

WATER USE EFFICIENCY
EXPERTS MEETING
5 November 2008

WATER-USE EFFICIENCY REPORT
MALTA (2008)

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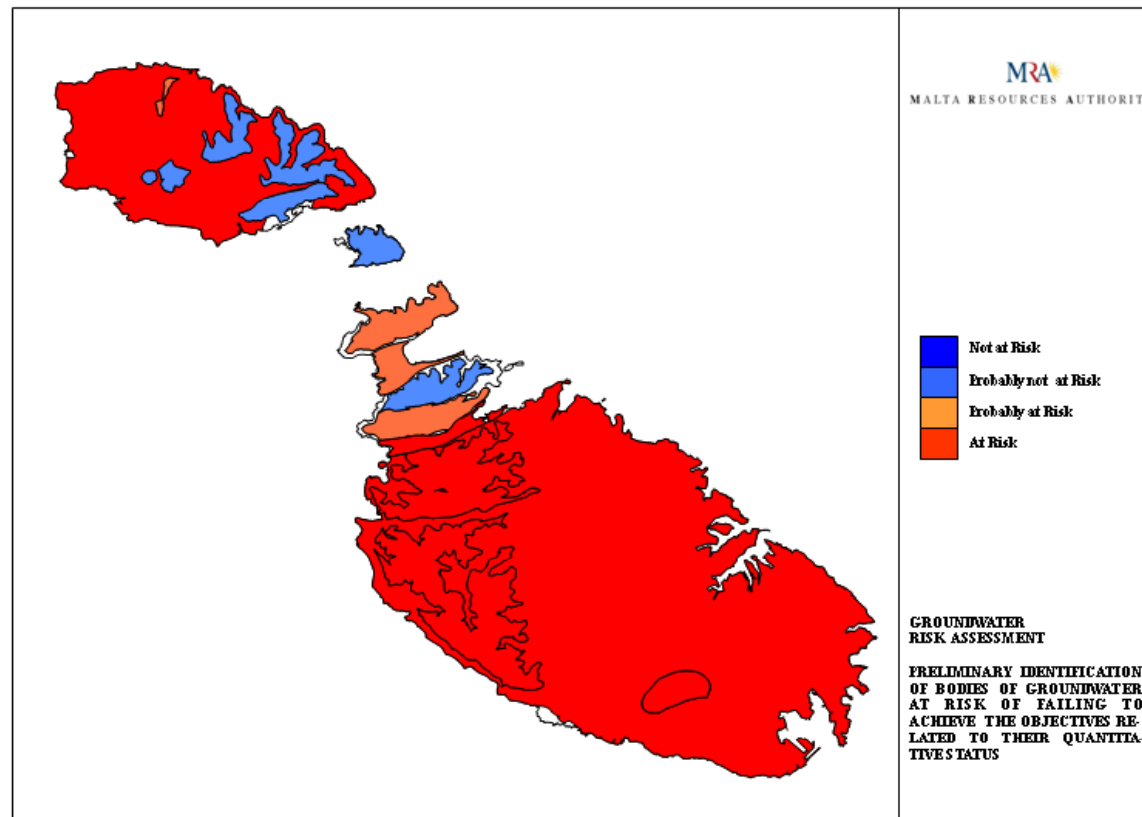


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OBJECTIVES

The principal national policy objectives are set by the Water Framework Directive: Achievement of Good Quantitative Status for all groundwater bodies.



OBJECTIVES

The major groundwater bodies have been identified as being at risk of failing this objective. Hence, measures aimed at reducing abstraction from these bodies are being planned for inclusion in the ensuing River Basin Management Plan (due to be launched in 2009).

This problem is being approached in two distinct ways:

- (i) identification of alternative water sources to satisfy the demand; and
- (ii) increasing the sectoral efficiency in order to reduce the demand.



OBJECTIVES

Since groundwater is utilised by all sectors in the Maltese islands; the measures and targets being proposed will affect all sectors.

It is estimated that a reduction of around 7hm^3 in abstraction (20% of current abstraction rate) is required to achieve good status.

In this presentation, a description of the current status, potential measures and possible targets in all sectors will be outlined.



