

Volume 3

Managing emissions



Managing emissions

Air quality and emissions are both a local and a global issue for Jersey to deal with. They affect the health of islanders and contribute to climate change. The aims of reducing emissions to improve air quality locally, and of reducing global air pollution, are complementary as the sources of emissions are broadly the same.

At the local-scale, good air quality is essential for people's health and the wellbeing of the local environment. Exposure to air pollution and poor air quality have detrimental impacts on health and can be particularly problematic for young children, older people, pregnant women and their babies, asthma sufferers, those with other pre-existing conditions (e.g. heart disease and respiratory problems), and those taking vigorous exercise outside. However, modern lifestyles and activities continue to give rise to air pollution as a result of vehicle use, heating, cooling and cooking in the home and in workplaces, power generation, construction activity, industrial activity, quarrying and waste disposal.

At the global scale, our activities and choices, including how we travel from one place to another and how we develop and use land, generates the emissions that are contributing to climate change, known as greenhouse gases (GHGs). As part of international emissions reporting, all greenhouse gases are calculated and reported as carbon equivalents, using a range of agreed formula. The six main greenhouse gases (GHG) are:

- methane (CH₄);
- carbon dioxide (CO₂);
- nitrous oxide (N₂O);
- hydrofluorocarbons (HFCs);
- perfluorocarbons (PFCs); and
- sulphur hexafluoride (SF₆).

HFCs, PFCs and SF₆ are commonly referred to as 'F-gases'.

In March 2007, the UK's ratification of the Kyoto Protocol was extended to the Bailiwick of Jersey. The protocol requires Jersey to reduce its carbon emissions by 80% by 2050, relative to 1990 levels. In 2014, the States Assembly adopted the Energy Plan for Jersey¹ detailing a set of actions designed to help Jersey achieve the 80% emission reduction target. The latest scientific evidence tells us that the previous emissions reduction targets are not, however, ambitious enough to stabilise the climate and reduce the negative impacts of climate change, and Jersey has responded by declaring a Climate Emergency, making a commitment to speed-up its progress in reducing carbon emissions, building on the progress already made through the energy plan.

Figure ME1 shows how, by 2018, Jersey had already managed to achieve a 33% reduction in carbon emissions relative to 1990 levels. This reduction was primarily as a result of switching from on-island electricity generation to a supply of low-carbon electricity imported from France.

¹ [Pathway 2050: An Energy Plan for Jersey](#)

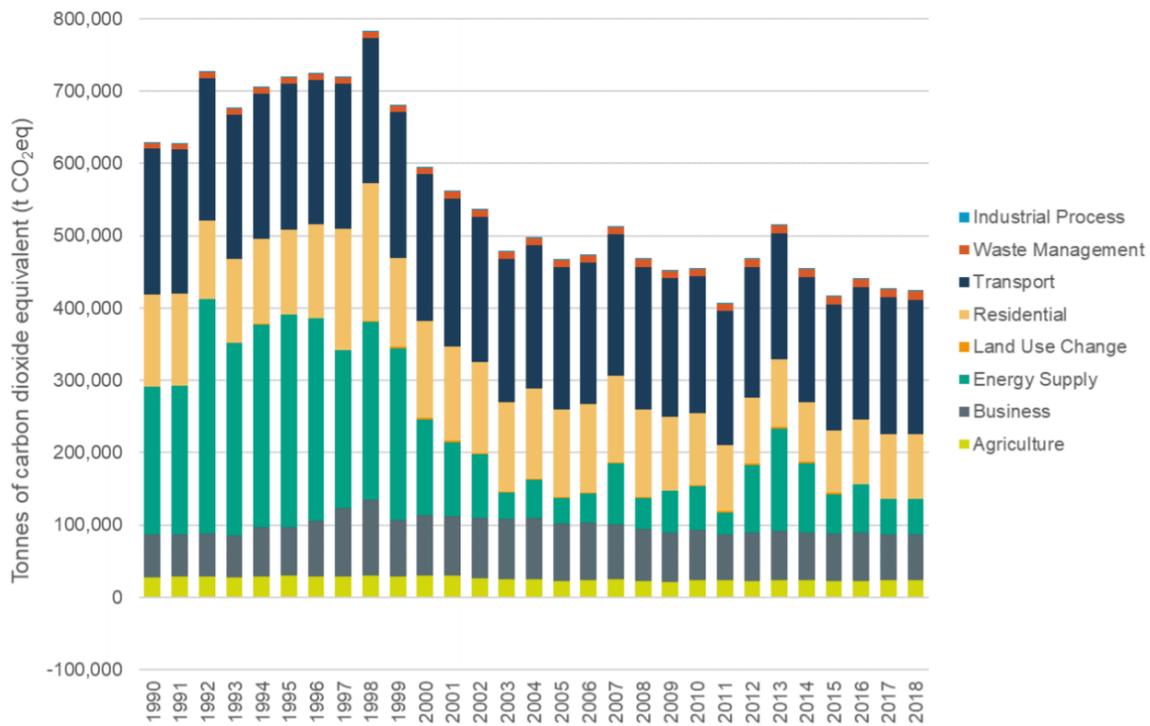


Figure ME1: annual on-island emissions inventory 1990 - 2018, Aether 2020

Jersey's carbon emissions are categorised by their scope:

