DRAFT WATER RESOURCES (JERSEY) LAW

SCRUTINY HEARING of MONDAY JULY 26

ANNUAL RENEWABLE FRESHWATER PER PERSON TABLE

Comment

Synopsis

The following note demonstrates that the table to the Scrutiny Committee by Environment and Public Services at the Scrutiny Hearing purporting to demonstrate that Jersey is in a position of absolute 'water scarcity' is based on the assumption that the present level of water use in Jersey is four times greater than the calculated rate of water use.

Introduction

The table provided to the Scrutiny Committee by the Environment and Public Services Committee at the hearings of July 26 is Appendix 2 of a website operated by a group called Population Action International.

The 'Renewable Annual Freshwater per Person' is calculated by:

1. Subtracting annual average evaporation from average annual rainfall to give annual effective rainfall in metres
2. Multiplying effective rainfall by surface area to give annual available fresh water in cubic metres (this may be increased by adding and cross border river or groundwater flow into the country in question)
3. Dividing the annual available fresh water number by the population to give an available freshwater volume per head per year in cubic metres

A number of references are then quoted to support the following data categorisation:

- >1700 cubic metres per year *occasional or local water resource problems only*
- 1000-1700 cubic metres per year *regular water stress*
- 500-1000 cubic metres per year *water scarcity*
- < 500 cubic metres per year *absolute water scarcity*

This appraisal is based on the assumption that the pattern of water use is always:

- 69% irrigated agriculture
- 23% industry and energy
- 8% domestic (based on a per capita requirement of 100 l/head/day)

The literature accompanying the table acknowledges that no allowance is made for:

- Seasonal variation in rainfall
- Geographical distribution of population and consequent access to rainfall
- Variations in pattern of water use.

It is worth noting that the purpose of the website appears to be to lobby for population control on the basis that resources are running out

Relevance to Water Resources in Jersey

Based on a population of 90000 an area of 117 sq km and 'average rainfall' EPSC calculate a renewable

annual fresh water availability for Jersey of 444 cubic metres (depending on input figures for average rainfall and evaporation any number between about 300 and 500 could be produced. This number places Jersey firmly in the 'absolute scarcity' category.

Similar calculations for Guernsey (61000 people in 78 sq km) indicate a number of around 350 and for Alderney (2200 people in 7.9 sq km) 590. Both again apparently in extremely parlous positions

The number quoted by Environment and Public Services makes no allowance for the relatively uniform distribution of Jersey's population and rainfall , both positive contributions to availability. However, more importantly *there is no allowance given to the pattern of water usage in Jersey.* From figures provided in the written evidence of the BGS reports and water Company published data this pattern is:

- Domestic 64 % (6.2 million cubic metres per year) (EPSC table based on 8%)
- Agriculture and Light Industry: 17% (1.7 million cubic metres) (EPSC table based on 69%)
- Hotels and other services: 19% (1.8 million cubic metres) (EPSC table around 23 %)

If we make allowance for a 200 l/head/day domestic usage on Jersey (EPSC's own figure but twice the level of domestic usage assumed in the table submitted by them) this would increase the proportion of domestic water usage on which the 'absolute water scarcity' categorisation is based to 16% of the assumed total usage which would in turn give a total usage figure of 38.75 million cubic metres per year. Actual usage is close to 10 million cubic metres per year.

Effectively what the data submitted to the Scrutiny Committee is saying is that if water usage on jersey were approximately 4 times greater than at present then there would be an 'absolute water scarcity'. This makes no allowance for any contribution to the system by desalinated water or from groundwater inflow from France.

The overall effect of this in the context of the data categories defined by Population Action International is to move Jersey from a position of 'absolute scarcity' to one of 'occasional or local water problems.

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