

## Launch a stretching energy efficiency programme for the Government estate

### 1. EXECUTIVE SUMMARY

- 1.1. The Isle of Man Government Estate consists of around 800 properties, along with 1,200 properties in the Social Housing stock of the Department of Infrastructure (DOI). The Estate has an estimated value of £1.1 billion and an estimated energy usage of £15 million per annum.
- 1.2. The Estate is managed through collaborative working between Estates Shared Services and Departmental Estates Managers.
- 1.3. To enable the Government Estate to become net zero carbon it is necessary to think beyond the carbon footprint of Government buildings.
- 1.4. Consideration of the following points is required:
  - Co-operation, collaboration and co-location;
  - Utilising technology;
  - Delivering Government services in a different way;
  - Ensuring Government buildings are as effective as possible.
- 1.5. To deliver a net zero carbon Government Estate by 2050 (or earlier) will be a challenge and will fundamentally change the way Government works.
- 1.6. It is important that Government:
  - Ensures energy usage across the Government Estate is captured centrally. Software solutions and smart metering solutions are needed to assist in this. It will be important to set stretching Key Performance Indicators ( KPIs) on the building stock and monitor/review progress and performance. This data set can also feed into future strategic decisions;
  - Gather data to enable the carbon footprint to be established for each asset. This will give a true reflection of the impact of each building, beyond just the energy use and will allow further targets to be set and an overall carbon footprint to be calculated;
  - Create an Energy Fund (suggested value £5 million per annum) to allow application by business for energy saving and carbon reduction initiatives. Estates Shared Services should be the central coordinator for approval/rejection and onward submission to Treasury. The approval process should be focused on emissions reduction;
  - All new capital builds to be net zero carbon—this will require adoption of a standard such as Building Research Establishment Environmental

Assessment Method (BREEAM), or an equivalent, for all future capital schemes;

- A Strategic Review of the entire Government Estate is needed and although this review will be a challenging piece of work, it is essential. It should encompass how Government delivers its services, makes travel arrangements, provides for service users etc. as well as building stock.
- 1.7. This Strategic Review will deliver a plan, with timescales, to enable the entire Estate to begin moving towards net zero carbon. It will inform how Government works and delivers its services more effectively going forward.
- 1.8. There will also be benefits to the Isle of Man Government beyond achieving net zero carbon, such as:
- Long term future planning of capital schemes;
  - Reduced risk related to a lack of contractor resources for the delivery of renewables;
  - Sets all Departments and Staff a clear goal and direction to work towards;
  - Creates a first class service for future generations.
- 1.9. To enable the Isle of Man to achieve net zero carbon by 2050, Government must lead by example in the way it deals with its estate assets.

## **2. THE CHALLENGE**

- 2.1. The Isle of Man Government Estate consists of a minimum of 800 operational/public buildings which are predominantly owned by Isle of Man Government, with a small percentage being leased buildings.
- 2.2. One thousand, two hundred houses are held on the Social Housing stock of the Department of Infrastructure (DOI) these form part of a wider social housing stock of 6,500 properties across the Island, managed by a number of different landlords. They should lead on all actions concerning the housing sector of the Island achieving net zero, which is covered in WEFT T1 Work Package 8.
- 2.3. Government operational buildings extend across the entire length and breadth of the Isle of Man and the Isle of Man Government is the single biggest user of energy on the Island.
- 2.4. The Government property portfolio is estimated to be valued at £1.1 Billion (source: Treasury) and has an estimated annual energy usage for the operational buildings of £15 Million (source:DOI Estates).
- 2.5. A range of Government services are delivered including:
- Healthcare
  - Education

- Leisure
- Police Stations
- Courts of Justice
- A variety of other Public buildings and Services and storage of associated equipment and records

**Management of the Government Estate**

- 2.6. Historically the Estate was managed by individual Government Departments with little parity and co-ordination.
- 2.7. In 2010, Estates Shared Services was formed within the Department of Infrastructure, to combine skills and provide a much improved management and delivery of maintenance and repair activities.
- 2.8. Individual Departments are still responsible for the strategic direction of their individual estate holdings and how they are used; Estates Shared Services are responsible for Planned Preventative and Reactive Maintenance.
- 2.9. Capital Schemes for replacement are initiated by individual Departments and Estates Shared Services are responsible for ongoing repair and maintenance.
- 2.10. Purchase/Sale of Estate assets are controlled centrally from Treasury via the Strategic Asset Management Unit, who must concur with all Departmental transaction proposals.