- **Scope 1** emissions are the direct emissions generated from on-Island activities. Examples include the emissions that come from burning oil or gas to heat buildings, or emissions from driving petrol or diesel vehicles.
- **Scope 2** emissions are those arising from the generation of any imported energy. In the case of Jersey this includes the 95% of our electricity that we import. Global emissions accounting considers the emissions from energy production to accrue to the country in which it is generated (in this case, France), but it is clear that the emissions are the result of energy use in Jersey.
- **Scope 3** describes the emissions associated with the manufacture and transport of the goods and services consumed in Jersey. This includes the full life cycle emissions throughout a supply chain (including those associated with end of life recycling and/or disposal) and emissions arising from global activities of Jersey businesses. Scope 3 emissions are driven by the choices and behaviours of Jersey residents and businesses but are accounted for as scope 1 emissions in the country in which they were generated. Obvious examples of scope 3 emissions include those from materials and products that are imported to Jersey, and the use of fuel for importing goods, or travel into and out of the island.

It is important that we understand and better manage the impact that our local choices have across the world. The Carbon Neutral Strategy (CNS)² sets out the strategic and scientific context; presents defining principles; and proposes the next steps for making Jersey carbon neutral. 'Principle 1' commits to the adoption of a strategic focus on scope 1, 2 and 3 emissions, recognising the importance of reducing our carbon footprint globally. The planning and development process can directly influence our continued reduction of these emissions and will play a key role in our progress towards the island becoming carbon neutral, in both direct and indirect ways. These include:

² [Carbon Neutral Strategy](#)

Planning to reduce 'scope 1' emissions

- ensuring that development is focussed towards the most sustainable locations, reducing the need to travel by car and enabling good access to sustainable alternatives to travel, such as walking and cycling
- ensuring new development is built to the highest standards, being thermally efficient and achieving high standards for energy performance
- supporting development that will enable and promote carbon offsetting by sequestration of carbon from our air through landscaping, planting of trees

Planning to reduce 'scope 2' emissions

- incorporating renewable energy generation at a micro-scale into new development, reducing the demand on our currently imported energy supply, whilst providing islanders and businesses with energy independence
- developing our own, lower carbon, sustainable sources of energy generation at a larger scale

Planning to reduce 'scope 3' emissions

- requiring new development to be undertaken in a way that considers the full life-cycle of the development, including the source and manufacture processes of materials used for the development

Figure ME2: summary of how the bridging Island Plan seeks to reduce carbon emissions

This section of the plan deals with those policies that have the most direct impact on managing and reducing emissions from all types of new development, with other key areas of the plan - such as the spatial strategy and sustainable transport chapter - being of equal importance to our carbon neutral objectives.

Reducing the carbon impact of new developments

As Jersey's roadmap to become carbon neutral takes shape, it is important that this Island Plan makes targeted and meaningful efforts to reduce the carbon impact of new development, making progress where the benefits will be felt most.

The way buildings are designed has a significant influence over how much energy they consume, and their whole-life carbon impact³. To address this, this Island Plan is targeting specific ways in which higher-performing development standards for new development can be achieved, depending on the development type and its impact.

Recognising the significant role that buildings have in contributing to Jersey's carbon emissions, a review of the building bye-laws is required in order to achieve a significant and permanent reduction in Jersey's carbon emissions. This review will focus on Part 5

³ [RICS whole life carbon assessment \(2017\)](#)

means of ventilation, and Part 11 conservation of fuel and power of Jersey's building bye-laws.

Upon completion of this review, it will be necessary to reconsider the application of development standards policies set by the Island Plan relative to any higher standards achieved through the building bye-laws in relation to building energy efficiency and carbon outputs. This will need to be considered and reviewed as part of any subsequent Island Plan Review or interim supplementary planning guidance, as necessary and appropriate.

Proposal 26 – Review of building bye-laws

The Minister for the Environment will undertake a review of building bye-laws and technical guidance to achieve a significant and permanent reduction in Jersey's carbon emissions arising from buildings.

The Minister for the Environment will establish a working group to consider the environmental benefits and 'Green' opportunities presented by Passivhaus and other energy efficient building standards and to inform decisions on the most appropriate standard for use in Jersey, with a view to the implementation of increased requirements within the next Island Plan.

20% reduction in target energy rate for new development

Energy use in buildings is responsible for around 36% of Jersey's carbon emissions⁴. The amount of energy used in buildings and the level of carbon dioxide produced is dependent on the building's energy efficiency, which is determined by its design and construction, and on the appliances used in the building to provide heat, energy and other services.