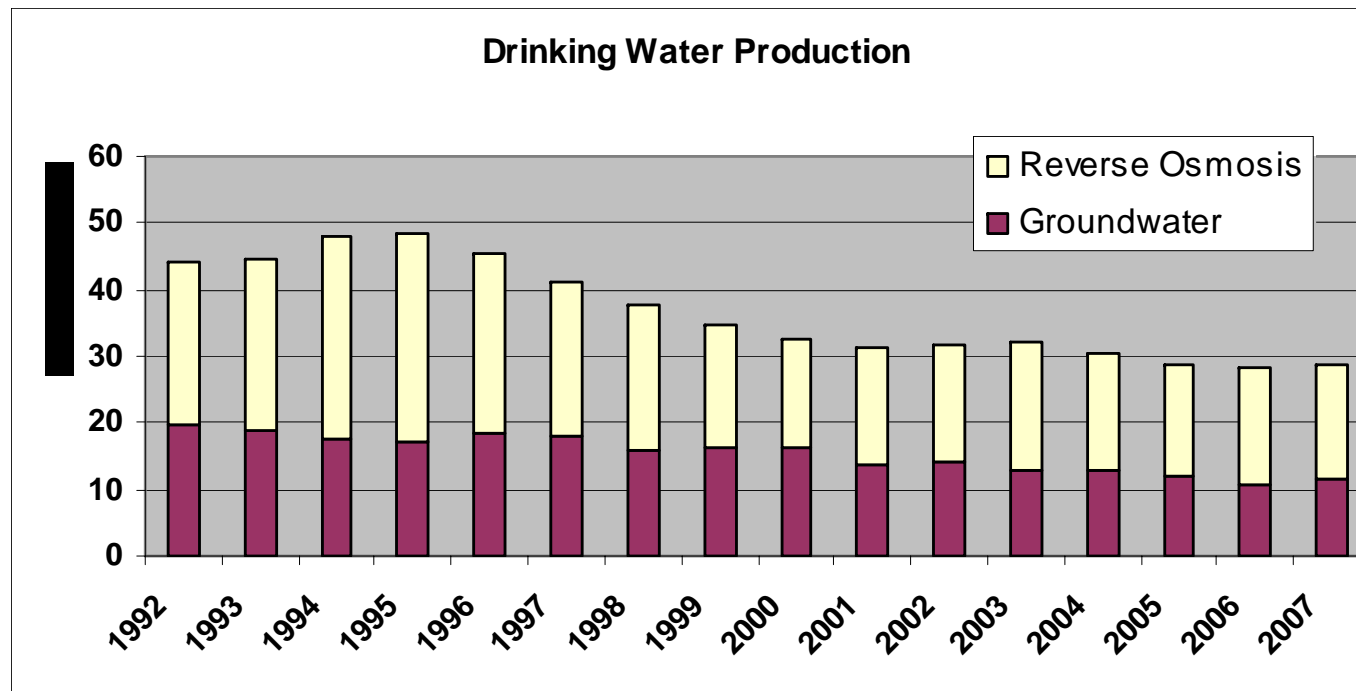
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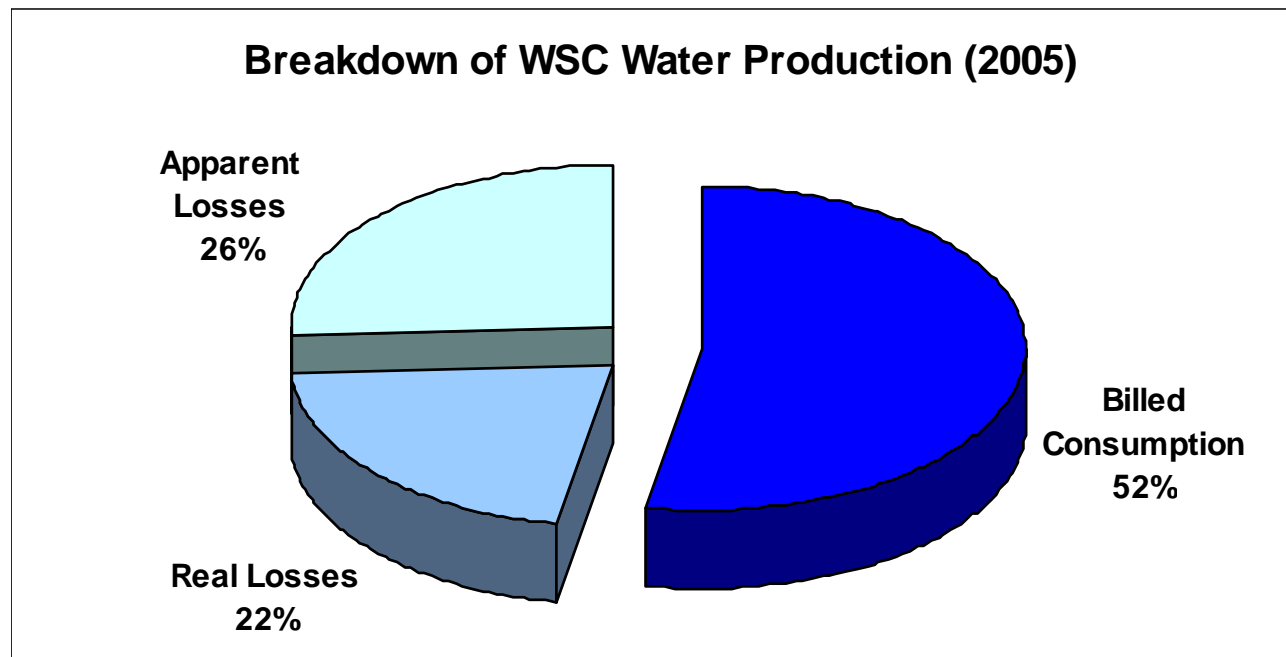
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The WSC (water utility) launched a programme aimed at curbing losses from the water distribution network. As a result leakage has been reduced over the whole distribution system from 19m³/km/day in 1995 to 4.56m³/km/day in 2007. The target is to further reduce this to 2.11m³/km/day by 2010.