***Think of the Estate as more than just the buildings***

- 2.11. When looking at the scope of achieving an Energy Efficient Estate, we need to realistically look beyond achieving net zero carbon with just the buildings.
- 2.12. The scope of any future strategic direction, with the Government Estate, needs to look at multiple factors such as:
- Can buildings/services be joined up?
  - Can technology be used to reduce our carbon footprint?
  - Can services be delivered in a different way?
  - Are the buildings in the right place for future delivery of service and links to active travel?
  - Do our buildings have the infrastructure to cater for future direction regarding public transport and low carbon personal transport?
- 2.13. Any realistic review to deliver a zero carbon estate for future generations, will without any doubt, radically change the way the Isle of Man Government works, will be challenging and will require some radical rethinking of our operations.

**Energy Use Across the Government Estate**

- 2.14. Energy budgets are generally held by individual Departments, with some data on usage shared back to Estates Shared Services.
- 2.15. Some good work has previously been done by Estates Shared Services to forward energy saving initiatives and set Key Performance Indicators. As their data set is likely incomplete and they do not directly control all energy budgets, achieving and monitoring these targets has proven difficult. Improving the data capture regarding the Government Estate is going to be a key component in working towards zero carbon. Around 10% of the current Government stock is fitted with Energy Eye, this figure should be increased.

**The Government Estate Carbon Footprint**

- 2.16. There is no centralised data for the carbon footprints created by our buildings, Departments and services. It is essential that this information set is collated, to allow targets for reduction to be set beyond the building fabric and to allow informed strategic decisions on properties. Isle of Man Government will then also be able to actively monitor and reduce its overall carbon footprint. Individual Departments and Divisions will also then be accountable for their own contribution to the overall footprint.

**Working Towards Low Carbon—what has been done**

- 2.17. The Isle of Man Government has carried out some successful schemes to implement renewable energy and reduce emissions although these tend to be small scale and are often instigated by individual Departments.
- 2.18. Examples of such schemes are:
- Photo voltaic panels at Queen Elizabeth II High School;
  - Biomass at Clagh Vane Housing Estate and QEII High School;
  - Fitting of LED lights both as individual projects for wholesale areas and during reactive maintenance.
- 2.19. DOI Estates have done some previous work within Minor Capital Works budgets to:
- Replace aging heating systems;
  - Create improved control and monitoring systems for improved energy efficiency;
  - Upgrade areas of lighting and control.

### 3. SHORT TERM ACTIONS

#### Centralise ALL Energy Budgets

- 3.1. This is an extremely important step as it allows improved data capture and management. Departmental savings are then driven based on emissions/carbon footprint and not focused on financial savings.
- 3.2. Each building should be assessed against a known standard and set a baseline target. This baseline target using a common metric across the Estate, can then drive all future reduction targets.

#### Baseline Basic Energy Audits

- 3.3. The impetus of the first part of delivery of an energy efficient estate needs to focus on energy efficiency as an immediate priority. By carrying out basic walk rounds and low level audits regularly, simple fixes around timing of lights, necessary repairs etc. can be implemented. This will give reduced energy use and cost, which can then be used as examples to engage and involve staff.
- 3.4. These audits should involve Estates Managers within individual Departments, for operational knowledge and should provide basic data back to a central point for collation such as:
  - Information on operational hours of the building;
  - Information on obvious issues around lighting—age, sensors not fitted, lights being left on, etc.;
  - Age and type of boiler.
- 3.5. Low level energy audits looking to gain an overview coupled with simple changes such as:
  - Educating staff about the importance of saving energy;
  - Low level replacement/installation of LED, sensors etc.;
  - Identifying which buildings require further work packages;
  - Learning is captured and energy audits become living documents that are regularly reviewed;
  - Assessing whether control and monitoring systems should be upgraded or retrofitted—Energy Eye etc.
- 3.6. Whilst these audits are being carried out, Estates staff should be looking at potential future proposed works regarding emissions savings around planning into Minor Capital Works Programmes and assessing against the building's expected life in Department Strategic Plans.

**Immediate Improvement of Data Capture for the Government Estate**

- 3.7. ALL energy invoices and data to a single point within each Department, who then shares their Departmental data back to Estates Shared Services.
- 3.8. Estates Shared Services will manage cross Government data and will set stretching KPIs on Departments, who will report back at set periods on progress toward the KPIs.
- 3.9. It is a vital step as 'you cannot change what you cannot measure'.
- 3.10. Improving the accuracy of the data captured has to be seen as a key enabling step, as it assists further decision making and directly leads to a reduction in emissions.
- 3.11. Smart metering should be considered at this stage and funding applied for.
- 3.12. Software should also be considered to allow the data to be input/retrieved and viewed by Estates staff that have operational control of buildings.
- 3.13. Data capture should not only measure energy usage, but should ideally monitor the environment within the buildings to ensure parity and staff comfort/productivity.

