommendations are based on mineral resources management plans that take into account economic, social and environment considerations. These considerations are formulated in a comprehensive list of policies relevant to all phases of the extractive industry.

**Figure 3: Planning Applications**



## Regulations

The Minerals Directorate is in the finalising process of drafting of the regulations on the economic operations of quarries, ensuring acceptable environmental impacts, conservation, of the resource and fair competition. These regulations consist of translating the Minerals Policies into rules. These regulations will focus on operational issues such as resource quality and their extraction, deferring land use matters such as impacts and ancillary infrastructure within quarries to MEPA.

The Regulations apply to all quarries where people work, and will impose duties on the operator with respect to persons at or in the area immediately surrounding the quarry. The regulations ensure the suitability of the operator and the keeping of specified records.

The regulations impose various requirements including duties on the operator to:

- take necessary measures to ensure, so far as is reasonably practicable, that the quarry can be worked with an operating licence and related documents;
- prepare and establish a management structure; and

- ensure that the workers are competent, that rules designed to secure health and safety are in place, and to review health and safety measures on a regular basis.

Part I and Part II are interpretations and definitions which have to do with the minerals extraction operations. Part III of the Regulations relates to the licensing of Mineral Extraction Operations including:

- Licensing of existing mineral extraction operation activities;
- Licensing of new or expanding mineral extraction;
- Operations activities;
- Applications information;
- The procedure for processing of applications;
- Application decision;
- Restriction of approval;
- Validity of licence;
- Change of ownership.

Part IV of Regulations is concerned with risk control where the operator is required to:

- prepare a written scheme for the systematic

inspection of the quarry, buildings, and plant;

- ensure, so far as is reasonably practicable, the safety of benches and haul roads and to make vehicles rules;
- ensure a Restoration Plan for the quarry;
- ensure that excavations and tips are subject to further geotechnical assessments at specified intervals and in specified circumstances.

Part V deals with health and safety issues. This section requires employers of persons at work at the quarry to co-operate with the operator with respect to health and safety. They also require the operator to make arrangements to facilitate co-operation with persons at work at the quarry in promoting health and safety.

Part VI of the regulations deal with “Inspection, monitoring and enforcement”. This section establishes the rights and duties of the inspectors and also deals with the duties of operators and licensees. This section also establishes the compliance inspection.

These regulations imply that no one can work in a quarry unless they are competent. The Quarry Regulations also require the operators to demonstrate

this competence. The Regulations apply not only to the quarry sites but also to anyone in the management structure for the sites.

### **Stakeholder consultations**

#### *Air quality directive*

To achieve the targets and international obligations set by Government in relation to the air quality, a board was set up jointly between several governmental authorities. The EU Commission has issued a Communication on a Thematic Strategy on Air Pollution which brings together scientific evidence on the health and environmental impacts of air pollution. As a first measure to implement the strategy the EU Commission has adopted a proposed directive on ambient air quality and cleaner air for Europe. PM10 is one of the pollutants which is the by product of soft stone quarries

This directive aims to provide a regulatory framework specifying the requirements for the control of air quality from the producing industries by specifically addressing environmental and human health risks that arise from air pollution. Hence the economic

repercussions of the proposed directive are expected to be substantial in various sectors, in particular the various measures that have to be taken to reduce emissions of dust. Compliance with limit values will require the implementation of various abatement measures in the transport, construction, industry, energy generation and other sectors.

### **Industry Specific Services**

#### *Geological map of the Maltese Islands*

The availability of high quality geological information on Malta’s mineral resources is considered essential towards an efficient development of the extractive industry. In 2003, the Directorate proceeded to set up an effective GIS-based geological data bank. Since then work on the project has been ongoing. This year the Directorate continued carrying out fieldwork to survey each sheet, and more blocks have been included in the data base. Each survey sheet is now at a scale of 1:2500, ten times greater than the previous version of the geological map. This geological database will be an important tool for architects, civil engineers, agricultural scientists, geoscientists and

# 5 Mineral Resources Regulation

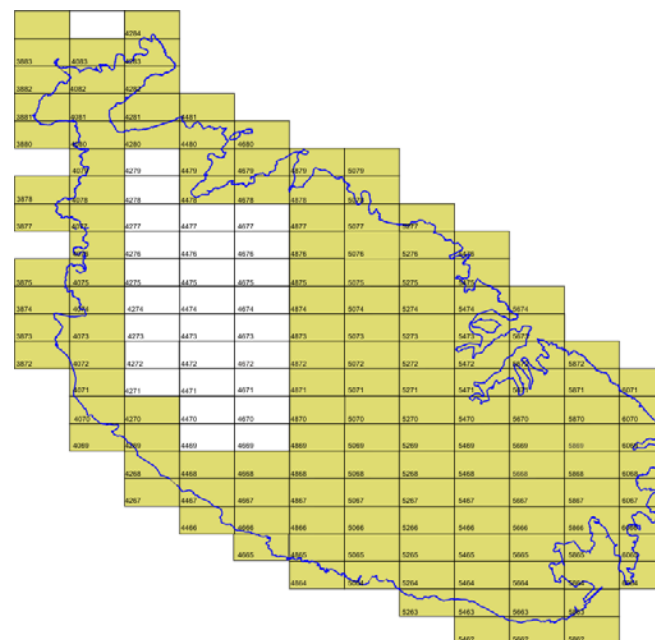
environmentalists as it provides a detailed view of the geological formations and members outcropping at the surface of the Maltese Islands. Once the map is completed, the database will continue to be upgraded to include the bed subdivisions of the members. The areas covered are highlighted in Figure 4. Furthermore Figure 5 illustrates a sample of a section from the South of Malta of the geological database.

## Addressing Mineral Related Issues through Sound Science and Creditable Technology Methods

### *Underground Mining of Limestone*

A feasibility study was commissioned in 2004 to assess the potential impacts of the extraction of stone by mining techniques. The introduction of mining techniques could substitute the traditional way of extracting stone, whereby aggregates are blasted off and crushed while dimension stone is sawed in small blocks from the floor of the quarry. Although open-pit extraction is very cost effective, it gives rise to serious environmental problems as many extractive sites are located close to habited areas and in environmentally sensitive areas such as valleys, plateaux and other places of high scenic value. Other