In line with Pathway 2050 – an energy plan for Jersey¹ (the Energy Plan), the rules governing the need for planning permission in Jersey have been reviewed so that, in many cases, the installation of equipment for the generation of electricity from renewable sources is exempt from the need to secure planning permission, to enable and encourage its adoption and use. This includes the installation of solar panels; air and/or ground source heat pumps; and a single wind turbine.⁵

Furthermore, new residential developments in Jersey are required to install low-carbon electric heating systems in order to meet the standards set in Jersey's building bye-laws, which govern how, amongst other things, buildings are heated. Certain new developments and conversions have previously been required to make use of on-site low-carbon and renewable energy technologies to cut carbon dioxide emissions by at least 10% of predicted levels, wherever practicable. This requirement is in line with minimum standards regularly achieved in comparable planning contexts.

This Island Plan seeks to further reduce carbon emissions in new developments and conversions. It will achieve this by requiring the use of renewable energy systems and

⁴ [Analysis of different carbon neutrality \(net zero\) targets for Jersey](#) 2021

⁵ [Planning and Building \(General Development\) \(Jersey\) Order 2011](#) – sets out certain works including micro generation that do not need planning consent.

consideration of a range of energy efficient design measures and techniques including: passive solar design; the inclusion of thermal mass; compact building forms; highest-standards of thermal insulation; and the use of energy efficiency heating systems.

To achieve a reduction in carbon emissions, the target energy rate⁶, as calculated by the building bye-laws in Jersey, will be set to a more challenging, lower target for large-scale, new large-scale development. Demonstration that the building will achieve the 20% reduction in TER will be provided using the latest version of the existing Jersey Standard Assessment Procedure (JSAP) calculation tool, or Simplified Building Energy Model (SBEM) tool – whichever is relevant – and this will be assessed at the point of the building bye-laws application being made.

In the event of change to the building bye-law standards required for the performance of buildings during the plan period, the application of this policy would be the subject of review.

Policy ME1 – 20% reduction in target energy rate for new development

Development proposals for the construction of new dwellings and other buildings, where they are required to meet the technical requirements of building bye-laws technical guidance documents:

- Part 11 Conservation of fuel and power in new dwellings (2016 edition)
- Part 11 Conservation of fuel and power in buildings other than dwellings (2016 edition)

will only be supported where it outperforms the target energy rate by 20%, as demonstrated using the existing Jersey Standard Assessment Procedure (JSAP) calculator, or Simplified Building Energy Model (SBEM) tool.

The reduction in target energy rate will be secured by condition and will be tested for compliance at the point of the building bye-laws application being made.

Where the 20% reduction in target energy rate requirement creates a conflict with other standards required by the Island Plan, the higher standard is to be applied. If during the course of the bridging Island Plan period, the relevant 2016 editions of the technical guidance documents are revised to meet or exceed a 20% reduction of target energy rate, this policy will no longer be applied.

BREEAM rating for new larger-scale non-residential buildings

Larger-scale development, inevitably, has the potential to significantly impact the environment. The Island Plan inherently seeks to address this potential impact, at a local scale, across the policies of the entire plan. However, development activity also has a global impact, particularly in Jersey where much of the material required for development must be imported, having been manufactured elsewhere. This Island Plan is making a targeted response to reducing this global impact, whilst simultaneously driving higher local standards towards carbon neutrality, by requiring the larger-scale non-residential development to be BREEAM assessed to the latest BREEAM New Construction standards.

⁶ The target energy rate is the minimum energy performance requirement for new buildings established by the Building bye-laws. It is expressed in terms of energy in kilowatt-hours per square metre of the total useful floor area per: see Section 2: [Building Bye-Laws Part 11: conservation of fuel and power](#)

BREEAM is widely recognised, both in the UK and internationally, being operational in over 70 countries and representing over 70% of the certification market across Europe. Compliant buildings are certified on a five-point scale of Pass, Good, Very Good, Excellent and Outstanding.

BREEAM schemes are holistic and drive performance across a range of sustainability aspects including climate resilience, energy performance and the embodied impacts of materials. The standards drive better water use management, public health and wellbeing, sustainable transport options, good waste management practices and natural environment and ecological protection and enhancements. The fundamental principles are based upon raising standards of design and helping developers and other stakeholders showcase their good credentials. In considering the application of BREEAM it will be expected that carbon reduction targets form a key part of the accreditation sought. This would be required for BREEAM outstanding, where choosing more energy/carbon credits are required to meet the standard.

The assessment uses recognised measures of performance, which are set against established benchmarks for different building types, to evaluate a building's specification, design, construction and use.

