

May 2009.

| Respondent | Summary of Comments. | Response. |
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| Building Services Consultant. | <ul style="list-style-type: none">• Proposals a good step forward.• Concerned that there may be a conflict between the proposed requirements and achieving the aesthetic standards required by planning officers. • Various technical questions / queries concerning the draft technical guidance. | <ul style="list-style-type: none">• Noted.• It is quite likely that the drive to improve energy efficiency in buildings will result in more contemporary designs which make use of new materials and products aimed at saving energy. However, this does not necessarily mean that more traditional designs would not be able to meet the new standards. What will be important is that the designer fully considers the bye-law requirements at the planning stage so as to avoid material changes to the design at the building application stage.• Technical guidance will be clarified as appropriate. |
| Architect. | <ul style="list-style-type: none">• Agrees that the proposals are a step in the right direction but considers the proposed emission targets will be hard to achieve. • Concerned about increased building costs | <ul style="list-style-type: none">• Generally speaking significant improvements will need to be made in terms of improving insulation levels and air tightness of the external fabric. The targets have however been reduced to make compliance easier for buildings using gas and oil as the primary heating fuel. • No analysis has been done on the effect on building costs in Jersey. |

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| | <p>and suggests accurate costs of the proposals need to be determined.</p> <ul style="list-style-type: none"> Concerned about new provision which requires improvements to be made to existing buildings when these are altered or extended. Accepts the principle, but considers this will add to costs which will be a barrier to new development. Considers this provision will act as a deterrent to upgrading or extending buildings until well passed their effective service life. | <p>However, a cost benefit analysis was done in England and Wales prior to similar changes being made to UK building regulations in 2006. This concluded that costs for new dwellings were likely to rise by approximately 0.36% of the 2006 UK average house price for flats terraced and semi-detached houses and 0.68% for detached houses. Using an average price of £400,000 for Jersey this would equate to an increased cost of £1,440 for flats, terraced and semi-detached houses and £2,720 for detached houses. It is considered that any increased costs will be offset by operational savings for the building user, which are estimated to be in the region of 20% per year and that there will also be a significant environmental benefit in terms of the reduction in CO₂ emissions.</p> <ul style="list-style-type: none"> The thinking behind the requirements to upgrade existing buildings (called consequential improvements) is based on the fact that in terms of reducing CO₂ emissions the main problem lies with the existing building stock. This requirement calls for cost effective improvements to be made |
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| | | <p>to certain types of existing buildings, (those which have a floor area exceeding 1000 sq.m), only when those buildings are altered or extended. This provision will make a significant impact in terms of improving the energy performance of the largest buildings in the existing building stock and as such has been retained.</p> |
| <p>Architect</p> | <ul style="list-style-type: none"> • Considers requirements should extend to portable external heaters such as those used in alfresco areas associated with public bars and restaurants. • Concerned that the stated CO₂ emission factor for electricity will favour the use of electricity over other fuels. | <ul style="list-style-type: none"> • The bye-laws only extend to fixed heating appliances in buildings. Adding further controls using building regulations as suggested is considered to be both unworkable and inappropriate. • The aim of the bye-laws is primarily one of reducing CO₂ emissions resulting from energy used in buildings. This is done by setting standards to ensure the external fabric is well insulated and reasonably airtight and by promoting the use of low and zero carbon fuels. It is correct to say that because electricity delivered in Jersey has a low carbon content the proposed CO₂ emission targets encourage the use of electricity rather than fuels with a higher carbon intensity. In view of comments received and to avoid |