*Figure 4: Progress on Geological Map*

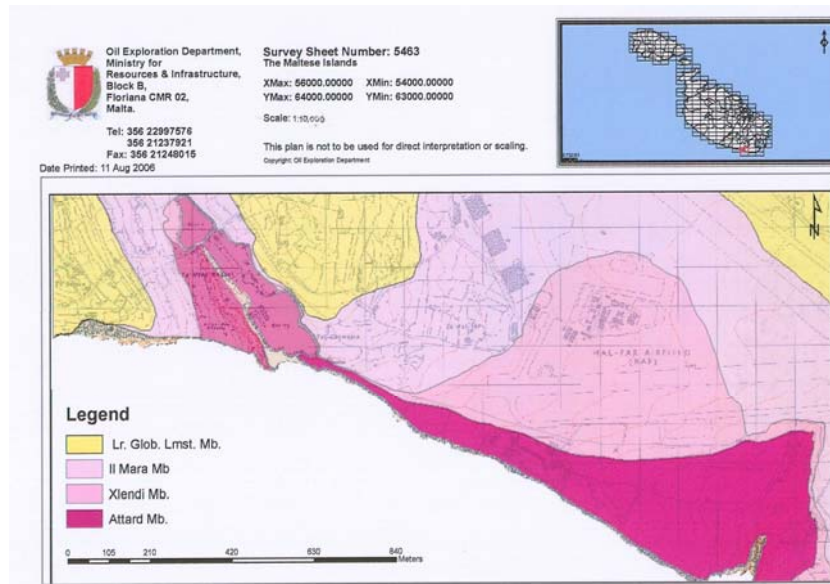


areas with good limestone reserves have been sterilised by built development.

To minimise the negative environment impacts and to gain access to sterilised limestone resource the Minerals

Directorate proposed to undertake two pilot projects to test the feasibility of introducing mining techniques for the underground extraction of construction minerals as a substitute to open-pit quarrying. The two locations which have been selected for the pilot projects are;

*Figure 5: Section of Geological Database*



- a softstone quarry near Kercem in Gozo;
- a hardstone quarry at Wied il-Ghasel, in Malta.

The findings of the study are that softstone underground extraction will take place by using chainsaw machines which are capable of extracting large limestone blocks. Although operations of an

underground limestone quarry are 3-4 times more expensive than traditional open quarry excavation, there are also significant advantages mostly related to minimisation of the environmental impact and accessibility to otherwise sterile resources. However, the mining feasibility seems to be very problematic because the softstone limestone has medium-poor rock

mechanics characteristics and, requires roof support which should be at least 5m thick. In addition the poor rock quality limits considerably the span of rooms of the underground quarry. Moreover other capital investment would also be required for machinery for the haulage of limestone blocks out of the mine, drill-boring machine and grouting equipment that would be required whenever rock bolting is deemed to be necessary. Additional costs would be with respect to the ventilation system to collect the dust and groundwater drainage system that may be encountered during mining operations.

Mining of hardstone type limestone is expected to encounter similar constraints to those encountered in the extraction of softstone. Extraction of coralline limestone for the production of aggregate appears to be more delicate as this is conventionally done by drilling and blasting which usually generates vibrations and variation of rock mechanics parameters. Hardstone quarries in Malta are frequently close to faulted inliers which might have a higher fracture zones due to the presence of the faults.

The result of this study showed that with environmental impacts and concerns will drive the quarry industry



# 5 Minerals Resources Regulation

towards mining. This is not the cheapest solution but is more sustainable from the environment point of view. Under normal geo-structural conditions the rock mechanics properties of the two limestone formations of mineral value in the Maltese Islands, allow for the extraction of the mineral resources by standard mining techniques.

## *Importation of minerals*

Policy RES 03 requires the MRA to undertake a detailed study to assess the feasibility of importing, where appropriate, minerals as a substitute to local minerals, based on economic, environmental and social consideration. The Minerals Directorate is assessing the local situation with regard to mineral production and to determine whether the foreign product would perform better than the local product.

## *Identification of economic uses of mineral waste*

In conjunction with the management board of Mineral Waste, a study is being undertaken to identify the economic uses of mineral waste. Policy Con 02 requires the MRA to undertake a detailed study to identify any

economic use of mineral waste, including demolition waste. The study is to assess the economic feasibility, including direct and indirect costs and benefits, of reusing mineral waste and to assess the environmental impact resulting from the reuses of mineral waste. The study will also compare such impacts with the current disposal methods.





## Regulation of the Water Sector

### *Monitoring the operations of the Water Services Corporation*

The licence for the supply of potable water through the distribution system was granted to the Water Services Corporation the 1<sup>st</sup> August 2005, in terms of Legal Notice 525/2005.

Being a transition licence it was meant to introduce regulatory concepts in the water sector and set the way

for the development of water regulation in Malta. Accordingly, the Corporation was required to submit, within clearly specified timeframes, information and data concerning its service obligations, including accounting records, the customer contract, contingency plans, performance indicators, the asset management plan, environmental management systems etc.

Through the course of discussions, the Corporation was requested to submit an action programme for compliance, and to indicate the resources that will be deployed to undertake its license obligations in a timely

manner. Special emphasis was made by the Authority to the drafting of the customer contract, as a licence obligation, that sets the level of service the Corporation should provide to satisfy its public service obligations.

The licence for the supply of water was issued on the 1<sup>st</sup> August 2005 and is due for renewal at the end of this month.

### *Ensuring quality standards of drinking water supplies*

As the Authority is obliged to secure and regulate the distribution of potable water, it considers drinking water standards to be a main priority of the Water Services Corporation, given the direct impact on public health. During the current year, therefore, the Directorate for Water Resources Regulation conducted a survey on the quality of drinking water supplied through the distribution network to towns and villages.

Samples were lifted from public places, mainly government schools and other municipal premises where the public has open access.



Results show that there has been an overall marked improvement of drinking water quality over the last five years. In all localities, consumers are being supplied with water which is compliant with the requirements of the Drinking Water Directive and the transition periods conceded by the EU for full alignment the standards laid by the directive.

It is noted however that it is advisable that chlorination by-products THMs are addressed, though the levels recorded do not exceed the parametric values specified by the directive. Discussions with the WSC have been initiated to lower the level of this parameter by modifying the current disinfection practices.

### Water Policy Development

The first policy draft was again revised during the current year with the aim of focusing on three main strategic objectives:

- efficiency in water use and maximisation of benefits.
- fair allocation of water resources across different sectors.
- environmental sustainability.

Achievement of these objectives draws on a proper enabling environment based on policy measures, effective legislation and adequate financial resources needed for service delivery and overall resource management.

The Authority has therefore recommended various policy measures intended to balance the pressures of supply and demand in the most efficient and sustainable way, without compromising economic development and environmental sustainability

More emphasis is made on the need for efficient use of all water resources and the economic value of reducing wastage. The document projects for the period 2006-2011 in full consideration of Malta's specific needs and international obligations.

Ten key areas were identified and for each, a set of strategic measures are proposed:

- Supply of good quality water for human consumption.
- Sustainable groundwater use.
- Reduction and management of flood-risk.
- Rainwater harvesting.

- Use of non-conventional sources.
- Water demand management.
- Effective and transparent regulation of the water industry.
- Protection of freshwater ecosystems.
- Efficient fair and equitable pricing.
- Public participation and stakeholder involvement.