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Moreover, the utility is currently also investigating means for improving the water metering system; with the aim of reducing the 'apparent losses' – water which is consumed but not billed.



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Further actions (at the local/household level) are being proposed for inclusion in the WFD Programme of Measures. This programme is not finalised since it is still undergoing public consultation.

Possible actions and their potential saving effect are:

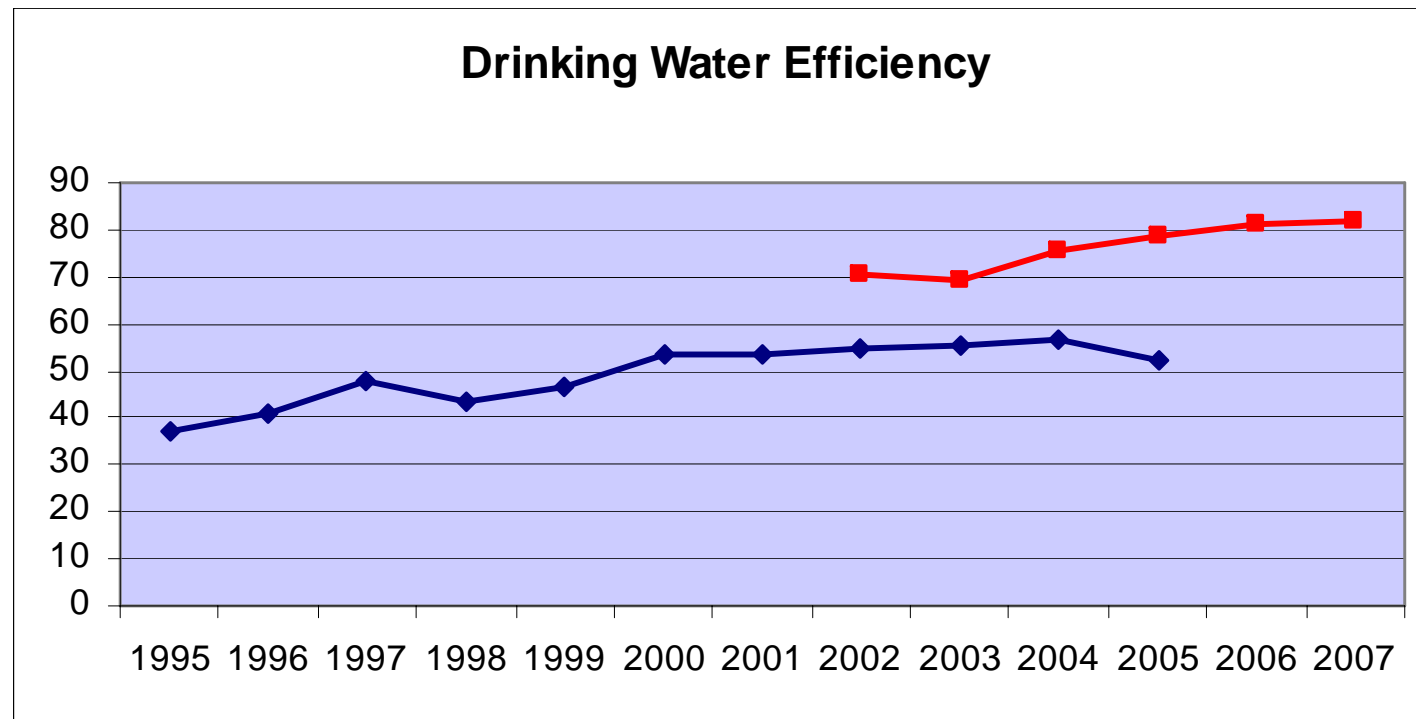
- (i) Distribution of water saving devices in households. Potential saving effect: 0.5hm^3 ;
- (ii) Establishment of a tax rebate for the installation of water saving appliances in households. Potential saving effect: 0.25hm^3 .