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| | <ul style="list-style-type: none"> • Is concerned that legislation is encouraging the use of nuclear energy. • Calls for the regulation of building work, which is currently exempt from the bye-laws, through the introduction of approved installer schemes. In particular concerned that conservatory type extensions to dwellings which are of a size that makes them exempt from the requirements of bye-laws perform badly in terms of energy use. | <p>the exclusion of fuels other than electricity, the proposed CO₂ emission targets have been adjusted to make compliance easier when using gas or oil as the primary heating fuel.</p> <ul style="list-style-type: none"> • Changes have been made to the CO₂ emission targets to achieve parity between electricity, gas and oil when these are used as the primary heating fuel. • It is accepted that the current exemption criteria for conservatory type extensions to dwellings can lead to poor energy performance if the conservatory is poorly insulated and not adequately separated from the dwelling. To address this point the exemption criteria for conservatories will be revised to require adequate thermal separation to be provided and maintained between the conservatory and the dwelling. In addition the conservatory will need to be constructed so that the external fabric achieves at the very least an area weighted average U-value of 2.0W/m²/k. |
| Architect | <ul style="list-style-type: none"> • Considers that the Association of Jersey Architects should have been invited to assist | <ul style="list-style-type: none"> • Noted. |

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| | <p>in the preparation of the consultation document.</p> <ul style="list-style-type: none"> • Considers that ratification of the proposals in their current form will be an unsustainable burden on the construction industry. • Commends the fact that renewable energy sources are encouraged. • Considers the proposals are over complicated and that the necessary expertise does not exist in Jersey to deal with them. | <ul style="list-style-type: none"> • The proposals reflect the focus on improving energy performance of buildings which is happening throughout Europe. While the proposed standards are demanding it is difficult to see why they should be considered an unsustainable burden on the construction industry. Certainly there will be changes in design procedure but these will be no different to those which have recently been seen in the UK and elsewhere. • Noted. • The department does not agree the proposals are over complicated but accepts more detailed assessment of the energy performance of buildings will be required than is currently the case. A calculation tool will be made available to enable this to be done relatively easily. Experience in the UK has shown that provided sufficient notice of the changes is given, industry professionals can soon adapt their design practices. 3 months notice of any bye-law change |
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| | <ul style="list-style-type: none"> • Suggests that proposals should be staged over a 5 year period to allow training to take place. • Suggests the proposed target of 20% reduction in CO₂ emissions for new dwellings using an electrically heated dwelling as the benchmark is too high a target. A 20% reduction based on fuels with a higher CO₂ emission factor is suggested. • Considers it is imperative that planning officers are made aware of the design | <p>will be given.</p> <ul style="list-style-type: none"> • Five years would be an excessively long period to introduce the proposed changes. It is accepted that architects, engineers and surveyors will need training if they are going to successfully use the software approved for the purposes of calculating energy ratings for buildings. Indeed, this will apply to the building control surveyors who will be assessing those calculations. There are a number of professional training courses available and 3 months notice of the changes is considered appropriate time to allow for the necessary training to take place. • The 20% reduction in CO₂ emissions based on a dwelling with full electric heating insulated to current bye-law standards is indeed a demanding target. In view of the concerns raised regarding the proposed target emission rates the proposals have been revised to make compliance easier when using fuels other than electricity. |
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| | <p>implications which are likely to result from the bye-law changes.</p> <ul style="list-style-type: none"> • Recommends any changes should be reviewed after 12 months to assess suitability in use. • Considers the requirement for consequential improvements to be an inappropriate surcharge in the current financial climate • Considers that conservatory extensions to dwellings, most of which are exempt from the bye-laws, are a loophole in the legislation as they can seriously compromise the thermal performance of the dwelling. Suggests this can be remedied via | <ul style="list-style-type: none"> • An overview of the bye-law changes will be given to planning officers. • A review of the changes will be carried out and appropriate steps taken to deal with any significant issues resulting from the changes. • The thinking behind the requirements to upgrade existing buildings (called consequential improvements) is based on the fact that in terms of reducing CO₂ emissions the main problem lies with the existing building stock. This requirement calls for cost effective improvements to be made to certain types of existing buildings, (those which have a floor area exceeding 1000 sq.m), only when those buildings are altered or extended. This provision will make a significant impact in terms of improving the energy performance of the largest buildings in the existing building stock and as such has been retained. • It is accepted that the current exemption criteria for conservatory type extensions to dwellings can lead |