**Carbon Footprint Data for all Government Buildings**

- 3.14. This may require input from an outside consultancy (Eunomia) to create a standard format for roll out across all Departments. There will then be parity with data. Basic data for creation should already be available and Estates Managers should be responsible for this.
- 3.15. Targets can then be set on carbon reduction, to encourage Departments to begin thinking beyond just their energy usage. This information will be strategically useful when looking at joining up services and relocations.

**Creation of an Energy Saving Fund**

- 3.16. An internal fund should be created within Treasury, where application can be submitted by business case for energy and carbon saving initiatives across the Government Estate.
- 3.17. Estates Shared Services could be the central sponsor for approving and coordinating submissions, for onward forwarding to Treasury. Application to the fund should be via short form business case as a minimum.
- 3.18. Once any Strategic Review of the Estate is carried out, business cases should also show a direct link to this plan and objectives.

- 3.19. It is important that direct carbon savings are assessed and used as part of the approval process and this may require outside expert advice.

**First set of work packages**

- 3.20. The initial baseline energy audits will likely have identified some work packages that will enable immediate energy and carbon reductions once completed.
- 3.21. Once these are identified they can be collated/ranked and necessary funding sought from the appropriate budget area. Some can be dealt with internally and some will need to progress to business case.
- 3.22. Once complete these will be reported against on the Action Plan, to demonstrate the Government is serious about achieving zero carbon.

**New Capital Builds**

- 3.23. All Capital Schemes at either feasibility or design stage should be utilising the best available technology to achieving net zero carbon. Government should ensure that zero carbon new builds are part of its vision.
- 3.24. A standard such as Building Research Establishment Environmental Assessment Method (BREEAM) or equivalent should be decided upon so that all future builds are against this standard and all future operational use of buildings can be measurable against the same standard.
- 3.25. The standard used by the Isle of Man Government should always be the best available and should aim for net zero carbon Government Buildings.
- 3.26. Procedure Notes for Management of Construction Projects and Financial Regulations will need to be reviewed to ensure the inclusion of any agreed standard is followed from the Concept Phase of any future project.

**4. LONGER TERM ACTIONS****Strategic review of the Government Estate to allow formulation of a 30 year plan to achieve Carbon Zero**

- 4.1. By reviewing the Government Estate in its entirety a strategic plan can be formulated, that once agreed, cannot be easily changed by future administrations. The plan will, in simple terms, map the future path and direction for Government buildings. This strategic plan should take into account the Climate Action Plan as part of the decision making process. It will in essence show what the Government Estate will look like in 2050, once a clear impression is known then it will be possible to know the most effective way to achieve it. Once agreed the plan will also be able to help prioritise the steps required to give larger reductions in emissions in a shorter time frame where feasible.

- 4.2. This plan will outline a potential future programme for capital works, set mandates for other projects and provides a document that reports and measures overall progress.
- 4.3. To put together a strategic plan for all Government buildings is a large and complex project that will require resources (initially primarily staff/time) but the benefits far outweigh the work involved, because:
- It allows future planning of capital schemes;
  - Reduces risk regarding lack of contractor resources to deliver;
  - Some costs can be offset by building and land sales;
  - It gives individual Departments a common direction;
  - The Isle of Man Government will only have the Estate it needs to deliver an effective service.
- 4.4. It is also a complete step change to the culture and may meet resistance. Departments will need to cooperate towards a common aim and the vision will need buy in. This plan will produce a path to 'achieving a net zero estate portfolio' and will change the way the Isle of Man Government delivers its services to future generations.
- 4.5. The aim should not just be about the energy efficiency of Government buildings, but about the energy efficiency of delivering Government services i.e. how does the public get to Government buildings? Who uses each building and why? Can some service delivery streams be joined up or go online?
- 4.6. Assessing the carbon contribution of Government services will likely be for a separate workstream within any strategic review of the Estate.
- 4.7. To create a strategic plan Government will need to have all the data to make decisions and those decisions could have far reaching consequences across many areas of how Government works in the future.

## **5. OPTIONS**

### **Do Nothing**

- 5.1. Doing nothing is not something the Isle of Man Government should be considering in the context of the 2050 target for net zero carbon.