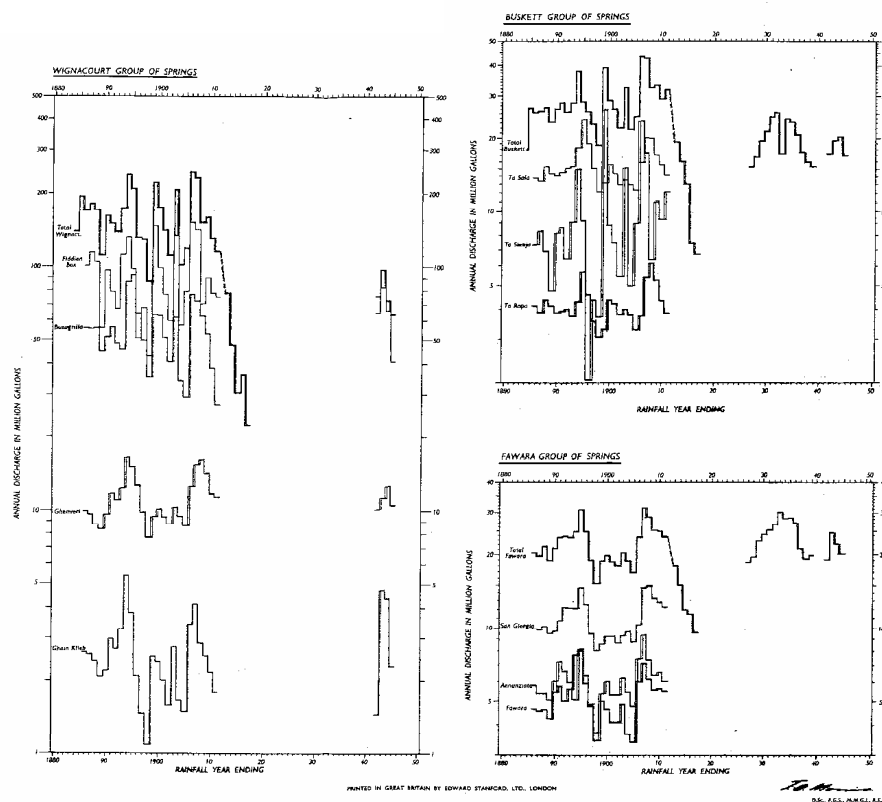
### Water Resource Management and Protection

#### *Implementation of the Water Framework Directive*

#### *Development of groundwater monitoring networks*

The Water Framework Directive under Article 8 provides for the establishment of groundwater monitoring networks in all the groundwater bodies delineated under the 'characterisation process' of the same Directive. The principal aim of these monitoring networks is to provide the information necessary to enable the Article 4 environmental objectives to be met, in particular the assessment of groundwater quantitative status, chemical status and long-term pollutant trends resulting from human activity. In addition, programmes are needed to

*Figure 6: Historical Water Quality Data since 1800's*



provide any additional monitoring requirements relevant to Protected Areas such as Drinking Water Protected Areas and Nitrate Vulnerable Zones.

Malta has a long history of groundwater monitoring with the first quantitative and qualitative records dating back to the mid 19<sup>th</sup> century. However, monitoring was until now mainly targeted to public abstraction sources; since the monitoring principally addressed the quality of the abstracted water intended for the public supply. This has inevitably led to a lack of spatial representativity in the monitoring networks, since monitoring was confined to those areas utilized for the abstraction of drinking water. All this is set to change, with the introduction of these new monitoring networks which will target the groundwater as a resource, and as such introduce monitoring even to groundwater bodies which are not utilized for the abstraction of water for the public supply. Groundwater, apart from being an important source of drinking water, provides a vital support to a number of terrestrial ecosystems and various important economic activities; the future sustainability of which should also be protected.

The Water Framework Directive requires groundwater monitoring to draw on three programmes each having as specific function:

- quantitative monitoring to enable an assessment of reserves and quantitative status of the aquifers;
- surveillance monitoring to determine the long term trends in chemical status and in pollutant concentrations resulting from human activity; and
- an operational monitoring to establish the physical and chemical performance all groundwater bodies or groups of bodies determined as being 'at risk' of failing to achieve the Directive's objectives.

Monitoring as per (i) and (ii) is meant to supplement and validate the characterisation and risk assessment procedure with respect to the risk of failing to achieve good groundwater qualitative and quantitative status and provide information for use in the assessment of long-term trends in natural conditions and in pollutant concentrations resulting from human activity. This is being followed in Malta.

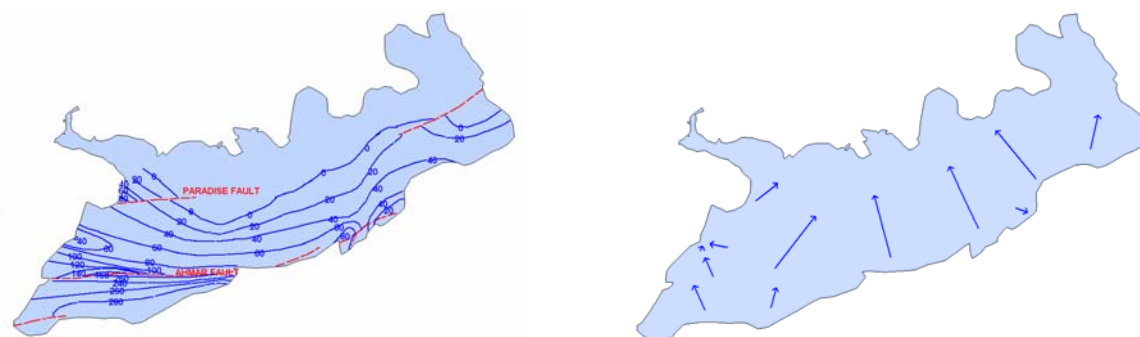
Monitoring networks are being designed on conceptual models, simplified representations or working

descriptions, of each groundwater body. The development of such models is based on the information gathered during the characterisation and risk assessment process carried out in the preceding years and is utilized to identify the specific requirements for monitoring as well as the degree of monitoring in terms of the number of sites and the frequency of monitoring required. Two

types of methodologies for the development of the development of the conceptual models were developed in the Maltese River Basin District:

- in the case of the upper coralline (perched) groundwater bodies, the movement of groundwater was modelled on the slope of the top of the bounding blue clay layer. These structural contours were

*Figure 7: Conceptual Model of the Marfa Coastal Groundwater Body, showing (i) the structural contours of the top of the Blue Clay formation and (ii) the resulting groundwater flow directions*



mapped from level data obtained from borehole drilling logs.