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| | <p>environmental taxes.</p> <ul style="list-style-type: none"> • Considers open air swimming pools should be controlled through the bye-laws to ensure any heating system uses low or zero carbon fuels. • Suggests a financial opt out for developments which are found not to comply with the proposed requirements (with money being used for environmental programmes) as remedial work to correct problems may prove to be expensive. | <p>to poor energy performance if the conservatory is poorly insulated and not adequately separated from the dwelling. To address this point the exemption criteria for conservatories will be revised to require adequate thermal separation to be provided and maintained between the conservatory and the dwelling. In addition the conservatory will need to be constructed so that the external fabric achieves at the very least an area weighted average U-value of 2.0W/m²/k.</p> <ul style="list-style-type: none"> • Open air swimming pools currently fall outside of the scope of the building bye-laws. It is considered that with the resources available to the department this should not be changed. • A financial opt out for persons not choosing to comply with the bye-law requirements would circumvent the purpose of the bye-laws and in effect result in little improvement being achieved. This is not supported. |
| <p>Property Holding Company</p> | <ul style="list-style-type: none"> • Considers bye-laws should do more to discourage mechanical air cooling in buildings because mechanical air | <ul style="list-style-type: none"> • Historically the bye-laws have not done very much in terms of a discouraging mechanical air cooling. |

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| | <p>conditioning is the driver to increasing energy consumption. Suggests air conditioned buildings use 50% more energy than buildings no mechanical air conditioning.</p> <ul style="list-style-type: none"> • Suggests that because the bye-law targets are based on CO₂ emissions this will lead designers to switch fuels to electricity. • Considers there will be no future for gas or oil heating systems in buildings which will lead to no competition in the market and higher electricity costs. • Suggests that the focus should be on reducing energy use rather than distinguishing between non renewable energy sources. | <p>The target emission rate for non-domestic buildings will however be based on a reference building with a seasonal mixed mode cooling system. This means the target will be easier to achieve with a building that does not have mechanical air cooling.</p> <ul style="list-style-type: none"> • The targets have been revised so that the reference building uses the same fuel as the actual building. As a result switching fuels will give no advantage in terms of meeting the targets. • Whilst the aim of the proposed bye-laws is to encourage the use of low and zero carbon fuels, it is recognised the targets set would make compliance very difficult when using gas or oil as the primary heating fuel. In view of the comments received the targets have been revised so that the reference building uses the same fuel as the actual building. • The bye-laws do focus on reducing energy use as well as CO₂ emissions. This is done in a number of ways, including the setting of minimum standards for the insulation |
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| | | <p>of the external fabric, limiting air leakage and requiring energy efficient lighting and heating appliances to be fitted.</p> |
| <p>Utility Company</p> | <ul style="list-style-type: none"> • Not supportive of the proposals as they promote “low carbon” electricity as the fuel of choice, rather than treating all fuels equally and promoting the concept of reducing energy use whatever the fuel of choice. Considers that it is not right that a property heated by gas or oil needs to be better insulated than one heated by electricity. • Questions whether the proposals are proportionate and can be justified in terms | <ul style="list-style-type: none"> • It is correct to say that the bye-laws promote the use of low and zero carbon fuels. Carbon emission factors are given in the published technical guidance for a range of heating fuels which show electricity in Jersey is a low carbon fuel. Certainly using electricity for heating will help achieve the proposed targets for reducing CO₂ emissions but this will not be sufficient on its own. Other measures such as reducing heating demand by improving insulation to the external fabric will be required. Because electricity has a lower carbon intensity than gas and oil it is correct to say that buildings heated by gas and oil will need to be better insulated than those heated by electricity in order to achieve the same level of emissions. In light of the comments received the targets have been revised so that the reference building uses the same fuel as the actual building. As a result using electricity will give no advantage in terms of meeting the bye-law target emission rates. |

