Adaptation Policy for our Climate Challenges

A Report by the Council of Ministers

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1. Introduction

To The Hon. C. Christian MLC, President of Tynwald and the Honourable Council and Keys in Tynwald assembled.

In January 2013 Tynwald approved Agenda for Change. The following is stated amongst the nine priorities identified for Government under the heading of Environment and Infrastructure:

We will:

- Address the issues posed by the effects of climate change

On 21 May 2013 Tynwald received the Council of Ministers’ Report on Environment and Infrastructure Policy and agreed that the key objectives detailed in the report be the general framework for the development of Environment and Infrastructure policy.

The key objectives include the following which relates specifically to climate challenge adaptation:

- Government will develop policies and strategies to ensure that it understands the risks of climate change to the Isle of Man and adapts to these risks.

The November 2014 mid-term report from the Council of Ministers on the Agenda for Change acknowledges that responding to climate related challenges is a key challenge that we must tackle over the next decade to secure a sustainable future.

This report links to GD No: 2015/0022 regarding Policy on Sustainable Development and Mitigating Climate Challenges and proposes a policy which is intended to contribute towards the delivery of the above key policy objective, identifies the top three issues to be addressed and identifies what the next steps should be.

Hon. R.A. Ronan
Minister for Environment, Food and Agriculture
2. Climate Challenge Adaptation – Policies and strategies

2.1 Definition
The Intergovernmental Panel on Climate Change defines climate change adaptation as follows:

"Adaptation
The process of adjustment to actual or expected climate and its effects. In human systems, adaptation seeks to moderate or avoid harm or exploit beneficial opportunities. In some natural systems, human intervention may facilitate adjustment to expected climate and its effects."

Adaptation gives decision makers a choice of responses to climate change impacts:

- Accept the impacts and bear the losses e.g. take no action because some assets are too expensive to protect or not worth saving.
- Introduce new measures to reduce impacts e.g. physical protection of assets, relocation, changing of use, build in operational resilience, improve preparedness for response to impacts.
- Offset losses by spreading or sharing risks e.g. share costs, insurance, duplicate site or facility.
- A mixture of responses may be considered appropriate depending on case specific factors.

2.2 United Nations Policy
Article 4 to the United Nations Framework Convention on Climate Change (UNFCCC) states that:

"1. All Parties, taking into account their common but differentiated responsibilities and their specific national and regional development priorities, objectives and circumstances, shall: ...

(b) Formulate, implement, publish and regularly update national and, where appropriate, regional programmes containing measures to... facilitate adequate adaptation to climate change."

2.3 European Strategy
The European Environment Agency has stated that:

"Adaptation means anticipating the effects of climate change and taking appropriate action to prevent or minimise the damage they can cause or exploit opportunities. Early action will save on damage costs later. Adaptation strategies are needed at all levels of administration, from the local to the international level."

In April 2013 the European Commission adopted an EU strategy on adaptation to climate change which has been welcomed by the EU Member States. The strategy aims to make Europe more climate-resilient. By taking a coherent approach and providing for improved
coordination, it will enhance the preparedness and capacity of all governance levels to respond to the impacts of climate change.

The EU Adaptation Strategy focuses on three key objectives:

- **Promoting action by Member States**: The Commission will encourage all Member States to adopt comprehensive adaptation strategies and will provide funding to help them build up their adaptation capacities and take action. It will also support adaptation in cities by launching a voluntary commitment based on the Covenant of Mayors initiative.

- **'Climate-proofing' action at EU level** by further promoting adaptation in key vulnerable sectors such as agriculture, fisheries and cohesion policy, ensuring that Europe's infrastructure is made more resilient, and promoting the use of insurance against natural and man-made disasters.

- **Better informed decision-making** by addressing gaps in knowledge about adaptation and further developing the European climate adaptation platform (Climate-ADAPT) as the 'one-stop shop' for adaptation information in Europe.

### 2.4 UK Policy

The Climate Change Act 2008 places a duty on the Secretary of State to lay before Parliament a Climate Change Risk Assessment every 5 years which takes into consideration advice from the UK Committee on Climate Change. The Act also requires each assessment to be followed by a National Adaptation Programme detailing the Government’s objectives in relation to adapting to climate change, policies and proposals for meeting those objectives, timescales for implementation and reporting mechanisms.

The UK Government published the UK Climate Change Risk Assessment (CCRA) on 25th January 2012. The UK risk assessment report gives a detailed analysis of 100 potential impacts of climate change which were selected from an initial set of 700 impacts. The UK assessment is intended for update every 5 years with the next assessment due in 2017.

Agencies in the UK have produced a considerable volume of expert guidance literature on climate change risk assessment. The expert guidance recommends that risk assessments are done by individual organisations or authorities, as they have the best knowledge of their own vulnerabilities to climate change impacts. By implication therefore, the task of assessing climate change risks for the Isle of Man should be subdivided and devolved to discrete organisations, including individual Government Departments, Statutory Authorities, local authorities and individual private sector businesses.
3.0 Adaptation for the Isle of Man

3.1 Climate Challenges
Major events in the recent past have highlighted our current vulnerability to the Island’s weather.

Inland flooding, coastal flooding and storm damage have proved costly in recent years, particularly damage to key coastal defences. These costs have not been restricted to Government with local authorities, homeowners and businesses also having to deal with the financial and personal costs associated with weather related damage.

As sea levels continue to rise, increasingly frequent storms will lead to greater damage than currently experienced occurring more often. Significant areas of the largest towns in the Island are likely to be affected and in the longer term there remains a significant threat from coastal erosion.

