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Dear Sir/Madam,

In response to your request for comments and observations as part of your consultation of the Draft National Risk Assessment, I would like to provide the following comments. Firstly, I welcome the approach and content of the Assessment and I think it is a valuable contribution to the management of risk at a national level. Secondly, I welcome the inclusion of anti-microbial resistance as a risk under Technological Risks and also the inclusion of climate change and infrastructural development risks under the theme Environmental. Lastly, I would add the following specific comments to assist in the refinement of the National Risk assessment.

Climate and Sustainability

Consider including text on the need for advance programmes and measures for:

- The rapid decarbonisation of energy, transport and settlement in Ireland.
- The adoption of sustainable food production, management and consumption systems.
- The realisation of the full potential of ecosystem services in managed and natural systems.
- The recognition, promotion and sustainability of positive carbon sequestration practices.

Anti-microbial Resistance

Consider including text on:

- The importance of protecting water sources against bacterial contamination and to prevent the adverse health impacts associated with the contamination of water with antimicrobial substances and non-bacterial pathogens such as protozoans. Further effort is needed to;
 - a. Reduce the potential for effluent and water to contribute to the emergence and spread of antimicrobial resistance.
 - b. Research the toxicological properties and environmental fate of materials (e.g. nanomaterials, active pharmaceutical ingredients) and develop risk strategies for their safe use and disposal.
 - c. Mandate the take back of expired, medicines, veterinary medicines and pesticides.

Appropriate Infrastructural Development

Critical Infrastructure

Consider including text on the need for:

- A formal flood risk assessment for each critical infrastructure asset.
- A robust methodology to delineate flood plains.
- A prohibition on development in areas subject to high risk of flooding.
- Implementation of coastal protection plans for cities & towns at risk.
- Flood warning methodologies and systems.

Urban Waste Water

Consider including text on:

- Clean water as a valuable resource that is important to public health, the tourism industry, food production and other industrial sectors. Further investment in infrastructure to meet European Union requirements such as the Urban Waste Water Treatment Directive and the Water Framework Directive and to ensure compliance with EPA waste water discharge authorisations will realise the benefits of this resource for Ireland.

Drinking Water

Consider including text on the need to:

- Address delays to the provision of major water supply projects, and upgrade supplies with no Cryptosporidium barriers.
- Ensure that supplies are capable of delivering drinking water during all weather conditions and variations in raw water supply.
- Implement Water Safety Plans for the provision of safe and secure water supplies.

Human Capital

Consider including text on:

The ability of the civil and public service to deal with the challenges and risks in the years ahead given the current staff moratorium. Significant numbers of public service staff with expert skills have left the system without replacement in the last 5 years. The ability of remaining staff in the civil and public service to maintain current and enhanced levels of service in addition to dealing with unforeseen events and emergencies has to be assessed in a systemic fashion to manage the risks associated with this moratorium continuing indefinitely.

Difficult Wastes facility

Consider including text on the need to:

Develop a national Facility for difficult wastes that by their nature and physical properties pose problems for disposal and require special management to avoid nuisance and pollution or where physical properties of the wastes create serious handling problems. These wastes may or may not be hazardous. Wastes can also be considered difficult if there is no available treatment technology such as: out of date ordnance; marine flares; non-re-saleable seized/confiscated controlled substances and ship and cargo wastes.

European Commission Report- Using foresight to support the next strategic programming period of Horizon 2020 (2016-2018)

I would like to draw your attention to the *European Commission Report- Using foresight to support the next strategic programming period of Horizon 2020 (2016-2018)* from their analysis 12 drivers of change and six disrupters were identified as having the potential to impact significantly the future of Europe and of its citizens. The interactions of these 18 factors (the 12 drivers and 6 disrupters) point towards eight essential areas that need a strategic response from Horizon 2020:

- **Population changes, migration and ageing:** research and technology to support controlled migration and integration of migrants; address the resilience needs of health systems against emerging epidemics; at exploiting the opportunities created by the conjunction of health, ageing, the environment and social conditions; invest in technology domains which mitigate ageing; support social interventions to combat isolation of older Europeans.
- **Globalisation and fragmentation:** feed intelligence into R&D activities and enable innovation experimentations, particularly for Small and Medium Enterprises.
- **High expectations attached to new technologies:** strengthen the embeddedness of new



technologies in their social contexts; ensure expertise is available to ‘regulate out’ negative technology surprises and take corrective action as needed; consider partnership strategies for expected technological advances.

- **Transversality in new technologies and individualism:** encourage the development of transversal platforms and the search for new transversal infrastructures; encourage focus on user interfaces.
- **IT, connectivity and networks:** IT which is becoming part of the fabric of our societies, is highly sensitive to disruptors; focus on trust, values, systemic resilience together with universal connectivity affordably; cyber-security and cyber defence are key areas.
- **Vulnerabilities test our reliance:** redress the balance between climate-change mitigation and adaptation strategies to strengthen adaptation; improve forecasting models.
- **Environmental changes and degradation:** encourage a behaviour change among economic actors to reduce pollution; support circular economy models.
- **Responding to the scarcity of resources and energy:** support new technologies with low resource consumption; support technological alternatives for resource use; seek to develop radically new sources of energy and key materials.

Public acceptance and community support

In regard to the persistent difficulties in gaining public acceptance and community support to major infrastructural projects and I would like to draw you attention to the NESC report Re-finding Success in Europe: The Challenge for Irish Institutions and Policy no. 122

P 13 “Many of the issues that are pivotal for Ireland’s long-term success—such as innovation, training, education, tailored services and activation—cannot be resolved only through high-level bargaining of the type that we developed to address macroeconomic stabilisation in the late 1980s (NESC, 2002, 2005a and b). Analysis and problem-solving must be located closer to the issue at hand and high-level actors within Ireland should see themselves, like the EU, as setting framework goals, monitoring, assessing and extending instances of success—as advocated in the OECD report on the Irish public service (OECD, 2008)”

P226 “Our analysis of the EU, and the new conditions for success within it, suggests that, in one form or another, it will be necessary to build more effective mechanisms for wide engagement and problem solving.”

I hope that the comments provided are of some assistance and I wish you every success in the finalisation of the National Risk assessment. If you have any questions or require any clarifications on the text provided please do not hesitate to contact this office.

Yours sincerely,



Dara Lynott
Director
Office of Climate, Licensing, Resource & Research