**Implement All Proposed Changes**

**Table 1: Basic short and long term suggested actions to achieve a net zero Government Estate by 2050**

Action	Timescale For Action	Resources
Government to demonstrate it is leading regarding moving towards zero carbon with its actions and words	Immediately  Demonstrated by a published Action Plan	
Single point of capture for all energy data for the operational Estate	3 Months	Will require data analysis ongoing
Carbon footprint data capture for all the Government Estate	6 Months	May require a template/format for parity  OR  Metering/monitoring maybe automated
Baseline energy audits of all operational Estate	12 Month Period	Staffing/Time
Creation of an Internal Fund for Energy Savings Initiatives	For Financial Year 2020/21	Finance
Progress initial work packages identified during the baseline energy audits	During Financial Year 2020/21	Finance/Staffing/Time
New Capital Schemes to be built to the best technology available for achieving low carbon	One Year	Possible review of Processes; Finance
Creation of an Estates Strategic Plan to achieve zero carbon by 2050	Two Years	Major input of staffing and time and financial

**Implement Some Proposed Changes**

- 5.2. To implement only some of the changes will impact the delivery of achieving a net zero carbon Estate by 2050.
- 5.3. **Future generations will be left to deal with the actions if proposed changes are not carry out now.**
- 5.4. Implementing all the proposed changes will give a working timeline and allow other resources to be planned in.

**Table 2 The Impacts and Mitigation of the Proposed Actions**

Impacts on working towards a net zero carbon Government Estate	What can be done to mitigate these impacts
Financial Impact	<p>The financial impact of delivering the action plan across the Estate initially be minimal during the initial collation of data and energy audits but will increase as the actions progress.</p> <p>The creation of a fund will have a financial impact year on year; some will be offset by the energy savings identified.</p> <p>New capital projects, being built to net zero carbon methodology will have an increased capital cost. Timescales/planning for project progression will allow these costs to be factored into future Treasury financial planning/budgets. Lifecycle costs will need to be calculated and factored in to decision making.</p> <p>A strategic review of the Estate will lead to a great increase in capital costs. Once a strategic timeline is developed for the Estate, these costs can be forward planned with budgetary requirements.</p>
People/time/internal skills	<p>The initial actions will impact on time of Estates Staff across Departments and will be possible to deliver along side Business as Usual.</p>

	<p><b>Delivery of a strategic review and accompanying action plan will be a major piece of work, which will impact across all areas of Government.</b></p> <p>The initial impact of a strategic review will be across a small team, as this develops it will impact a larger number of people and require increased resources.</p> <p>To deliver a strategic review and associated action plan will require:</p> <ul style="list-style-type: none"> <li>• Resources to review estate and create the plan;</li> <li>• Business case creation for feasibility/capital builds;</li> <li>• Assessment of service delivery areas;</li> <li>• Change of processes/ways of working;</li> <li>• Changes to terms and conditions;</li> <li>• Continual monitoring of contractor skill base to ensure schemes can be delivered within timescales/to cost;</li> <li>• Full time project management and co-ordination of delivery.</li> </ul> <p><b>It cannot be stressed enough that the development of a strategic review of the Government Estate along with other associated work packages to allow the Isle of Man to achieve net zero carbon by 2050 (or earlier) will likely be the largest project ever faced by the Isle of Man Government.</b></p> <p>The delivery of this project needs to be correctly scoped and resourced from the start and the resources need to be maintained into the future.</p> <p>To assist in delivery of a zero carbon Estate, staff Job Descriptions should contain relevant responsibilities and the appraisal system should set relevant objectives to contribute.</p>
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## 6. THE RISKS

**Table 3: Risk Matrix for Proposed Actions**

Costs not known	Low Carbon Capital Schemes	Risk of local contractors not being resourced	Increasing the speed of delivery of the Estates Action Plan
Costs known better than to 100%	Creation of Energy Initiatives Fund	Strategic Review of the Estate	
Costs known better than to 50%	Data Capture Basic Energy Audits Leading by Example		
	Little chance of failure	Less than 30% chance of failure	May fail

- 6.1. The initial actions such as data capture and basic energy audits are low risk as they only generally require the resource of staff time.
- 6.2. Generating and implementing a Strategic Review of the Estate carries an increased risk as it will be a large resource intensive, ongoing project and at the initial stages the financial impacts are unknown.
- 6.3. As this project progresses, the risk will be able to be managed by:
- Creation of and working to a delivery plan with estimated costs and timescales;
  - Financial planning for future delivery;
  - Working across construction sectors to ensure contractors have the necessary skills.
- 6.4. To deliver any strategic plan before 2050 will increase the risks and resources required. Once any project has been initiated to create and deliver a strategic plan, it should be continually reviewed and risk assessed to achieve delivery to as short a timescale as possible.