Storms and rainfall are not the only damaging factors. Sea surface temperatures recorded by the Government Laboratory, which go back to 1904, show that 2014 was the warmest year on record. Elevated sea temperatures in the summer of 2014 caused an algal bloom which resulted in a 10 week closure of valuable fisheries in the Islands territorial waters. Data collected by the Met Office at Ronaldsway shows that 2014 was the hottest year on the Island since records began in 1947 and 12 of the hottest years on record have all occurred in the last 20 years. Prolonged periods of hot, dry weather may lead to a higher risk of drought in the future.

Natural fluctuations in the Earth’s climate have occurred in cycles spanning tens of thousands of years but evidence shows that the rate of recent warming is unprecedented. These are crucial times as evidence shows that human activity now needs to be considered as a more significant contributory factor affecting our climate than natural cycles.

Levels of greenhouse gases, which are known to contribute to the warming of our atmosphere, have increased dramatically since the industrial revolution and are now known to be 33% higher than at any time over the last 800, 000 years.

Evidence shows that the burning of fossil fuels is the primary cause for observed increases in atmospheric greenhouse gas concentrations and that activities such as deforestation and changes in land use have led to further increases. This is the reason why DEFA are currently developing strategies which focus on limiting further greenhouse gas emissions.

The best way of adapting to these challenges will be to raise levels of awareness of the potential for damage and how it can be managed. This paper contains details of actions which could be taken by Government, business and the wider community to plan and where possible protect homes, businesses and important infrastructure.

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3 Scripps Institute of Oceanography [online] https://scripps.ucsd.edu/programs/keelingcurve/wp-content/plugins/sio-bluemoon/graphs/co2_800k.png
3.2 Climate Change Impacts Study
The Isle of Man Government has previously commissioned a study to identify the potential impacts of climate change for the Isle of Man. The study was conducted over a period of 12 months, starting in July 2005 and was managed by the former Department of Local Government and the Environment. A steering group drawn from a cross-section of Manx stakeholder organisations provided guidance. There were also stakeholder group discussions to identify potential climate change impacts. A series of reports examining climate change risks and opportunities were prepared by the project’s consultants Acclimatise and have been made available to the public on the Government website⁵.

The Acclimatise reports covered most of the important sectors of the Isle of Man’s environment, society and economy, such as:

- Transport
- Business and the economy
- Tourism
- Society and culture
- Historic environment
- Health
- Leisure and recreation
- Communications and energy infrastructure
- Water management
- Waste management
- Built environment
- Natural resources and environmental quality
- Marine environment
- Agriculture, fisheries and forestry

Isle of Man vulnerabilities to climate change suggest probable impacts across all of these 14 sectors.

3.3 Proposed Policy
As the nature of climate change impacts on the Island has been assessed the following policy is proposed:

To reduce risks and maximise benefits Government will both promote and undertake appropriate proactive adaptation to the current and projected climate.

3.4 Priority issues
The following 3 issues are deemed a priority:

1. Awareness raising
Organisations in the Isle of Man may not fully appreciate their exposure to the risks of our current or future climate.

Expert opinion recommends that organisations critically review how they have been impacted by severe weather events and use such information to identify risks to their business.

2. **Public, Animal and Plant Health**

Resources will be required to address the effects of climate change on human health arising from extreme temperatures, increases in air pollution levels indoor and outdoor, aeroallergens associated with pollen grains and fungal spores, vector-borne (insects, birds etc.), water-borne and food-borne diseases, changes in levels of exposure to UV radiation and the health impacts of flooding. The elderly will be more vulnerable to more frequent and intense periods of extreme heat than younger people and so health resources will face different challenges from an increasingly ageing population. New plant and animal diseases will also emerge and these may create the need for responses.

3. **Storms and Flooding**

As already identified, coastal and river flooding is a problem at present. Rising sea levels, more storms and heavier more prolonged periods of rainfall will increase the frequency and severity of flooding in low lying coastal areas and river catchments respectively. Storms can also disrupt essential transport links with neighbouring jurisdictions such as ferry and air ambulance services. Fortunately work is already underway. A national infrastructure plan is being developed which will need to take into consideration the effects of climate change and on the 19th January 2015 the Department of Infrastructure published a report looking into the long-term options to improve sea defences at 7 locations around the Island.

4.0 **Co-ordinating our approach - Next steps**

The Isle of Man Government would achieve significant benefit through promoting and supporting climate change resilience planning and should consider potential climate change impacts when devising its own long-term plans. Such plans will need to set out how we will adapt to our changing climate and incorporate recent work on sea defences, flood risk mapping and coastal erosion and involve engagement with stakeholders.

This insight could be used to good effect to promote greater awareness through public events and clarify the support required to ensure organisations can identify and adapt to realistic impacts they may face. Government should carry out a data gathering exercise to determine the current degree of recognition, understanding and forward planning for climate change impacts across the public and private sector.

Isle of Man Government should encourage locally based private sector organisations to use expert guidance to self-assess their vulnerabilities to climate change impacts. While it is acknowledged that global and societal impacts of climate change are likely to be negative, it is important to realise that changing weather patterns may provide business opportunities.

Officers from DEFA will continue to maintain a watching brief on new climate change research and data to ensure that the Isle of Man Government bases its adaptation and mitigation actions on the latest information. In 2009 a more sophisticated assessment of the impacts of climate change on the UK and the Isle of Man was carried out and is referred to as the UK Climate Projections or UKCP09. Given that the Acclimatise reports were based on
data produced in 2002 it will be appropriate to review the assessments in light of the UKCP09 data.

5.0 Recommendations

Council of Ministers recommends that Tynwald receives this report and approves the policy on climate change adaptation.