BREEAM New Construction can assess non-domestic buildings such as offices, industrial, retail, education, healthcare, leisure, hospitality and is responsive to different developer contexts:

- **fully-fitted** - this assessment and certification route is available for buildings which are being fully fitted and completed on handover.
- **shell and core** - this option is available where the developer's scope covers shell works plus core building services.
- **shell only** - this assessment and certification option is available where the developer's scope of works covers new-build development of the fabric, substructure and superstructure of the building only.

Costs are minimised and environmental benefits maximised by embedding BREEAM in the project process as early as possible. The following steps will help achieve this:

- review the latest BREEAM UK New Construction scheme assessment timeline document and ensure that issues that require early action are considered and implemented.
- involve a BREEAM Advisory Professional (BREEAM AP) early in the process to help advise on the most suitable strategy and approach to achieve the desired BREEAM rating.
- consider applying the credits with the lowest cost where relevant and beneficial to the project, where it does not compromise the fundamental and beneficial sustainable outcomes to the project.

In delivering sustainable design and construction, development should consider but not be constrained by the following key issues:

- maximising reduction of energy use and carbon emissions and integrating low-carbon design;
- conserving water resources and minimising vulnerability to water runoff, including rainwater; catchments and sustainable drainage systems;

- the type, life-cycle impacts and responsible sourcing of materials to be used, including sustainable timber;
- waste and recycling during construction and in operation;
- opportunities to incorporate measures which enhance the existing site ecology such as green roofs, swift bricks, bat hotels and applying native species mixes to soft landscaping; and,
- provide flexibility and adaptability, allowing future modification of use or layout, facilitating future refurbishment and retrofitting.

Policy ME2 – BREEAM rating for new larger-scale non-residential buildings

The development of new, non-residential buildings of over 1,000sqm will only be supported where they are designed to meet the latest BREEAM New Construction minimum standards and be capable of achieving a minimum of 'very good' rating.

To demonstrate commitment and compliance, the developer will be required to:

1. register the development with BRE and submit evidence of such after its approval;
2. submit a design-stage certification at the point of submitting the building by-laws application; and,
3. submit evidence of post construction certification following completion of the development.

Where the BREEAM requirement creates a conflict with other standards required by the Island Plan, the higher standard is to be applied.

Air quality and increased emissions

We are fortunate in Jersey that our air quality is generally good, and this is due to the location of the island and the prevailing weather conditions, together with the shape of our economy and the limited amount of industrial and manufacturing processes that take place on-island. The current air quality monitoring programme⁷ demonstrates that pollution levels in Jersey are below thresholds of concern to human health and the environment⁸.

However, to maintain high air quality, there must be a continued effort to control, reduce and mitigate emissions arising from new development. This type of emission is referred to as Jersey's 'scope 1' emissions and, therefore, their appropriate management and reduction not only helps us to ensure high air quality in the island, but it is also essential to support the objective to become carbon neutral.

The main air quality issues in Jersey relate to emissions from motor vehicle traffic, and a number of potential localised traffic related pollution 'hot spots' have been identified at Beaumont, the Weighbridge, and several other urban locations. Significant new developments planned for town have the potential to increase areas of poorer air quality as a result of traffic emissions if traffic is not properly managed and more sustainable transport options pursued.

The planning process can actively support the alleviation of the effects of the human activities which lead to the degradation of air quality and expose people and the

⁷ [Air quality monitoring in Jersey](#)

⁸ [Jersey Air Quality Strategy](#) (2013)

environment to unacceptable air pollution. It can do this through the formulation of planning policies and the determination of planning applications in a manner which:

- supports measures to improve current air quality;
- discourages polluting activities;
- ensures that air quality issues associated with proposed developments are carefully and appropriately considered;
- determines the location of developments which may give rise to air pollution (either directly or from traffic generated) through dust, smell, fumes, smoke, heat, radiation, gases, steam, or other forms of airborne emissions; and
- prevents an increase in pollution, or allows for mitigating air quality impacts from new developments, particularly in areas already suffering high levels of air pollution.

Planning legislation⁹ is designed to ensure that those types of development that will present the greatest risk of air quality issues and pollution risk, such as manufacturing, processing and infrastructure, are comprehensively assessed in terms of their environmental impact as part of the planning process. Depending on the type and scale of development, an environmental impact assessment (EIA) may need to be undertaken, within which, air quality impacts will need to be fully addressed.

Where a proposed development does not require an EIA, but it is considered to be of a nature that is likely to lead to increased emissions or air quality impacts, a standalone air quality assessment may be required as part of a planning application. This type of development will include:

- those where there is a significant potential increase in emissions from road traffic. This might be as a consequence of likely increased traffic volumes, increased congestion, changes in traffic composition (e.g. increase in heavy goods vehicle movements), or changes in vehicle speeds;
- industrial activities and waste management operations which involve potential air pollutants;
- major developments (10 or more homes/400sqm+ non-residential gross internal floorspace) within or near to and likely to have an adverse effect on sensitive settings such as schools and residential development, or future identified 'air quality management areas'.