- (ii) in the case of the sea-level groundwater bodies, the conceptual models are based on the floating fresh-water lens (Ghyben-Herzberg) model. Groundwater flow directions were therefore determined through the development of a 'lens'-model based on the data obtained from the piezometric (water-level) monitoring network. This design methodology ensures that the networks will be appropriate to the hydro-geological characteristics of the particular groundwater system being investigated.

The results of this process are planned to be published for public consultation on the Authority's website during 2007.

## **EMWIS**

The Euro-Mediterranean Partnership has long considered water to be a priority area, and one of its first initiatives was the establishment of a Euro-Mediterranean Water Information System (EMWIS),

with the participation of the 27 partner countries. The objective of the system is to collect and disseminate to decision-makers information on water know-how, information that would otherwise exists in fragmented, dispersed and heterogeneous manner. The project also serves as a tool for the co-operation between Euro-Med countries in developing, sharing and facilitating access to information and to define common outputs and programmes.

The information is made available by a "National Focal Point" in each country and a central Technical Unit. The website is established on [www.emwis-mt.org](http://www.emwis-mt.org). The MRA is the national focal point for Malta and it is a member of the Steering Committee and the Vice President of the Co-ordination Committee. The MRA is currently seeking to collaborate with information providers so as to improve the content of the five established EMWIS topics on the National Focal Point website [www.emwis-mt.org](http://www.emwis-mt.org). These include Data management, Documentation, Research, Training and Institutions/Organisations. In this way, more data will be accessible to the public via the NFP internet site. With the implementation of the National Water Information System several local and foreign organisations would benefit from a centralised system of data retrieval.

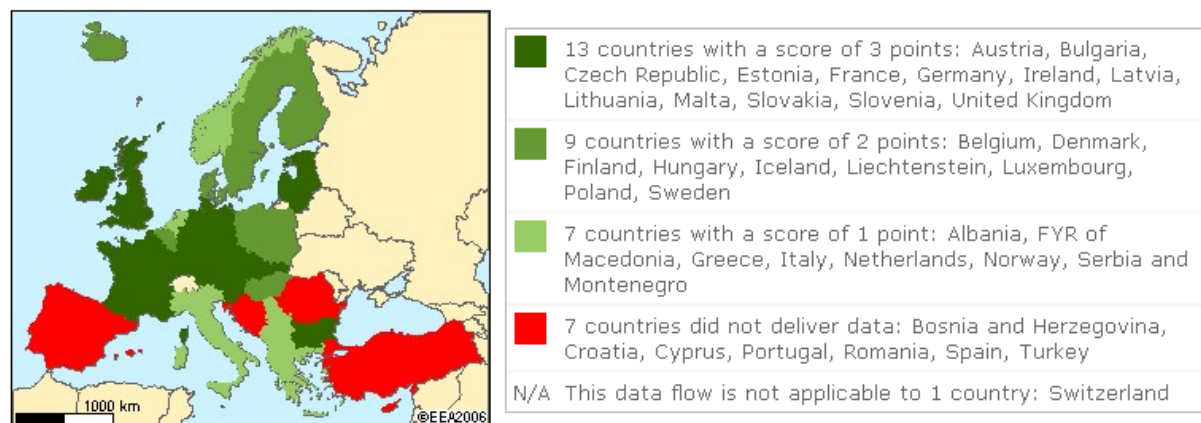
## **EUROWATERNET**

The EIONET-Water process collects annual data on groundwater bodies in the EEA member countries. Data and information obtained are primarily utilized to compile indicator factsheets associated with the EEA's core set indicators, upon which EEA assessment reports are based.

Data collected through the Eionet-Water process are also published in Waterbase, a series of water topic-specific databases and web pages which are publicly accessible via the EEA's Data Service's web-site.

Malta has participated in the EEA data collection process on groundwater since 2002; with data on the two major sea-level groundwater bodies being submitted. The data submitted includes information on the physical characteristics of the groundwater bodies, proxy pressures on the groundwater area, as well as chemical quality data on nutrients and organic matter, and hazardous substances in groundwater. During the 2005 data submission process Malta obtained, for the second year running the highest score associated with this data flow process.

Figure 8: Eurowaternet



## Malta



Data provided on time and in the requested format. General descriptions and quality data provided. No data on pesticides and hazardous substances provided. Saltwater intrusion data provided. GIS data provided previously.



Additionally, at least two out of the following data sets have to be provided:

1. Data on pesticides and hazardous substances, or
2. GIS data, or
3. Saltwater intrusion data.



1. Timely data delivery 2005 to national repository in the requested format, and
2. General description and quality data for at least 3 out of the following list of determinands have been provided: nitrate, nitrite, ammonium, dissolved oxygen.



Delayed data delivery under Eionet-Water data collection 2005 (i.e. after the delivery deadline of 28 October 2005). Or: timely delivery, but delivered data are not fulfilling basic quality criteria.



No data delivery under Eionet-Water data collection 2005.

Data on the status and quantity of Europe's water resources can be viewed, analysed and downloaded from Waterbase at:

<http://dataservice.eea.europa.eu/dataservice/available2.asp?type=findkeyword&theme=waterbase>.

## Working with Government Agencies

### The Ministry for Rural Affairs and the Environment

#### Cross Compliance of EU Regulations

The Ministry for Rural Affairs and the Environment is the co-ordinating body and competent control authority for cross compliance as stated in EU Reg. (EC) 1782/2003 and Reg. (EC) 796/2004

Following the signing of a memorandum of understanding between MRA and the Integrated Administration and Control System (IACCS) as a Delegated Service of the Paying Agency a series of field inspection were undertaken by the water directorate for the purpose of checking compliance of rural holdings with the Council Directive 80/68/EEC on the Protection of Groundwater against pollution caused by certain dangerous substances.