Note: Savings in municipal sector will only in part affect groundwater abstraction; since municipal supply is derived from both groundwater and desalinated water.



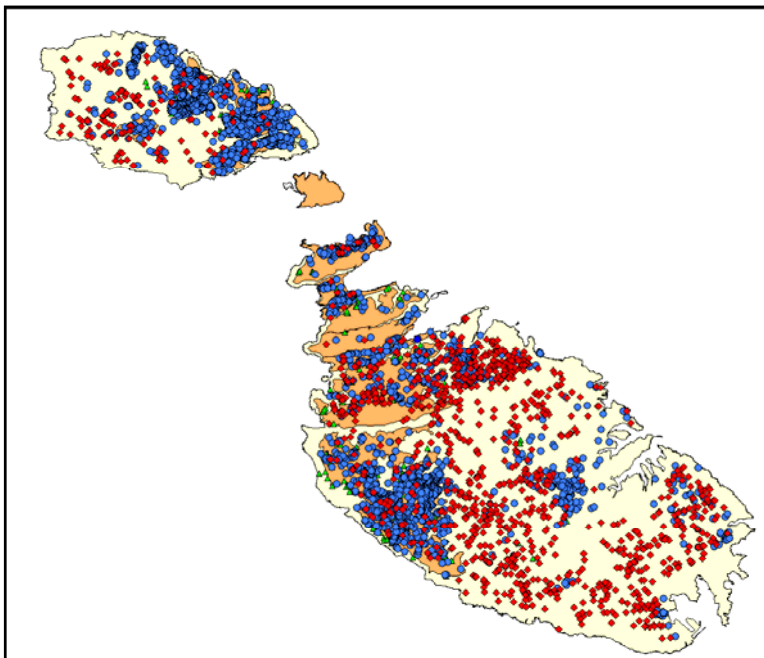
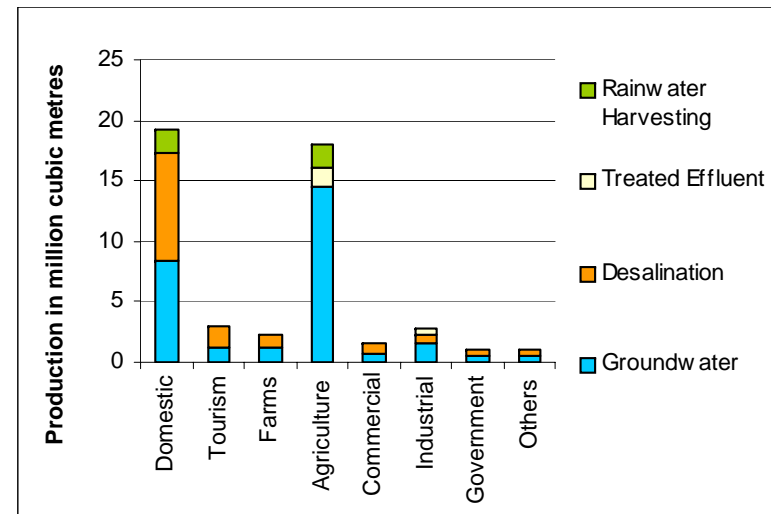
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The 'Drinking Water Efficiency' Index plot shows an overall increasing trend, mainly driven by the leakage reduction campaign. Including apparent losses as consumption, will actually result in a higher index value.



