Written evidence from the James Hutton Institute

Background

The James Hutton Institute welcomes the opportunity to provide views to the Rural Affairs, Climate Change and Environment Committee on the Draft Second Report on Proposals and Policies (RPP2), with the focus on Chapter 9 on Rural Land Use.

The James Hutton Institute was formed on 1 April 2011 when SCRI (Scottish Crop Research Institute) and the Macaulay Land Use Research Institute joined forces to create one of the world’s leading scientific organisations focusing on land, crops, water and the environment. The Institute has a significant programme of research on climate change relating to rural land use, both within Scotland and internationally. Much of the work in Scotland is funded through the Scottish Government’s Strategic Research Programme, in which the research on greenhouse gas emissions from land use change in WP3.1 is of significance to the RPP2. The Institute is also an active contributor to the Scottish Government’s climateXchange Centre of Expertise (CXC), providing information and advice to Policy Teams within Scottish Government, again some of which has contributed to this Draft RPP2 itself.

General comments

The Scottish Government has set itself stringent targets for GHG emission reductions of 42% by 2020 and 80% by 2050, which we welcome and support. The Draft Second Report on Proposals and Policies (RPP2) outlining ways to achieve these targets is welcomed. However, we do have some concerns about the Draft RPP2 as it stands.

We were very concerned to note that the estimated emission reductions by 2020 from policies relating to the Rural Land Use sector had been reduced from 645 ktCO$_2$e yr$^{-1}$ in RPP1 to 413 ktCO$_2$e yr$^{-1}$ in RPP2, leaving a shortfall of 222 ktCO$_2$e yr$^{-1}$ to be found from other options. This means that there is an over-reliance on the proposals rather than policies to achieve these targets in the sector, and an expectation that these reductions will be achieved post-2020. Of the target reductions of 2754 ktCO$_2$e yr$^{-1}$ by 2027, only 4% is coming from the current implementation of Farming for a Better Climate and 25% from increased afforestation, giving a total of only 29% from existing policies, with the remaining 71% coming from options which are only proposals at this stage.

Moreover, two of these proposals are somewhat vague. “Developments in agricultural technology post-2020” and “Additional technical potential from low carbon land use” represent nearly 40% of the required target for 2027, yet the examples given for latter include peatland restoration and woodland creation around towns, and it is unclear how these would deliver additional reductions over and above the proposal “Accelerated restoration of degraded peatland” just before and the policy “Increased afforestation rates” (although this may be in the Technical Annex which wasn’t provided to us). There is a risk that this could result in double-counting. Our concern is that unless all of these proposals are fully implemented as policies delivering real net emission reductions, then the Rural Land Use sector will not be able to meet its pro rata targets in 2020 and 2050.
Despite a brief mention in paragraph 9.3.2, it is also not clear in the report if estimates of the emission reductions associated with the various measures in Table 9.8 include an estimation of potential displacement of emissions abroad (e.g. woodland planting displacing livestock production to other countries), so that Scotland meets its targets at the expense of increasing emissions elsewhere in the world. At least if this potential displacement has not been considered, it should be made clear that it hasn’t.

The report also does not appear to show the relative reductions per sector compared to the 1990 baseline which makes it difficult to analyse the level of savings being attributed to the various measures. For example, in Table 9.8, it is not clear what the emission abatement figures are – from the 1990 baseline or from the previous year?

We were also disappointed at the slow progress on behaviour change. The literature review referred to does not tell us anything new that was not already known to researchers in this area. We would like to see follow up work investigating how our knowledge of the factors influencing decision-making can be utilised in a practical way to develop and implement policies.

While recognising that evaluation of inclusion of the land use sector in a carbon trading scheme is in its early stages, we would like to flag up that this should be a consideration for proposals in a future revision of the Report (i.e. RPP3).