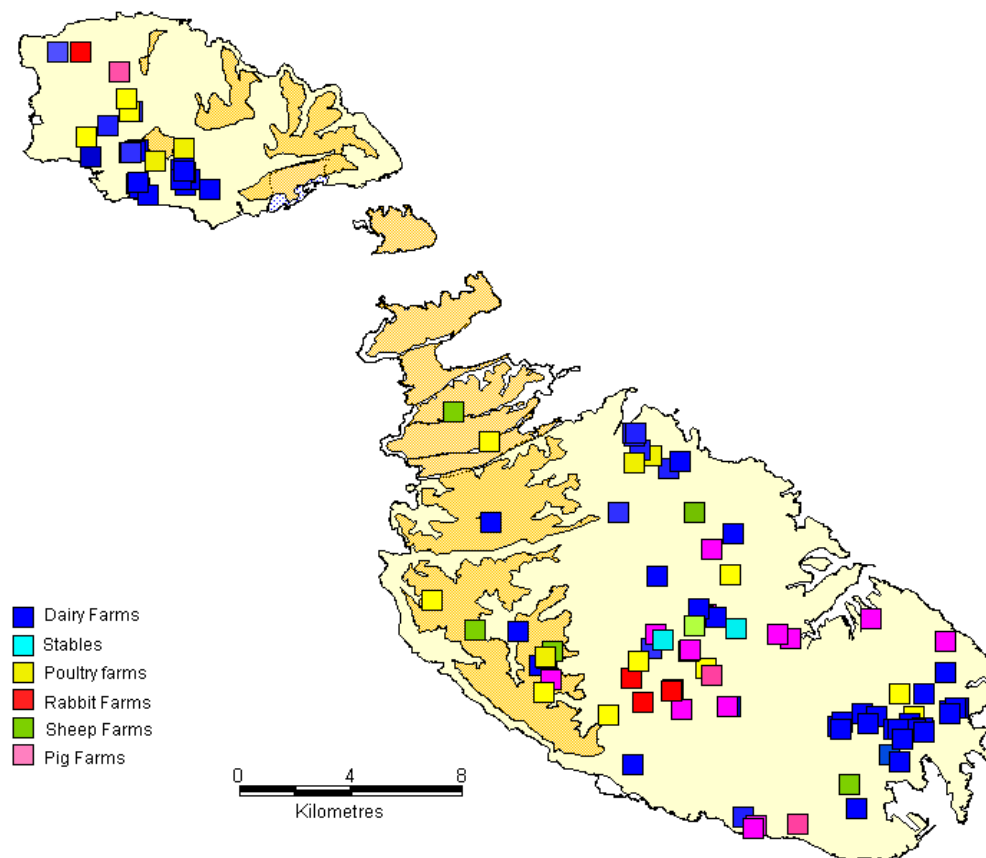
The scope of these inspections was to determine the occurrence of direct and indirect discharges to groundwater for the purpose of disposal of wastes. Whenever such activities, or situations which could lead to such activities were met, action was taken to stop the activity and guidance was given to the operator on how to align his activity with the regulations.

### ***Upgrading of rural holdings for European Rural Development Fund support - farm upgrading process***

In 2006 the upgrading process of farms under the ERDF schemes was initiated with the aim to achieve better environmental management as well as increased animal welfare. Farmers that wished to comply with the ERDF scheme were able to apply through a fast-track application system. Such a system was set up in order to encourage its widespread take-up.

This upgrading process involves the improvement of animal waste management facilities through the construction of leak proofed cesspits and manure clamps that have the capacity to hold waste contents for a maximum period of 6 months, together with

***Figure 9: Spatial distribution of applications for farm upgrading***



*Table 2: Applications for upgrading of farms*

Animal Husbandry activity	Total number of farms	No. of received Applications in 2006
Cow (cattle and dairy)	257 beef + 155 dairy	54
Swine production	175	14
Broiler production	309	13
Sheep rearing	No data	6
Rabbits	73	3

increased animal welfare through the provision of sufficient sheltered space. The latter may imply a reduced number of animals and hence less waste generation. Since the process involves the upgrading of existing facilities, a number of which are located within the Groundwater Protected Zone, the importance of the upgrading process cannot be exaggerated.

In 2006 a total of 103 farm application requests to upgrade farming facilities were received at the Directorate for Water Resources Regulation. Figure 9 and Table 2 indicate the spatial distribution of these applications.

#### *Malta Environment and Planning Authority Planning development applications*

The requests for consultation by the Malta Environment and Planning Authority to various agencies and authorities entails an in-depth look at various industrial, social and environmental processes in order to fully comprehend the potential pressures and impacts, and essentially, provide the most appropriate mitigation measures available technically.

The Water Directorate considers a wide range of issues when assessing development planning applications since both a good qualitative and quantitative status of water resources has to be guaranteed. This means that

*Table 3: Consultations on development applications*

Development Applications	
Type	Number
Agricultural	14
Cesspits and manure clamps	22
Cisterns	9
Construction plants	3
Animal Husbandry	142
Greenhouses	38
Industrial	15
Pumping stations	3
Pump rooms	34
Quarries	16
Roads	6
Residential	32
Reservoirs	91
Recreational	13
Tool rooms/ agricultural stores	76
Waste management	5
Fuel tanks	4
Petrol stations	11
Firework factories	5
Others	42
IPPC applications	3
<b>EIA's</b>	<b>15</b>
<b>EPS</b>	<b>6</b>
<b>Total applications</b>	<b>605</b>



applications have to be tackled thoroughly and holistically. In light of this, the Water Directorate looks at water demand and supply management, as well as pollution prevention and control, in order to safeguard water resources from the very start of the planning phase right through to the operation and in some cases, even decommissioning stages of developments.

Particular importance is given to demand management in large development applications which have a considerable-sized environmental footprint. These include recreational facilities and accommodation establishments such as hotels, apartments, schools and

housing. Water demand management measures often include the encouragement of the take up of water saving devices together with rainwater harvesting and grey water reuse for secondary class purposes.

Water demand management is also considered to be of importance in industrial and agricultural activities where water consumption is intensive and hence industrial water recycling and water harvesting is often called for. Runoff collection in agricultural developments is already widespread and the Water Directorate favours the development of reservoirs, however treats such cases with attention due to the proliferation of unauthorized abstraction that occasionally occurs under the pretence of reservoir applications. Cases such as these are tackled by ensuring that sufficient catchment is available and land topography is favourable for sufficient runoff collection in such proposed reservoirs.

Pollution prevention is of main concern when industrial and agricultural activities are assessed. The IPPC application process ensures that the best available techniques are applied when large industrial and animal breeding installments apply for one. Trigger and

control levels for detecting contaminant parameters in groundwater are set together with monitoring obligations. Similar conditions and measures taken up in the IPPC permits are also adapted to smaller developments earmarked for agricultural and industrial development.

Waste management is one such issue whereby the Water Directorate is required to assess the proposed waste management plans in terms of adequate storage capacity and disposal. Sewage discharge permits are required and these are now being administered by the Water Services Corporation. In the case of animal waste, restrictions are placed on the period when such waste can be spread on land, as determined by the Code of Good Agricultural Practice.

Finally it is the role of the Water Directorate together with the Department of Health to ensure that proposed developments do not pose any health risks and thus the Groundwater Protected Zone is the fundamental criterion that guides the Water Directorate in this respect. The designated Groundwater Protection Zone defines the most vulnerable areas in terms of potable water supplies and thus all developments which fall

**Table 4: Consultations on EIAs**

Environmental Impact Assessment	Number
Construction Industry	1
Farms	2
Trailer Park	1
Pharmaceutical Installations	3
Quarries	2
Petrol Station	2
Waste Facilities	4
<b>Total</b>	<b>15</b>

within this Zone's boundary are placed under strict scrutiny. Developments considered to be lying in hazardous proximity to a potable water source are refused or relocated; whilst in general, other inward lying developments have to adhere to stringent conditions.

