Attention: Minister Michael Creed, TD.

I wish to make a submission on behalf of the Irish Climate Science Forum (ICSF).

The ICSF mission is to disseminate objective climate science in the public interest. We are entirely self-funded and have no vested interests, see www.ICSF.ie. We are concerned at the negative economic impacts of policy based on an exaggerated view of climate science.

Our submission on your consultation consists in two parts:
1. Copy of our recent letter to Minister Bruton on his Climate Action Plan (first attached).

In both, we emphasise that agricultural emissions have been erroneously over-estimated by IPCC. This assertion is backed up by some of the world's leading independent scientists.

Therefore, we see no scientific basis for any drastic action in curtailing agriculture in Ireland. On the contrary, being very environmentally-efficient, it should be strongly promoted.

We would be delighted to further discuss our submission with you and your advisors.

Finally, may I add an invitation to our next ICSF lecture on September 19. You and your advisors would be most welcome to attend and to meet our members.

Yours sincerely.
Jim O'Brien, Chair ICSF.
Minister Richard Bruton, TD,
The Dept of Communications, Climate Action and Environment,
29-31 Adelaide Road,
Dublin 2.

July 8, 2019.

Attention: Minister Richard Bruton, TD
Re: Our Comments on the Climate Action Plan, 2019

Dear Minister Bruton,

We welcome the national Climate Action Plan 2019. We admire your exceptional vision for a sustainable future for Ireland. Such foresight is essential as our planet is increasingly challenged by a growing population, many still lacking basic necessities.

However, to ensure the success of the Climate Action Plan, we would respectfully suggest that it needs to be:

1. Rigorously based on the latest Climate Science, which predicates prudent mitigation action, but not in the context of a climate "emergency".
2. Technically feasible and practicable to implement by 2030.
3. Affordable for the Irish energy user and taxpayer, with every stage of the Plan being rigorously assessed in terms of real value for money for them.

We expand on these essential aspects in the Annex overleaf. We would be delighted to engage further with you and your advisors towards achieving a successful roll-out of the Action Plan.

Yours sincerely,

Jim O'Brien, Chair ICSF.
Annex:

The Climate Action Plan needs to be:

1. Rigorously based on the Latest Climate Science:

Global temperatures have risen by just on 1°C since 1850, partly due to the GHG influence post-1950. The degree of warming due to the anthropogenic influence is measured as Equilibrium Climate Sensitivity (ECS), defined by IPCC as the eventual increase in global temperature for a doubling of CO₂ levels. Mathematically, the doubling of CO₂ levels since the pre-industrial of 280ppm to 560ppm, based on continuation of current trends, will happen in about 70 years, that is, about 2090.

IPCC estimated in AR5 that the resulting ECS is in the order of 3°C. However, the latest climate observations and independent research indicates the ECS to be in the region of only 1°C to 1.5°C, only about one-half to one-third of that predicted by IPCC. This lower ECS predicts an anthropogenic global temperature rise of only 0.5°C to 1°C due to GHG between now and 2100. In other words, prudent mitigation action is warranted, but there is no imminent “climate emergency” or “breakdown”. It appears that even modest mitigation can achieve the ambitions of the Paris Agreement, though natural variability could cause some future warming or cooling.

Global mean sea level is rising at about 3mm/year (3.2mm/year according to satellite data, 1-2mm/year according to land measurements), and is following a linear trend without acceleration since 1870. Therefore sea level rise will be less than 30cm between now and 2100, again indicating no “climate emergency”.

In the Cryosphere, Arctic ice extent has essentially stabilised since 2007. Greenland and the Antarctic are essentially stable. Glaciers have been advancing and retreating for centuries. The cryosphere provides no evidence of any “climate emergency”.

“Weather extremes” are frequently hyped by the media, yet when systematically analysed against past records, are demonstrably preceded. Analysis of climate change and weather patterns over past centuries and millennia provides no evidence of GHGs being a primary driver of observed changes. Earth’s climate was warmer than now in the Medieval, Roman and Minoan Warming Periods.

Regrettably and without explanation, ICSF and other independent submissions were precluded from the deliberations of the Citizens’ Assembly and from the Oireachtas Joint Committee on Climate Action, hence the bias in Irish “consensus” science.

