

REPORT TO ENVIRONMENT SCRUNITY PANEL

3/09/6

27/02/09

PROPOSED CHANGES TO THE BUILDING BYE-LAWS (JERSEY) 2007.

1. BACKGROUND.

A public consultation paper detailing proposed changes to the building bye-law requirements relating to the conservation of fuel and power and ventilation in buildings was published in March 2008. The consultation period finished at the end of June 2008 and eleven written responses were received, including two from Jersey Gas and two from Jersey Electricity. Generally speaking the responses received were supportive but concerns were raised by Jersey Gas regarding the potential effect of the proposals on its business. The proposals can be summarised as follows:

- Target CO₂ emission rates have been set for all new dwellings and commercial buildings.
- Insulation standards have been increased to improve the energy performance of existing buildings when they are extended or altered.
- A new requirement for “consequential improvements” to be made to large commercial buildings when building work is proposed. This means that in addition to the building work proposed, work will be required to improve the energy performance of the existing building. For example, a proposal to construct an extension to an office building would require at least 10% of the cost of the extension being spent on improving the energy performance of the existing building. This could take the form of improving the thermal performance of the fabric or upgrading heating / cooling systems by replacing old plant with more efficient plant with improved controls.

2. TARGET CO₂ EMISSION RATES.

To demonstrate compliance with the CO₂ emission targets it proposed that energy calculations will need to be provided using approved calculation tools. The compliance tool will be designed to compare the energy performance and CO₂ emission of new buildings, against a reference building designed to standards set by the department. For new dwellings the proposed target CO₂ emission rate has been set to achieve a 20% reduction on that achieved by the reference building. For commercial buildings the target has been set to achieve a reduction of 23% to 28% depending on the amount of cooling provided. For the calculation tools to work it is necessary to set CO₂ emission factors for the various types of fuels and this has been done in Table 2 of the draft Technical Guidance Document 11.2A. (TGD)
Those factors have been taken from a study done by the Building Research

Establishment in the UK, and are effectively the same as the factors used in the current bye-laws except they are now given in terms of CO₂ instead of carbon. Only one change has been made, which relates to electricity. This factor has been changed from the current bye-law figure of 0.18 kgCO₂/kWh to 0.08kgCO₂/kWh. This is because this is the latest available 3 year average figure calculated for Jersey electricity.

3. JERSEY GAS COMMENTS.

The concerns raised by Jersey Gas relate to the fact that the CO₂ emission targets will be easier to achieve when electricity is used for space heating and that this will favour electricity over gas. This is probably correct as the published emission factor for LPG is 234g CO₂/kWh compared with 80gCO₂ /kWh for electricity.

Jersey Gas has challenged the validity of the emission factor for electricity, and has submitted various reports suggesting the factor should in fact be higher than the one given for LPG. The department does not accept this argument and maintains the view that the emission factor stated in the draft TGD is correct and appropriate for use in the Building Bye-laws. The reason for this is primarily because the factor has been checked and verified by the UK Building Research Establishment, who are independent research body with a great deal of expertise in this in the field.

4. REDUCED TARGET CO₂ EMISSION RATES.

In view of the concerns expressed by Jersey Gas the department is reviewing the proposed CO₂ targets so as to allow compliance to be more easily achieved using gas. This will most likely done by changing the fuel source used in the reference building from electricity to LPG, where it is proposed to use a fuel other than electricity for space heating. This will have the effect of making compliance considerably easier when using gas or oil for space heating, but still achieve a 20% improvement over current standards. To prevent compliance being achieved by simply switching fuels, electricity will remain as the default for the reference building where electricity is to be used for space heating in the actual building.

CONCLUSION.

Changing the fuel source in the reference building as suggested above will result in a less ambitious target in terms of reducing CO₂ emissions from the built environment but it should alleviate the concerns raised by Jersey Gas as it will cancel out the advantage electricity gets by having with a lower CO₂ emission rate.

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