## 7. THE CO-BENEFITS

- 7.1. There are many co-benefits to the Isle of Man Government Estate working towards net zero carbon by 2050 (or earlier):
- The Isle of Man will be an example to the world and the delivery of any action plan will only lead to positive PR for the Isle of Man as a nation;
  - There will be business opportunities associated with delivery and the skill base and opportunities around renewables technology will increase. The Isle

of Man skill base will need to be continually reviewed to ensure Climate Change Plans can be delivered;

- Isle of Man Government will be working towards a firm agreed action plan for delivery of a net zero carbon future. Progress and commitment to this plan can be communicated and will fuel progress within the private sector on the Isle of Man and across other small nations. Government needs to set the example;
- Working towards an agreed plan will allow costs/other resources to be planned and allow risks to be efficiently managed.

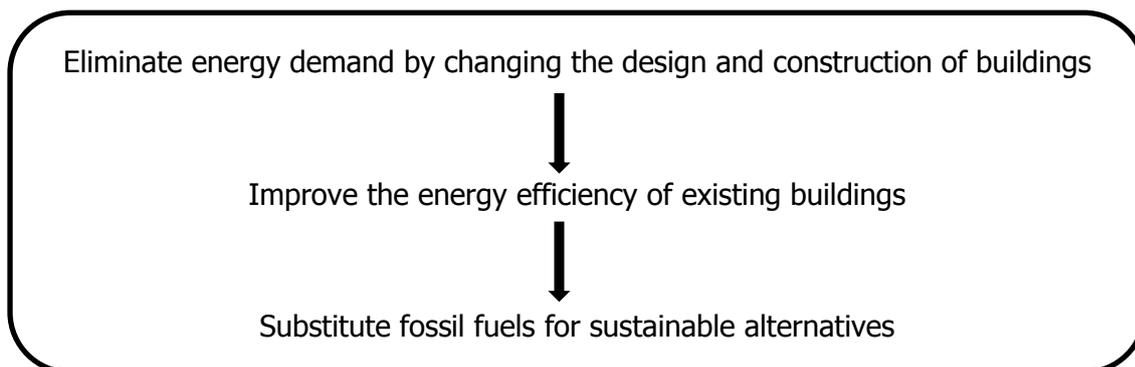
**8. CONCLUSION**

8.1. In conclusion, the Isle of Man Government Estate will require significant action to contribute to the net zero carbon target.

8.2. To envisage how the Isle of Man Government Estate should look and operate in a net zero carbon environment in decades to come, Government needs to collectively change the way Departments think and imagine an Island where:

- The way individuals will travel will have changed, many people may work from home;
- Collaborating and working together will be seen as the norm;
- Homes and how daily lives are lived will have changed to encompass achieving an Island that is net zero carbon;
- Work patterns and service delivery today will be viewed as history.

8.3. Any path to net zero carbon with the Isle of Man Government Estate needs to follow the principles of an emissions reduction hierarchy.



8.4. The Isle of Man’s commitment to reduce the emissions associated with the infrastructure of the Island should start with the Government Estate leading by example.

8.5. To embark on a path to achieving these aim, the following steps will need to be taken:

- Agreement and communication of an action plan;

- Baseline energy audits of all Estate properties, to allow the data to be used in the decision making process. Initial works identified during these audits will improve the energy efficiency of Government buildings;
- Baseline carbon footprint data for all Government buildings—to allow setting of carbon reduction targets;
- Creation of an internal energy saving fund;
- Tranche of initial work packages identified during energy audits/information gathering. Some of these may be revenue funded and others may require an approach to any created energy fund;
- Agree a way forward for future Capital Schemes to achieve net zero carbon—this will directly contribute to eliminating future demand through design and construction;
- Strategic review of the entire Government Estate and Infrastructure owned Social Housing.

8.6. The steps to achieve net zero are likely to start off with limited impact on resources and as time progresses the actions to achieve net zero will have an increasing impact across the whole of Isle of Man Government. What will start as a small team will rapidly grow to encompass many roles and skills, to develop a net zero Estate in thirty years or less, and could be one of the largest collaborative projects ever undertaken by the Isle of Man Government.

## **9. BIBLIOGRAPHY**

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