It is noteworthy that the latest IPCC Special Report SR1.5 was discredited at the recent climate UNFCCC negotiations in Bonn, as had already been demonstrated by Prof Ray Bates in his seminal paper “Deficiencies in the IPCC’s Special Report on 1.5 Degrees” (see: https://www.thegwpf.org/content/uploads/2019/01/Bates-2018b.pdf). As Prof Bates had concluded in his paper, this IPCC document, which had advocated increased climate alarm without justification, does not merit being regarded by policymakers as a scientifically rigorous document.
2. Technically Feasible and Practicable to Implement by 2030:

2.1 Electricity:

The Plan assumes 70% renewables in power generation by 2030. While Eirgrid has been singularly successful in its DS3 program in integrating the current level of renewables, there is no guarantee that grid stability can be maintained at the proposed 2030 levels of renewables. Ireland is essentially an island network and cannot for stability rely on non-synchronous (DC) interconnectors to UK or France. Battery storage technology at national scale will not be feasible before 2030.

There is insufficient consideration of energy security in the Plan in that:

- In phasing out coal, Ireland would be totally reliant on natural gas (as wind and solar, not being dispatchable, do not contribute to energy security).
- Ireland has virtually no gas storage, the Corrib field is already in decline, and there is regrettably little assurance of further offshore resources (even after correctly abolishing the Climate Emergency Bill) or an LNG import facility being in operation before 2030.

Neither is there account of the impact of increased loading on the electricity network associated with the Plan. Based on SEAI 2017 national energy balance data, transferring say 50% of transport petrol/diesel-sourced energy (assuming 50% EV penetration) and 33% of residential oil/gas-sourced energy (assuming a Seasonal Coefficient Performance of 3 for heat pumps) will effectively double the current energy loading in the electricity network. This implies major upgrading costs in reinforcement (and probably extension) of the transmission and distribution networks.

2.2 Built Environment:

Ireland has the EU's least efficient heating in terms of kgCO₂/m² of floor-space with a legacy of poorly-insulated houses, predominantly oil-fired. While deep retrofitting is to be encouraged, this tends to be feasible only in major renovation with a change of ownership. Shallow retrofits may be more practicable and affordable for many, and therefore should continue to be encouraged. Better population health also reduces costs of public healthcare.

Heat pump technology is relatively unproven in Ireland, and installation may be an unaffordable investment for many. Furthermore heat pumps may not be feasible for apartment dwellers. There is still merit in the low-cost IAE proposal to convert 300,000 urban houses within 20 metres of the gas grid from oil to gas firing.

The proposal to ban new oil boilers from 2022 and gas boilers from 2025, should be reviewed, in that:

- In the winter coldest period, a heat pump operating in the Irish ambience probably needs to be supplemented by a conventional heating system.
- In a well-insulated dwelling, the energy consumed in heating is minimal.
2.3 Transport:

While Electric Vehicles are incorrectly seen as a “carbon-free” panacea, there are significant Lithium/Boron mining sustainability issues, there is 4.5-6t of CO$_2$ embedded in the manufacture of a typical 30kW battery, with as yet no end-of-life battery recycling technology. The required roll-out of charging points (and indeed the physical space requirements for these) seems under-estimated in the Plan.

No mention is made of improving vehicle occupancy by promoting ride-sharing, ideal for the IT-savvy in the rural context, currently discouraged by the taxi-regulator.

There is no mention of a city-wide metro network for Dublin, which must be the ultimate solution as city surface transport space is simply maxed-out.

2.4 Agriculture, Forestry and Land Use:

The ICSF is aware of important new research soon to be published which will demonstrate that agricultural emissions (mainly methane and nitrous oxide) have in reality a much lower GHG influence than hitherto assigned by IPCC. Thus there will then be little or no basis for curtailment of the agricultural sector, a profoundly important result for Ireland.

Based on the current modelling of agricultural emissions, the ICSF applauds the 10% reduction in emissions by 2030 envisaged by implementing the Teagasc Report. Tree planting is to be welcomed in both the urban and rural contexts, though widespread forestation (often with non-native species) may lead to loss of rural amenity and agricultural employment. Very practical and welcome actions include creation of peat wetlands and extending hedgerows, both also highly relevant to fostering biodiversity.