## Participation in EU Programmes

### 6<sup>th</sup> Framework Programme

#### *MELIA – Mediterranean Dialogue on Integrated Water Management*

MELIA is a Coordinated Action Project aimed at the establishment of a strategic dialogue between researcher centres, governments, regulators, users and providers in the field of Integrated Water Resources Management. The particular strategic objective of MELIA is to contribute to the improvement of the regional water planning management under scarcity condition to enhance sustainable development in the Mediterranean region.

In particular MELIA aims to foster dialogue and communication among its 63 partners, to build-up and share a common knowledge and awareness that, by being disseminated to legislators, political decision makers and

water users and providers, would contribute to the sustainable management of limited water resources in the Mediterranean.

MRA staff attended the kick-off meeting of this project which was held in Seville during September 2007.

The Authority will be directly involved in the following work-packages of the project:

- WP2— Assessment of technological perspectives in water management;
- WP3- Rational use of water resources;
- WP4—Water value;
- WP6—Prevention and mitigation of water conflicts;
- WP8—Building knowledge;
- WP10—Development of performance, social and sustainability indicators;
- WP11—Exploratory benchmarking exercise – Recommendations on the implementation of the WFD.

Further details on this project may be obtained from the project web-site: <http://www.meliaproject.eu>.

### *Interreg IIIA – Italia / Malta Programme*

#### *INWATERMAN Project - Sustainable management of water resources in an arid and semi-arid insular context and the use of treated sewage effluent.*

During 2005, the Malta Resources Authority together with the Water Services Corporation submitted a project proposal under the Interreg IIIA Community Initiative programme. This project proposal was approved in March 2006.

The overall objective of the INWATERMAN project is the sustainable management of conventional and non-conventional water resources in arid and semi-arid insular settings.



Malta and Ragusa are two similar regions, facing common challenges and issues in the water sector due to prevailing hydrological and geo-physical characteristics. Water scarcity, high competition for and pressures on available water resources are issues of common concern.

The main activities of the project will thus focus primarily on:

- exchange of experiences on integrated management of water resources and the development and operation of associated infrastructure;
- a description of the water resources of Malta and Ragusa and an analysis of the major pressures and impacts on status of these resources;
- an impact assessment of the implementation process of the EU water-related Directives;
- an assessment of the application potential of treated sewage effluent and infrastructural requirements for its cost-effective use and distribution.

The project's objectives will be attained through research, analysis, pilot projects, development of a

website, exchange of experiences, seminars and workshops on sustainable water use. It is expected that through this project synergies and cooperation will be further developed between the major stakeholders in the water sectors of Malta and Ragusa.

The total project costs are estimated at € 499,800 of which € 125,000 are being allocated to Malta. The project is expected to run until June 2007.

The first workshop of the project was entitled 'Existing Potential for the Re-Use of Treated Sewage Effluent in Malta and Sicily' and was held at St James Cavalier in Valletta on the 7<sup>th</sup> July 2006. The workshop included a number of presentations on the potential use of treated effluent in Malta and Sicily. These presentations investigated the potential demand for treated effluent in Malta from both the agricultural and the industrial sectors. Data gaps were identified in order for these to be addressed during the course of the project. Moreover, the presentations also outlined the experience gained by Malta in the re-use of treated sewage effluent from the St. Antnin Waste Water Treatment Plant. The major shortcomings experienced along the years in the operation and management of

the treatment plant were highlighted. These issues will be tackled during the course of the project and potential solutions based also on the practical experience of the Sicilian partners will be proposed.

Further details on these presentations can be obtained from the web-site of the project:

<http://www.inwaterman.eu>.

## *Interreg IIIB – Archimed*

The Malta Resources Authority is an important partner in six project proposals submitted under the 1<sup>st</sup> call for proposals within the Community Initiative Programme Interreg IIIB Archimed. Of these three projects (WATER\_MAP, PRODIM and MED\_ISOLAE) were approved and selected for funding. The total budget of



the three projects amounts to 3,779.510EUR of which 267.219EUR have been allocated directly to Malta.

The implementation stage of these projects started during August 2006.

***WATER-MAP PROJECT - Development and utilization of Vulnerability Maps for the monitoring and management of groundwater resources in the Archimed area***

The Water-Map project aims to develop GIS-based Vulnerability Maps and develop a Decision Support System to support the utilization of these maps in a spatial model for the monitoring and management of groundwater resources.

The determination of the natural vulnerability of groundwater bodies to existing and potential anthropogenic pollution sources is a key-factor in the development of targeted measures aimed at the protection of the groundwater resource. These measures will eventually form also part of the 'Programme of Measures' envisaged within the River Basin Management Plan required by the Water Framework Directive.

Within the project, Malta will be used as one of the test-sites for the development of Vulnerability Maps; with the main anthropogenic activity investigated being agriculture.

It is envisaged that the Vulnerability Map thus developed will be subsequently utilised in the preparation of the groundwater risk assessment from diffuse pollution which is a requirement of the River Basin Management Plan under the Water Framework Directive.

The total budget of the project is 998,482EUR; of which 83,447EUR are allocated directly to Malta. These funds address, amongst others, the need for the building of the necessary capacities at MRA for the processing of GIS-data and as such envisage staff training, related chemical analysis on groundwater and the acquisition of the necessary software and hardware resources.

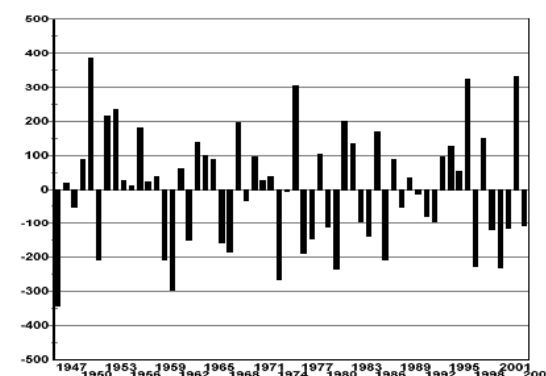
The project brings together reputable partners from Greece, Italy, Cyprus, Turkey, Palestine and Malta.

***PRODIM PROJECT - Proactive Management of Water Systems to face drought and water scarcity in islands and coastal areas of the Mediterranean***

PRODIM is a transnational cooperation project, which aims at formulating a methodological framework to confront drought and water shortage based on proactive planning. This will be materialized through the following steps:

- identification of areas under high water scarcity risk ;
- building of a knowledge based system for estimation

***Figure 10: Deviation from mean annual rainfall for Luqa Meteorological station (1947-2004)***



of anticipated impacts of water shortage and

- preparation of both a strategic water shortage preparedness plan and an emergency plan. Case studies from Greece, Italy, Cyprus and Malta will be examined, in order to validate and customize the proposed plans.