The approach used in producing air quality assessments should be robust and appropriate to the nature of the proposed scheme, the scale of the likely impacts, and what is known about air quality in the area. They should look to demonstrate the likely changes in air quality or exposure to air pollutants as a consequence of the proposed development. Where an assessment is required, it should be undertaken by an independent and appropriately qualified air quality consultant and developed with regard to the Jersey Air Quality Strategy⁸, which provides a framework for ensuring that a high standard of air quality is maintained in Jersey.

⁹ [Planning and Building \(Environmental Impact\) \(Jersey\) Order 2006](#)

Policy ME3 – Air quality and increased emissions

Development that would have a significant adverse effect on air quality, taking into account the cumulative impact of other proposed or existing sources of air pollution in the area, will not be supported where it would breach key targets identified in the Air Quality Strategy, or it is considered that it would cause harm to the health, safety and amenity of users of the site or the surrounding area, or put at risk the quality of the environment.

In those cases where it is understood that some air quality impacts will arise, development will only be supported when the emissions are appropriately justified and unavoidable, and where suitable mitigation and offsetting measures will be in place, where appropriate.

Where a proposed development has the potential to lead to adverse impact on air quality or a significant increase in emissions, an air quality assessment must be undertaken and submitted with the development proposal for consideration.

Carbon sequestration schemes

Carbon sequestration is the process of capturing and storing atmospheric carbon dioxide, as a method of reducing the amount of carbon dioxide in the atmosphere. Sequestration takes place in the world's oceans, soil and plant life.

Activities such as land use changes and tree and hedgerow planting can increase the capacity of Jersey's natural environment to absorb carbon. Such activities typically also have strong positive impacts on biodiversity and help support both nature's recovery and wider social and economic objectives. Sequestration activities are considered separately to offsetting as, in line with international reporting requirements, the net effect of sequestration is taken into account in establishing Jersey's scope 1 emissions baseline¹⁰. There is also growing evidence that the protection of Jersey's marine environment could help contribute to sequestration as plants on the seabed in shallower waters, such as eel grass, soak up large amounts of carbon dioxide.

Investment in local sequestration projects has an important role to play in achieving carbon neutrality, and in many cases will present better value for money than (and hence should be considered before) investment in other carbon reduction and offsetting policies and programmes. It is important to recognise though that Jersey's small geographical size limits the potential for on-island sequestration at scale.

The adoption and implementation of an ambitious set of carbon abatement policies will significantly reduce Jersey's carbon emissions but will not be sufficient to eliminate them completely. Regardless of how well these policies perform, there will remain some unavoidable activities for which carbon-free solutions have not yet been developed. Therefore, when development will lead to unavoidable emissions on-island, it would be appropriate to consider carbon sequestration as part of an offsetting package.

In order to be meaningful and effective, carbon sequestration schemes require a minimum amount of space and sometimes ground preparation, such as when planting large numbers of trees in a single area. They also have the potential to create land-use tensions, such as the planting of trees on agricultural land, or on land with archaeological or

¹⁰ [Carbon Neutral Strategy, Section 5.7 'On-island sequestration'](#)

particular biodiversity interest, or lead to significant changes to the island's landscape character. In order to manage these tensions and to ensure that optimal sequestration will take place, it will be necessary for carbon sequestration schemes to be properly planned and located, with sufficient detail provided for their assessment.

Sequestration schemes such as tree planting only require planning permission when they will materially alter the use of the land, in planning terms.

Policy ME4 – Carbon sequestration schemes

Carbon sequestration schemes, including in the marine environment, will be supported where it is demonstrated that the development will lead to effective sequestration of carbon, in a location that is considered to be appropriate and will not otherwise lead to the unacceptable loss of agricultural land or have adverse impacts upon biodiversity or landscape or seascape character.

Where a carbon sequestration scheme is proposed as part of a carbon offsetting package, as will be required as part of another development, it may be necessary to provide evidence of how this has been calculated.

Large-scale offshore and terrestrial renewable energy

The Carbon Neutral Strategy¹¹ recognises the importance of increasing the use of centrally generated electricity using existing infrastructure, as the only realistic, achievable and affordable route to carbon neutrality in Jersey. However, the wider context set out in the Energy Plan¹² also makes clear the additional importance of renewable energy generation to meet individual and community needs, noting that good quality, well-installed renewable energy generation systems will have numerous benefits that include:

- lowering our carbon emissions if it is displacing higher carbon energy sources
- diversifying the supply of energy
- adding value to a property
- paying for themselves (over varying periods of time) as a result of avoided energy costs
- increase economic productivity and job creation
- increasing the overall local security of supply to some forms of potential interruption if sufficient volumes of generation are achieved

Under certain energy system solutions, revenue could also be created by supplying locally generated power to Guernsey or to France, and/or charging a lease fee for any seabed area used for offshore wind generation.