AGRICULTURE

Agriculture is the largest user of groundwater in Malta. In the absence of a national irrigation water distribution system; the sources of supply are boreholes - mainly located at the point of use.



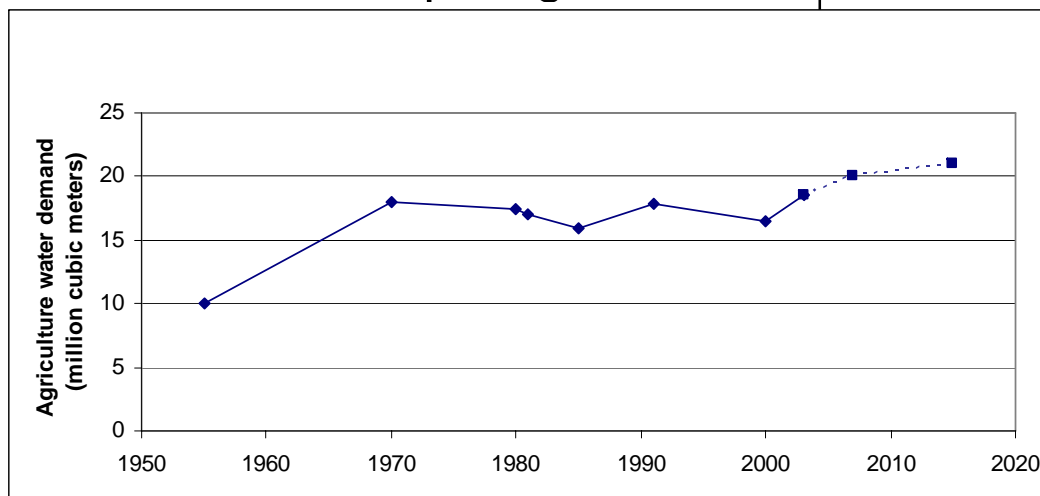
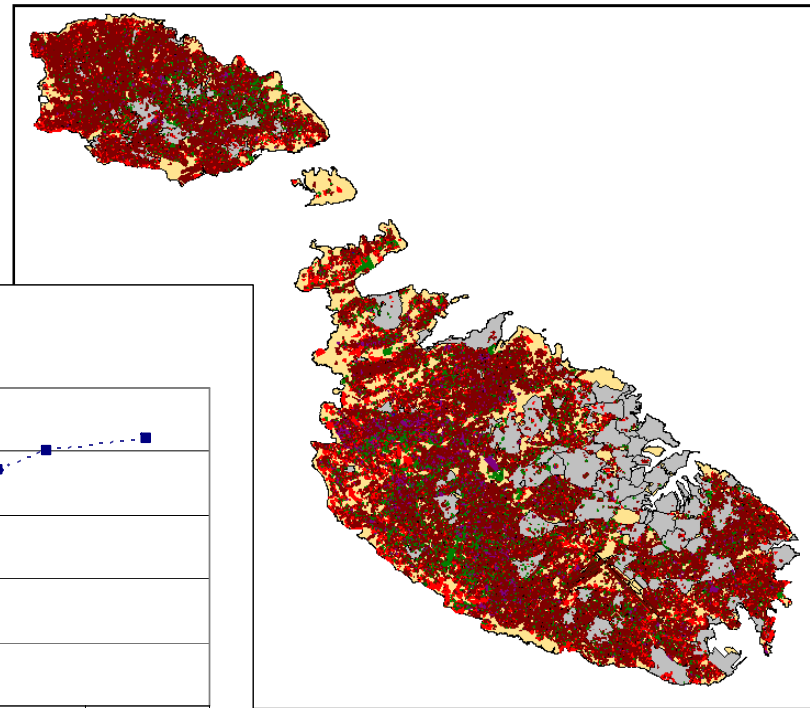
Although this creates a problem from the regulatory point of view – in fact these sources are not metered; it has the hidden advantage of reducing distribution network losses. Distribution efficiency was thus assumed at 90%.