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| | <p>of increased building costs.</p> <ul style="list-style-type: none"> • Does not consider the carbon emission factor given for electricity reflects the situation globally. Suggests that if demand in Jersey grows as a result of the bye-law changes this will be met from hydrocarbon power stations as there is no under utilised low carbon power generation ready and waiting to meet increased demand. • Suggests focus should be one of reducing energy use generally rather than specifically focusing on the CO₂ emissions generated from different fuel types. • Suggests the CO₂ emission factor for electricity which is given in the technical guidance as 0.08kgCO₂/kWh is incorrect as | <ul style="list-style-type: none"> • The CO₂ emission targets for both dwellings and commercial buildings are considered to be realistic and in line with targets set throughout the UK. It is thought that any increases in building costs will be comparable to those which occurred in the UK when similar changes were made to UK building regulations in 2006. • This view does not take account of the existence of a long term contract between the JEC and EdF for the supply of electricity which gives EdF the certainty to allow investment in new low carbon power generation plant. However, should the fuel mix for electricity delivered to Jersey change in future the carbon emission factors given in the technical guidance documents will be revised accordingly. • The bye-laws do focus on reducing energy use as well as reducing CO₂ emissions. This is done by setting minimum standards for the insulation of the external fabric, limiting air leakage and requiring energy efficient lighting and heating appliances in all buildings. |
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| | <p>any additional demand resulting from the bye-law changes will need to be generated from high carbon sources as there is no spare low carbon power generation ready and waiting to be delivered to Jersey</p> <ul style="list-style-type: none"> • Makes various recommendations to clarify the guidance in draft technical guidance documents. • Submitted a report by consultants AEA Energy and Environment which was commissioned to examine the validity / appropriateness of the published CO₂ emissions factors for electricity. • Submitted a report by Energy Markets International. • Submitted a letter from ISIS Ventures International Ltd (Energy and Utility Advisers) which suggests that an emission factor for electricity should be 0.43kg CO₂ / kWh rather than 0.08kg CO₂ / kWh as published in the draft technical guidance documents. | <ul style="list-style-type: none"> • The carbon emission factor for electricity is the calculated average CO₂ intensity of all fuel sources used in the generation of electricity delivered to Jersey in 2005 – 2006. Should the generation mix change as suggested the emission factor used for the purposes of the bye-laws will be revised accordingly. • Noted. These will be addressed when finalising the technical guidance. • Essentially the reports submitted challenge the assumption that imports of electricity to the Channel Islands are low carbon. The arguments are too complex to answer in this summary, suffice to say that a report to Jersey Electricity by IPA Energy dated 8 August 2008 reviews the arguments put forward. The conclusion of that report is that the carbon emission factor for electricity stated in the technical guidance issued in support of the bye-laws is indeed appropriate for the purposes of the building bye-laws. • Whilst the department is satisfied that the emission factor given for |
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| | | <p>electricity delivered to Jersey in the draft technical guidance documents has been independently verified, and is entirely appropriate for use in the bye-laws, it has offered to work with all utility companies to check the accuracy of it.</p> |
| <p>Energy Consultant.</p> | <ul style="list-style-type: none"> • Very supportive of improving energy efficiency standards in buildings. • Strong views on the use of outside heating appliances, commonly known as patio heaters, which are frequently used in alfresco areas associated with pubs and restaurants. Considers these should be regulated under the bye-laws. Makes the point that external lighting used in connection with a dwelling needs to have controls to turn it off when not required while there is no regulation of external heaters. Points out that the energy used for external lighting would typically be in the region of 20 Watts whereas external radiant heaters may have a consumption of 1000 – 2000 Watts. • Suggests CO₂ emission targets should set an absolute emission rate per usable floor area so as to encourage efficient design. i.e. compact shapes which limit heat loss areas, as opposed to buildings with sprawling envelopes. | <ul style="list-style-type: none"> • Noted. • It is correct to say that portable heating appliances are not controlled under the bye-laws. It is considered the bye-laws are not the right tool to regulate such appliances and any attempt to do so using the bye-laws would be totally ineffective. • This target emission rates are based on a reference building that reflects the actual size and shape of the proposed building, and have been set to achieve a 20 to 24 % reduction in CO₂ compared with building constructed to current bye-law standards. It is measured in |