The total budget of the project is € 1,697,236 of which €190,736 are allocated directly to Malta. The project started officially in June 2006 and ends in December 2007.

The Prodim project brings together partners from Greece, Italy and Cyprus. It should be noted that the partners from these countries represent principally the island regions such as Crete, Sicily and the Cyclades Islands.

### ***MED\_ISOLAE - Mediterranean Islands Sustainability ISO-Based Action Plan 2006-2015***

This project aims to deliver methodologies, tools, a topic centre and a portal to assist islands to produce sustainability plans based on the EN ISO 9001:2000 guidelines. The Sustainability Matrix used in this

programme is the 4x4x4x4 matrix originating from the Epsilon- NUTS III/IST/ES project. According to this model sustainability requires a balance between the Environmental, Economic, Social and Administrative pillars.

Med-Isolae will establish procedures related to these four pillars, in an island context. Detailed procedures, with the aim of certification, will be written for specific themes such as water resources, tourism and waste management. A procedure will also be established for the Spatial Data Infrastructure of an island. The tool package that will be developed will be available for use via the portal.

Within the project Malta will be responsible to host an International Conference entitled Euro Islands: ISO & SDI. This conference is scheduled to take place in March 2007.

The total budget of the project is € 1,696,444 of which €70,720 are allocated to Malta.

Apart from Malta, the project brings together partners from Italy, Cyprus and Greece. The latter is participating with specific partners from the regions of

Attica, Chios, Corfu, Crete, Cyclades, Evia, Kithara, Patmos, Santorini/Thira and Syros.

### ***Projects submitted under the Archimed 2nd Call***

The Authority also submitted a project under the second call for proposals under the Archimed Programme. In fact the I-WATER proposal, which was initially submitted under the 1<sup>st</sup> call for proposals was resubmitted.

This project deals with the development and implementation of a decision making support methodology that can be used by local authorities so as to evaluate the sustainability of water resources management solutions, including re-use and high quality water production technologies.

The primary objectives of the project are the following:

- Improvement of the demand-supply balance of water on dry islands and coastal areas;
- Enhancement of the adoption of innovative and efficient technologies;
- Contribution to natural environment conservation by minimizing wastewater pollution; and

- Promotion transnational co-operation for the implementation of integrated strategies for managing water resources.

The total proposed budget of the project amounts to 990.144EUR; of which 106.488EUR are indicated for direct allocation to Malta. The project involves partners from Greece, Italy and Malta.

#### ***Participation in national and international fora***

##### ***Meetings of the water directors of EU member states***

During the year two meetings were held, in London and Salzburg respectively, for the EU Water Directors in order to discuss:

- the progress of the Common Implementation Strategy for the Water Framework Directive;
- the integration of water policy in other policy areas, in particular agriculture policy, cohesion policy;
- the aspects of climate change and water policy;
- the future streamlining of reporting of all EU water policy.

In addition, the Water Directors are informed on the progress regarding the state of play regarding other water directives including the Urban Waste Water Treatment, the Nitrates, the Drinking Water, the Bathing Water Directives, and the new Daughter Directive for groundwater.

At the meeting in London emphasis was made to the dramatic water situation across Europe. Spain illustrated this situation with their experiences during the serious droughts in summer 2005. Such situations are increasingly typical for the Mediterranean region. The Water Framework Directive would offer an opportunity to bring about sustainable water management with its environmental, economic and social dimension.

Several suggestions were also made in particular:

- to improve coordination and integration of implementation work of older directives (Urban wastewater treatment, Nitrates, etc) within the WFD CIS process;
- to continue activities on environmental objectives and exemptions in 2006;
- to strengthen work on integration especially the already ongoing initiative WFD and Agriculture.

At the Salzburg meeting the Commission (DG Environment) presented the latest position on the legal transposition and implementation of the Water Framework Directive (WFD). Most of the reporting submission on Article 5 were by then completed and Member States were invited to submit their respective data to the Water Information System for Europe (WISE). Initial statistics of a number of water bodies at risk were reported as well as the relative number of surveillance monitoring sites showing the range across some Member States.

The Commission presented an overview of the state-of-play of the implementation of the Nitrates Directive and emphasised the need of observing, through the action programmes, the 170 kg N/ha per year manure by some Member States, recalling the opportunities to support manure storage which need to be taken now.

Progress in relation to the implementation of the Directive on Urban Waste Water Treatment (UWWT) was also reported and the Commission urged member states to honour their reporting obligations in relation to this directive.



## Groundwater plenary group (WGC)

The Groundwater Working Group forms an integral part of the strategy developed for the ‘Common Implementation’ of the Water Framework Directive. This working group discusses the practical implementation of the groundwater related objectives of the Directive.

During the period under review, three meetings of the Working Group were called by the Commission. These were held on the 12<sup>th</sup> October 2005 in Brussels, 14<sup>th</sup> February 2006 in Brussels and 22<sup>nd</sup> and 23<sup>rd</sup> June 2006 in Vienna.



These meetings reviewed the progress of the three drafting groups which were set-up under the Working group. These drafting groups deal with the following specific implementation issues:

- Development of Groundwater Monitoring Networks;
- Definition of Protected Areas;
- Regulation of Direct and Indirect Discharges to Groundwater;
- Development of an interface with the non-European countries of the Mediterranean.

Moreover, the Working Group was also regularly informed by the Commission on the ongoing negotiations on the new Groundwater Directive.

The MRA participated actively in the Plenary Sessions of the Working Group where specific issues related to the management of groundwater in near-coastal and small island scenarios were repeatedly brought to the attention of the Commission and the other Member States. The Authority was also directly represented in the groups entrusted with the drafting of a guidance document on the development of groundwater monitoring networks and the drafting of a document on ‘Mediterranean’ groundwater issues. These meetings served as a platform for raising awareness on the specific problems encountered in the implementation process of the Directive in near coastal and small island scenarios. These discussions led, amongst others, to the EU Commission and other Member States recognising Malta’s concerns and proposing the inclusion of the text “*Specific conditions should be considered for groundwater bodies on islands*” in the official guidance document on Groundwater Monitoring which is expected to be published in the coming months.