Currently, virtually all of Jersey's primary energy is imported in the form of low-cost, low-carbon electricity from France through a series of subsea interconnectors. This has some benefits to Jersey providing access to cheaper, more reliable energy than might otherwise have been possible. However, the global energy market remains unpredictable, France is looking to decommission some generators, and Jersey seeks to build in more grid resilience, sufficiency and security itself. Fortunately, Jersey has wind, tide and solar assets that could be harnessed for renewable energy generation.

¹¹ [Carbon Neutral Strategy](#)

¹² [Pathway 2050: An Energy Plan for Jersey](#)

The Island Plan recognises that generating renewable energy at utility-scale would be possible, realising that this requires a long-term vision and framework to encourage investment. It is also recognised that technology in this area is continually evolving and improving, and the Island Plan will be supportive of new and alternative forms of lower carbon sources of energy.

Offshore wind technology

The Offshore Wind Pre-Feasibility Study 2018¹³ concluded that Jersey has significant offshore wind potential within its waters and that the extraction of this energy is technically feasible. Extracting energy from 5% of Jersey's waters would satisfy over three times Jersey's current annual demand (though it should be noted that any energy generated in Jersey's waters would likely be sold back into the continental grid rather than directly serving the island)¹⁴.

There are numerous options for project scenarios, the most promising scenarios include:

- a large, utility-scale project in the south of Jersey's territorial waters which could export power to the French grid in return for a subsidy
- a smaller, community-scale project, closer to Jersey's coastline which could supply power for local consumption by Jersey's population

Any future development of a wind farm would be reliant on forming a viable commercial case for a project of an environmentally and socially acceptable scale.

The Offshore Wind Pre-Feasibility Study has identified the potential area for large utility-scale offshore wind deployment, as shown in Figure ME4 below. A selection of key planning, social, technical, physical and environmental criteria could influence the siting of a wind farm and the most suitable site should be considered when selecting the preferred location for development.

¹³ ITP Energised (2018) States of Jersey Offshore Wind Pre-Feasibility Study

¹⁴ Jersey Infrastructure Capacity Study (2021); see [IPR core evidence base](#)