2.5 Circular Economy:

Waste reduction, re-use and recycling make excellent sense, particularly for food and plastics. Not mentioned is the effective prohibition in recycling of construction and demolition material, the largest waste stream, apparently through the inability of the EPA to agree practicable End-of-Waste criteria for such materials.

Continued Overleaf......
3. Affordable to the Irish Energy User and Taxpayer:

The Plan gives no overall cost estimates, other than claiming that it is "economically achievable", taking a view only on Exchequer costs. However, there are major investments to be made by many different players, but in the end, the entire costs will have to be paid by the energy user/taxpayer.

For that purpose, an estimate of the Capital Cost of the Plan is suggested in the table below, some of the figures being extrapolated from the IAE Report "Ireland’s 2030 GHG Emission Target, an Assessment of Feasibility and Costs", see: http://iae.ie/publications/environment-iae-report-irelands-2030-greenhouse-gas-emissions-feb-6-2017/.

<table>
<thead>
<tr>
<th>Sector</th>
<th>Proposed Actions</th>
<th>Basis of Estimate</th>
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<th>2030 Sector Totals €bn</th>
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<td>Transport</td>
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<td>Biofuels, etc</td>
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<td>Built Environment</td>
<td>Insulation Retrofitting</td>
<td>600,000 homes @ say €25k each on average</td>
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<td>Heat Pumps</td>
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<td>500,000 @ €20k each</td>
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<td>Sub-total</td>
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The total estimated cost of €70bn between now and 2030 implies an expenditure of almost €6bn a year, hardly viable in the context of other economic strains from the housing shortage, public healthcare, reducing the national debt, as well as likely fallout from Brexit. The €70bn total implies a total cost per family of €35,000 between now and 2030, which must be regarded as democratically unaffordable.

The ESRI concludes that draconian carbon taxes of €50/t and €100/t CO2 would reduce emissions by a mere 4% and 10% respectively. No matter how carefully designed, such taxes would be regressive on the 28% in energy poverty in Ireland. It is perhaps not unsurprising that carbon taxes have been opposed in France and in regional polls in Australia, Canada and the USA.

As the primary focus of the Climate Plan is 2030, no estimates have been included for R&D and piloting of future technologies such as fast breeder thorium second generation inherently-safe mini-nuclear reactors. Ireland should play an appropriate R&D role with other countries in promising future technologies.
The Editor,
The Irish Farmers' Journal,
Irish Farm Centre, Bluebell,
Dublin 12.

August 12, 2019.

Flaws in the IPCC Special Report on Land Use

Sir,

The latest IPCC Special Report has prompted the usual unquestioning hysteria from the mainstream media. However, even a cursory review of its Headline Statements reveals that the Report has at least three significant flaws.

- It ignores the latest scientific research and observations that confirm much lower climate warming sensitivity to increasing levels of GreenHouse Gases (GHG) than projected by IPCC, in particular the much lower Global Warming Potential (GWP) of methane and nitrous oxide, the main agriculture emissions. A seminal paper is shortly to be published in the US that will confirm the GWP of these gases to be actually negligible.

- It focuses only on land temperatures, which are now demonstrably affected by the Urban Heat Island (UHI) effect, being local micro-climates created by reflected heat from buildings and infrastructure (which also doubtless contributed to the “record” temperatures in UK and Mainland Europe last month). The true anthropogenic global warming (AGW) effect can only be determined from weather stations free from the UHI influence, or better still, by satellites with truly global coverage.

- The Report fails to mention the beneficial effects of increasing carbon dioxide levels in promoting photosynthesis, which is actually leading to a proven “greening” of the planet, which will assist in feeding its rapidly-growing population. There are, of course, some parts of the world now facing increased desertification, part of natural regional climate variability that has continued through the planet’s 4.5 billion-year history.

Put together, these basic flaws seriously detract from the scientific objectivity of the Report. Therefore I argue that it provides little basis for drastic action on changing land use in Ireland, nor in particular any valid argument for downsizing its environmentally-efficient beef production.

All that said, it is imperative that governments much more actively address the world’s regions subject to drought, famine and conflict. Food production is growing globally as OECD data shows, but the challenge is to distribute it effectively to the over half billion people most in need, and above all, to avoid food waste.

Yours sincerely,

Jim O’Brien, Chair ICSF