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| | <ul style="list-style-type: none"> • Considers proposed targets are demanding and states it will be difficult to achieve compliance with anything other than an electrically heated building. Is uncomfortable that the bye-laws favour the use of electricity for heating. • Considers proposals need to take a more global view regarding the use of electricity. Suggests that if demand for electricity increases in Jersey this will result in less low carbon electricity being available for use elsewhere in Europe with the shortfall likely to be made up with Hydrocarbon generated | <p>kg/m²/year. This in effect sets an emission rate per useable floor area and does not take account of the fact that some designs will be less efficient than others. To set different emission rates for certain types of design is considered to be over complicated and unnecessarily prescriptive. The preferred approach is to continue to improve emission targets progressively over time with the aim of moving to zero or very low carbon emissions for all buildings.</p> <ul style="list-style-type: none"> • The bye-laws encourage all low or zero carbon fuels of which electricity is one. Although a designer could chose to use a fuel with a higher carbon intensity and compensate by super insulating the building, it is accepted parity between the most common heating fuels needs to be achieved. The proposed CO² emission targets have been be adjusted to achieve this. • This point is discussed in IPA report Carbon Intensity of Electricity Imports where it is suggested the commitment of JEC and GEL to take electricity from EdF for a 15 year period gives EdF a clear signal of the need for new generation capacity and the security to build it. However, |
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| | <p>electricity.</p> <ul style="list-style-type: none"> • Questions the emission factor for electricity which is given in the technical guidance documents. • Agrees that the proposed calculation method for determining CO₂ emission rates is reasonable. • Concerned that the emission factor for electricity will discourage combined heat and power technology and micro generation. Also considers this is not helped | <p>should the generation mix for electricity change this will be taken into account by adjusting the emission factor given in the technical guidance documents.</p> <ul style="list-style-type: none"> • The emission factor for electricity delivered in Jersey is stated to be 0.08 kg CO₂ /kWh. This has been calculated by the UK Building Research Establishment based on the system-average. The system average-average carbon intensity is calculated by estimating the total carbon emissions from the system during the year and dividing that figure by the total quantity of electricity transmitted or delivered. It is the most commonly-used definition of carbon intensity for consideration of emissions resulting from the use of buildings. • Noted. • The emission factor for electricity is low which will make electricity an attractive option. However, this does not necessarily mean that other low carbon systems will not be used. |
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| | <p>by the low buy back tariffs offered by the JEC.</p> <ul style="list-style-type: none"> • Suggests running costs may become an issue as proposals push towards an electrically heated building, and electricity prices tend to be higher than other fuels. • States that because nuclear generation of electricity is only about 37% efficient in its use of primary energy it should not be used for space heating. Accepts that heat pump technology claws back some of the inefficiency of the original generation. | <ul style="list-style-type: none"> • The emission targets will improve energy performance by more than 20% which will help reduce running costs. Changes have however been made to the CO₂ emission targets to achieve parity between the main fuels which will reduce the push towards electricity. • A large proportion of the CO₂ emissions from buildings are the result of energy used for space heating. The aim of the bye-laws is to reduce those emissions and the fact remains that electricity delivered in Jersey is a low carbon fuel. |
| <p>Jersey Environment Forum</p> | <ul style="list-style-type: none"> • Fully support and commend the proposals. • Suggest guidance notes are produced showing examples of the energy rating calculation process. | <ul style="list-style-type: none"> • Noted. • An electronic calculator will be made available to help designers carryout the required calculations for new dwellings. For buildings other than dwellings a simplified building energy model will be made available. This will have a detailed users guide with technical support being provided through access to a website. A technical helpline will also be available. |