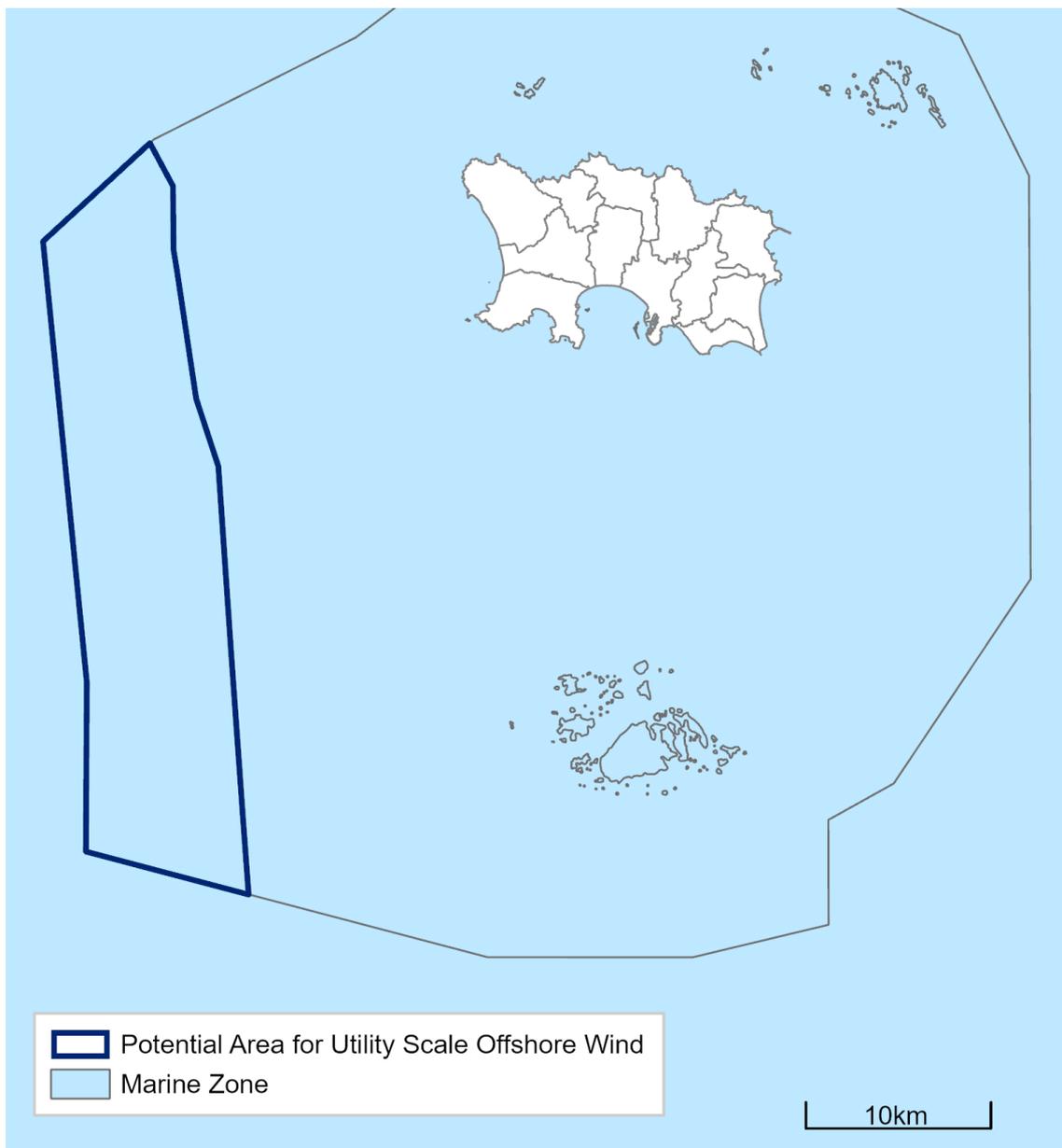


Figure ME3: Jersey Offshore Wind Pre-Feasibility Study 2018

Tidal lagoon

Energy generation from a tidal lagoon may also be feasible in Jersey's waters and could provide a long-term source of local renewable, contributing to energy security and resilience as well as climate change mitigation.¹⁵

A tidal lagoon would represent utility-scale renewable energy generation that could ensure Jersey has a more reliable energy supply, be more resilient to market shocks, and with the potential to make revenue from exporting energy. Tidal lagoon development opportunities can be co-located with other uses in the marine area, including with aquaculture and leisure, and integrate with local regeneration. Consideration would, however, need to be given to the likely significant effects on marine ecology, landscape and visual impacts (including effects on seascape) and potential heritage impacts of any potential tidal lagoon scheme. The degree of impacts would be dependent on the effectiveness of mitigation measures (e.g. effects on marine mammals and fish), however,

¹⁵ Jersey Infrastructure Capacity Study (2021) see [IPR core evidence base](#)

for some areas residual impacts would likely remain where mitigation is not possible, such as impact to landscape, seascape and other visual impacts.

Pre-feasibility¹⁶ has concluded that there are potential tidal lagoon opportunities which would be capable of comfortably generating enough electricity to service the island's annual requirement. The addition of on-island flexible capacity, through the co-development of battery storage and the roll out of an electric vehicle fleet with smart charging systems, could secure the island's electricity supply in full. If the option were to be pursued further, the Government of Jersey would need to undertake further technical and engineering investigation to determine the optimum location for constructing a lagoon so enough electricity could be generated to make Jersey completely self-reliant on home generated low-carbon, renewable energy.

Tidal stream

The development of a tidal stream turbine off the coast of Jersey could provide an additional source of energy¹⁷. The 2018 Tidal Stream Industry Update¹⁸ concludes that, whilst the flow speeds around the island may not be favourable in comparison to other sites in the UK more widely, the resource may be of interest commercially in the future. However, a tidal stream development would be unlikely to provide a competitive return in comparison to other renewables such as wind and tidal lagoons. There are no current active proposals for tidal stream turbines, and initial feasibility work¹⁹ concluded tidal stream energy harvesting is not currently considered cost effective for Jersey.²⁰

Development and environmental considerations

Despite all the potential advantages of renewable energy, it is also important to ensure that the environment and the quality of life of islanders is not compromised through the associated delivery and operation of such infrastructure. The Integrated Coastal Zone Management Strategy²¹ – 'Making the most of Jersey's coast' opens by reflecting that 'the coast and seas around Jersey are an integral part of island life. It is, therefore, essential that the coast is protected and managed so that it can continue to be enjoyed by generations to come'. The very need for ICZM arises from the need to balance the temptation to exploit the resources that the coast and seas provide with the responsibility to protect an outstanding area containing internationally important ecosystems.

Jersey's planning law extends to the limits of the territorial waters and this means that there is no invisible barrier between land and sea in relation to the control of development. Offshore development proposals for renewable energy would, therefore, need to be specifically considered within the context of the Island Plan and the statutory requirement to produce an EIA, as is required for projects arising from the energy industry²².

A significant amount of exploratory work (including the building of prototypes) may be required to establish the optimum locations and the long-term viability of renewable energy projects. Accordingly, development may be permitted for exploratory proposals so

¹⁶ [Recommendations to the Minister for Planning and Environment from the Tidal Power Commission \(2011\)](#)

¹⁷ Jersey Infrastructure Capacity Study (2021) see [IPR core evidence base](#)

¹⁸ [Tidal Stream Industry Update \(2018\)](#)

¹⁹ [Tidal Power in Jersey – the next steps](#) (2011)

²⁰ [Tidal and Wind Power: harnessing offshore renewable energy](#)

²¹ [Integrated Coastal Zone Management Strategy](#) (2008)

²² See schedule 1 of the [Planning and Building \(Environmental Impact\) \(Jersey\) Order](#) (2006)

that a proper assessment can be made of a particular site, allowing an informed decision to be made should the developer wish to apply for a more permanent site.