**Agriculture**

Agriculture is a large source of GHG emissions and the promotion of *Farming for a Better Climate* as an emission reduction policy is welcome. However, we were concerned to see that the contribution of FFBC has been downgraded from 319 ktCO\(_2\)e yr\(^{-1}\) in RPP1 to 103 ktCO\(_2\)e yr\(^{-1}\) in RPP2, and that anaerobic digestion (promising 16 ktCO\(_2\)e yr\(^{-1}\) reductions in RPP1) has been dropped altogether in RPP2, meaning that 232 ktCO\(_2\)e yr\(^{-1}\) must be found from other options.

We also have reservations about the proposal to increase adoption of nitrogen efficiency measures to 90% of farmers, thereby delivering 290 ktCO\(_2\)e yr\(^{-1}\) of emission reductions, potentially covering the 232 ktCO\(_2\)e yr\(^{-1}\) lost from FFBC and AD between RPP1 and RPP2 mentioned above. Our main concern is that there is an over-reliance on voluntary uptake of these N efficiency measures, and even though these are ‘low-hanging fruit’ in that their adoption should be ‘win-win’ (i.e. farmers reduce costs as well as GHG emissions) the FFBC experience shows that this may not be the case. Careful monitoring, and accurate definition of a baseline is essential to see if this is a real saving, and indeed can be achieved. Setting of milestones would also be desirable.

As mentioned above, the proposal to develop agricultural technology post-2020 is extremely vague, mentioning livestock management, anaerobic digestion (already dropped in RPP2), use of legumes for biological N fixation, and precision farming, but then suggests that this outside the control of the Government anyway, and more under the influence of external factors such as price of inputs. Why is it then included as a proposal for a potential policy? Does the SG have specific plans to fund research in this area?
Peatland restoration

We welcome the inclusion of peatland restoration as a proposal to help meet the emission reduction targets as well as its eligibility in national GHG accounting as agreed at the UNFCCC CoP-17 in Durban in 2011. We are also pleased to note that the uncertainty associated with emission reductions from peatland restoration has been reduced between RPP1 and RPP2 as a result of work carried out by the James Hutton Institute (commissioned by CXC), and also that its contribution at 515 ktCO$_2$e yr$^{-1}$ by 2027 is comparable to that delivered by increased afforestation at 687 ktCO$_2$e yr$^{-1}$. However, it should also be pointed out that the benefits from peatland restoration will continue to increase for millennia, whereas forestry has a finite life due to the trees reaching maturity (especially woodland creation, less so for timber - assuming the timber is well used), although this will only be apparent beyond the 2027 mark. Moreover, peatland restoration also has significant co-benefits such as biodiversity enhancement, which are not easy to quantify economically but are important nevertheless, making it a 'no-regrets' policy. For this reason, although uncertainties still remain in the quantification of the net carbon benefits, we would urge the Scottish Government to move peatland restoration as soon as possible from a proposal to a policy with the target of 21,000 ha yr$^{-1}$ formalised rather than a suggestion, allowing our research at the James Hutton Institute in the meantime to pin down the carbon benefits more accurately. While strongly believing that policies should be based on as sound as science as possible, this should not be an excuse for prevarication. The provision by the Government of £1.7M for peatland restoration is a welcome step in this direction.

Forestry

Again, while welcoming the policy of increased afforestation of 10,000 ha yr$^{-1}$ to reduce net GHG emissions in Scotland, we were concerned to see that the proposal in RPP1 to increase planting to 15,000 ha yr$^{-1}$ has been dropped in RPP2, meaning that around 144 ktCO$_2$e yr$^{-1}$ has to be found from other options. However, we welcome the inclusion of the Wood First Timber Construction Programme, noting that it can potentially contribute 125 ktCO$_2$e yr$^{-1}$ emission reductions by 2027, almost meeting this shortfall. Further evaluation of the role of planning, building standards, building design and perverse incentives should be completed as soon as possible to determine if the emissions savings promised are realistic. We also believe that it is essential for continuing support for further research of the type being carried out at the James Hutton Institute on the suitability of different land classifications for tree planting to ensure that there are no unintended consequences for overall global warming potential (GWP) of afforestation, for example, on certain soil types.