AGRICULTURE

Agricultural land is around 12,000ha; of which around 2,000ha are considered as irrigated land (land which has a source of irrigation water). Several drivers, such as improvements in irrigation technology, declining costs of borehole abstraction, revenue generation and production oriented EU subsidies are driving the agricultural sector towards an increased irrigation demand.

The last Census of Agriculture carried out in 2001 found that around 85% of the irrigated land is under drip-irrigation.



AGRICULTURE

It is clear that efforts have to be made for the collection of Real Data on the water demand and use of the Agricultural Sector. In particular this should address:

- (i) The volume of groundwater abstracted from the private supply points; which up to now are not metered. It is noted that a new Legal Notice requiring the Notification of all Groundwater Sources has been published by Government – which whilst definitely is a step in the right direction; should only be considered as the first step towards an improved regulation of the sector.
- (ii) The irrigation techniques being used – which data is only collected in the Agricultural Census with a 10-year frequency.



The screenshot shows a news article from Times of Malta. The header includes the website name 'TIMESOF MALTA.COM' and the date 'Tuesday, 7th October 2008 - 20:15CET'. The main headline is 'Government announces measures to protect the water table'. Below the headline, there is a sub-headline: 'The government has published legal notices providing that no new boreholes may be drilled for ground water extraction and all boreholes which have not been already registered with the authorities have to be registered within a month.' The article also features a search bar and a 'Log in • Create account' button.

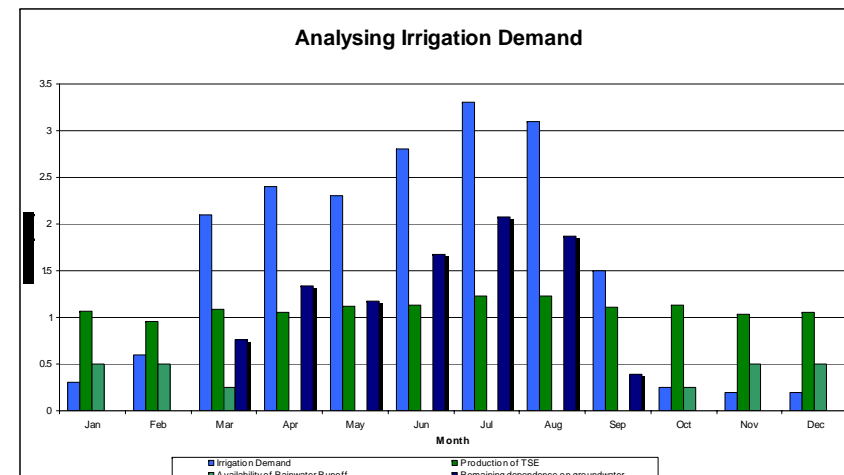
AGRICULTURE

Proposed measures for the agricultural sector in the RBMP aim mainly to facilitate the use of other sources of water in substitution of groundwater.

In particular, the use of TSE (of sufficient quality and if made available at the point of use) has the potential for supplying an annual volume of 6-7hm³ of water for irrigation.

Also, measures aimed at incentivising the construction of rainwater reservoirs are estimated to present a further potential for the harvesting of 0.25m³ of runoff.

Efforts have also to be made in managing the demand; with incentives and the provision of on the field training for the best use of advanced irrigation techniques.



INDUSTRY

Recycling in industrial and commercial concerns is also constrained by the small size of Maltese industries; potentially making the initial investment costs still prohibitive. In fact, private wastewater recycling facilities are still limited to a small number of major concerns in the industrial and tourism sector. The availability of data on this factor is also quite limited.

Use by industry of recycled water produced in the centralised plants is also quite low; mainly due to the absence of a dedicated distribution system.

However, where locally introduced water recycling has made a significant impact on the industrial concern's municipal water demand.

The collation of further data on the existence and treatment capacity of private treatment facilities in industry is recommended; initially possibly through the inclusion of specific questions in industry related NSO questionnaires.



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THANK YOU

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