### Groundwater monitoring drafting group

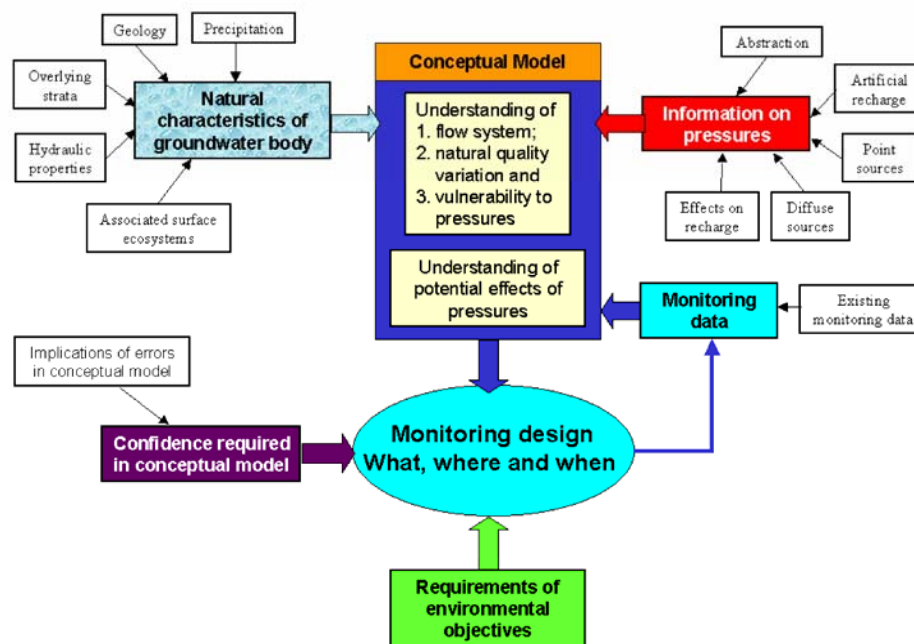
The meetings of the Monitoring Drafting Group were held back to back with the Plenary Meetings of the Working Group. The drafting group developed a 'Guidance Document on Groundwater Monitoring' which is currently at the final draft stage and is expected to be published officially by the end of the current year, following approval by the Water Directors.

This document provides practical guidance and technical specifications to Member States for implementing the monitoring requirements outlined in Article 8 of the WFD. In as much, it considers the setting up of monitoring networks for:

- Chemical Status and Trend Monitoring;
- Quantity Monitoring;
- Protected Area Monitoring;
- Prevent and Limit Monitoring.

as outlined in the Directive, providing guidance on issues such as the selection of monitoring determinands, selection of monitoring sites and determination of monitoring frequency.

*Figure 11: Schematic representation of the links between the conceptual model of the groundwater body and the monitoring network.*



The MRA also submitted a case-study on quantitative status monitoring in small islands, effectively demonstrating that 'water-level' may not be the

appropriate means to quantify status in island scenarios. This case-study was accepted by the Commission and included as part of the Annexes to the document.

## *Mediterranean groundwater working group*

The Mediterranean Groundwater Working Group is one of the thematic groups of the Mediterranean Joint Process between the EU Water Framework Directive and the Mediterranean Component of the EU Water Initiative. The objective of the working group is to exchange experiences, share common challenges and develop synergies between EU and non-EU countries, basin authorities, institutions and stakeholders in the Mediterranean region, aiming at the adoption of a common vision on groundwater resources management, based on the WFD approach and objectives and the regional conditions.

The working group is also developing a technical report on groundwater management in the Mediterranean and the Water Framework Directive, which will:

- identify the most significant problems, pressing needs and challenges for the Mediterranean region relating to groundwater resources management;
- list on-going regional and national processes, initiatives and projects developed to respond to groundwater issues in the region;

- develop common approach methodologies and management strategies on groundwater resources based on the concept of integrated management of all available resources and develop adequate recommendations and technical specifications on priority issues; and
- transfer, exchange and demonstration of know-how on strategies, criteria, methodologies and tools used in the Mediterranean region on various groundwater management issues.

The MRA participated actively in the development of this technical report, and was entrusted by the Commission to co-lead the drafting of the sections of document related to Groundwater Quality and its deterioration. In fact, the MRA participated in the meetings which were held back to back with the Groundwater Working Group plenary sessions.

Further details on this working group can be obtained from: <http://www.semide.net/topics/groundwater>.

## *CIS drafting group on environmental objectives*

The environmental objectives of the Water Framework

Directive are the core of this EU legislation providing for a long-term sustainable water management on the basis of a high level of protection of the aquatic environment.

Article 4 of the WFD sets out the “environmental objectives” mainly in Article 4.1 and provides that the most stringent shall apply (4.2). For heavily modified and artificial water bodies, Article 4.1 set out “specific objectives” for these specific water bodies. In Article 4.3, strict criteria for the designation of artificial or heavily modified water bodies are described. Thereafter, a number of “exemptions” from the Art. 4.1 objectives are introduced (see Article 4.4 (extension of deadlines), 4.5 (less stringent objectives), 4.6 (temporary deteriorations) and 4.7 (new modifications)) which describe the conditions and the process in which they can be applied. It is recommended to avoid the term “derogations” since it is used differently in other EU legislation and has a different connotation in some EU languages. Finally, Article 4.8 and 4.9 give general “minimum requirements” when applying the exemptions.

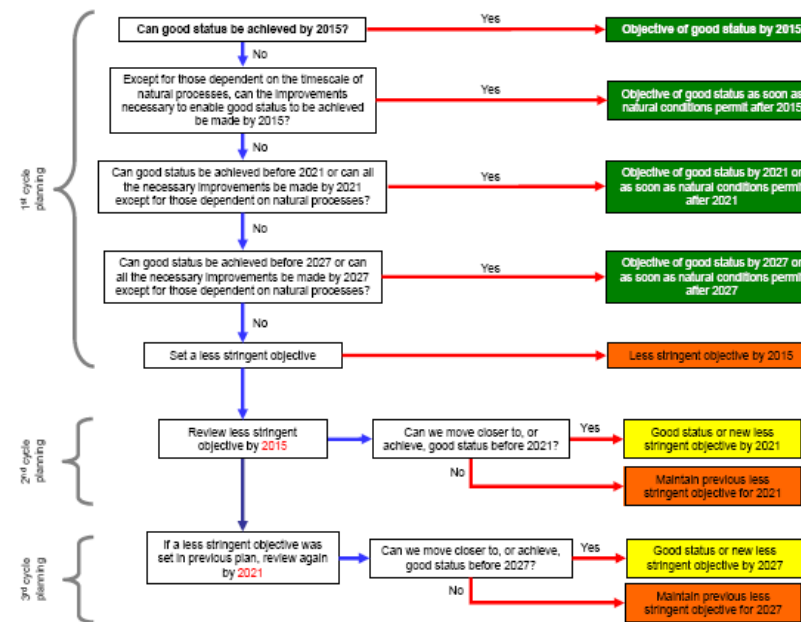
The MRA participated actively in this drafting group,

which was entrusted with developing a guidance document on the overall requirements of Article 4. This guidance document was published by the Commission and can be found in the following web-link:

<http://forum.europa.eu.int/Public/irc/env/wfd/library>

Activities under this drafting group are continuing, and are currently aimed at developing comprehensive guidance for the provisions outlined under Article 4.7 of the Directive.

*Figure 12: Schematic representation of the process required for considering exemptions to the achievement of the objectives of the Water Framework Directive.*





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