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| | <ul style="list-style-type: none"> • States the planning process should be more sympathetic to the use of renewable technologies on projects. • Considers Government should encourage industry to do more than the “minimum” standards required by the bye-laws by introducing some form of funding mechanism to further improve energy efficiency. • Is of the view that Jersey standards should not be allowed to fall behind UK standards which are under periodic review. • Recommends that due to the significance of the proposed changes they should be reviewed after introduction so as to allow process to be adapted and further consultation to take place. • Considers upfront costs of achieving new standards will only add marginally to build costs but that this will be offset by operational savings to the benefit of the end user. • Provides suggestions for ensuring calculation tools reflects the situation in Jersey | <ul style="list-style-type: none"> • Noted. • This is proposed in the draft energy policy. • The proposals bring Jersey standards in line with the UK and are considerably improved for dwellings if electricity is used as the primary fuel for heating. • The changes will be reviewed to iron out any major implementation problems. • Noted. • The calculation tools will be adapted to reflect the position in Jersey. |
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| <p>Energy Consultant.</p> | <ul style="list-style-type: none"> • Supports the drive to improve bye-law standards which are adopted by many developers as the standard to be achieved. • Suggests a clear and reasonable timetable needs to be set for these and future improvements so that industry can properly prepare for changes. • Recommends an advice / help line for practitioners is set up. • Recommends competency standards are set for energy assessors / certifiers. • Suggests the targets set will be difficult to achieve and that consideration should be given to reducing the 20% improvement or | <ul style="list-style-type: none"> • Noted. • 3 months notice will be given from when the approved technical guidance and amended bye-laws are published. • An electronic calculator will be made available to help designers carryout the required calculations for new dwellings. For buildings other than dwellings a simplified building energy model will be made available. This will have a detailed users guide with technical support being provided through access to a website. A technical helpline will also be available • No specific qualifications have been set for persons wishing to submit energy performance calculations. To do this is considered to be an unnecessary regulatory burden that is not justified bearing in mind all calculations will be verified as part of the normal building application process. |
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| | <p>using a fuel other than electricity for the benchmark building.</p> <ul style="list-style-type: none"> • Suggests encouragement should be given to developers to go beyond bye-law standards in selected categories of work using financial incentives or grant schemes. • Considers there should be a requirement for all dwellings to achieve a minimum target SAP rating. | <ul style="list-style-type: none"> • The proposed targets were set in order to achieve significant reductions in CO₂ emissions. However, in light of the comments received the targets have been revised to make compliance easier when using oil or gas as the primary heating fuel. • A grant scheme aimed at improving energy efficiency in buildings is currently being implemented by the department. • SAP ratings provide an indication of the energy costs associated with space heating, water heating, ventilation and lighting, less cost savings from energy generation technologies. They are calculated on a scale of 1 to 100. The higher the number the lower the running costs. Because SAP ratings are related to fuel costs individual SAP ratings will be affected by relative changes in the price of particular heating fuels, meaning the SAP rating can change even though no alteration has been made to the property. In view of this it is considered inappropriate for a minimum rating to be set by the bye- |
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| | <ul style="list-style-type: none"> • Agrees with focus on carbon reduction but considers economic use of energy should also form part of assessment. • Suggests a number of detailed comments for inclusion in the approved versions of the TGDs. • Provides suggestions for ensuring calculation tools reflect the situation in Jersey | <p>laws, although it is proposed that the calculated SAP rating for the dwelling will be made available to the building owner / occupier.</p> <ul style="list-style-type: none"> • Economic use of energy is considered under the bye-laws. Standards are set to ensure the fabric of the building is designed and constructed so as to use no more energy than is reasonable and for information to be provided to occupiers to enable them to achieve energy efficiency in use. • Noted. • Noted. |
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