Policy ME5 – Offshore utility-scale renewable energy proposals

Development proposals for exploratory, appraisal or prototype offshore utility-scale renewable energy schemes will be supported, where their environmental impact is considered to be acceptable.

Proposals for full-scale offshore renewable energy generation schemes will be supported where it can be demonstrated that:

- a. the energy return is proven to be in the island's strategic interest delivering significant and long-term benefits to the community, and that these benefits are deemed to sufficiently outweigh any environmental impact that will arise as a result of the development; and,
- b. the anticipated environmental impact of the development will be acceptable, with anticipated effects mitigated as far as possible, and appropriately compensated for.

All proposals must be supported with an appropriate monitoring programme and detailed restoration proposals, including funding and management mechanisms to ensure their implementation.

Planning permission for all types of offshore renewable energy proposals will be subject to a time-limited permission.

Larger-scale terrestrial renewable energy developments

Opportunities exist for larger-scale renewable energy production on-land, with a range of different forms being possible for use in the island, such as solar and anaerobic digestion technology. Larger-scale renewable energy developments will typically be considered as installations which are beyond that already permitted without the need for planning permission²³ or serve multiple domestic properties, or large or multiple business premises.

There may be instances where proposals for renewable energy generation at an individual domestic property exceed the existing permitted development rights and, in such cases, these will be supported where their impact on the local environment, having regard to impacts upon landscape or townscape character, and the residential amenity of any neighbouring properties is considered to be acceptable.

The development of larger-scale renewable energy in the island is unlikely to be implemented at a scale that could replace the island's existing primary source of energy supply. However, introducing larger renewable energy schemes could carry great benefits by supporting energy independence and resilience, whilst contributing to a continued reduction in the island's carbon emissions.

- **large-scale wind installations** - Jersey has good opportunities for renewable energy generation from wind on the north and west coast of the island. In practice, realising this potential will have many difficulties since the siting of utility-scale wind turbines capable of harnessing a sufficient amount of energy to be

²³ [Planning and Building \(General Development\) \(Jersey\) Order](#) 2011

economically viable must take into account a number of additional factors, which include impacts upon aviation; visual amenity and landscape character; noise; ecology (e.g. impacts on surrounding habitats, birds and bats); radio communication; as well as feasibility issues (e.g. grid connectivity, access, terrain). Given these barriers, it is considered that there are no suitable on-island locations for large wind energy generation schemes. Offshore wind does however carry greater potential, with potentially more manageable impacts.

- **large-scale photovoltaic installations** - the viability of larger photovoltaic (PV) panel installations has improved considerably in recent years, with a notable increase in larger domestic-scale solar installations across the island. Given that ground-mounted technology for larger-scale PV installations is well suited to sloping terrain with a southerly aspect and that, subsequent to their use, they can be removed and the land restored to its original condition, it is considered that such installations may be effective in a range of locations in Jersey. Unsuitable locations that should be avoided would include sites of higher agricultural quality; the Protected Coastal Area; installation on steeper slopes, such as the green backdrop zone and sensitive rural escarpments, which would be more likely to increase intrusion into the landscape and seriously harm landscape and seascape character; and where there would be an adverse impact upon listed buildings and places, and their settings. The use of existing glasshouse sites for large-scale PV installations will be given positive consideration.
- **anaerobic digestion** - anaerobic digestion involves a series of processes in which micro-organisms break down biodegradable material in the absence of oxygen. The process produces a methane and carbon dioxide rich biogas suitable for energy production via the recovery of heat and power. The Energy Plan 'Action Statement 10' sought the implementation of anaerobic digestion systems for waste management of livestock slurry by 2020, however, research undertaken by the Government of Jersey indicated the cost for this can be high²⁴.

Policy ME6 - Larger-scale terrestrial renewable energy developments

Proposals for large-scale terrestrial renewable energy production will be supported where it can be demonstrated that the energy return and benefits of the development are deemed to sufficiently outweigh the environmental impact that may arise as a result. Any such anticipated environmental effects must be mitigated as far as possible, and appropriately compensated for.

Proposals for ground-mounted solar arrays on agricultural land will be supported where the benefit of the scheme will outweigh any loss to the agricultural industry, with positive consideration given to the redevelopment of glasshouse sites for this purpose.

Any such proposal must be supported with an appropriate monitoring programme and detailed restoration proposals, including funding and management mechanisms to ensure their implementation; and would be subject to a time-limited permission.

Proposals for larger-scale renewable energy schemes to serve individual domestic properties will be supported where their environmental impact is acceptable.

²⁴ [AETHER: GHG emissions from Waste – A guide for Jersey](#) (2019)