

## RURAL ECONOMY AND CONNECTIVITY COMMITTEE

### SUBMISSION FROM PROFESSOR PETE SMITH

#### THE DRAFT CLIMATE CHANGE PLAN (RPP3)

##### General comments

1. Demand-side measures (reduced meat consumption and reduced waste) have been shown to have great potential to reduce GHG emissions, as well as contributing to healthier diets – see IPCC AR5 and a number of subsequent studies. Every other sector considers demand management – why not this sector? Less meat of higher quality with lower environmental footprint – great potential for Scotland to contribute significantly to this market. Why is no demand-side management being considered?
2. It is not specified how each of the policies and proposals contributes (in MtCO<sub>2e</sub>) to the projected agriculture carbon envelopes (Figure 24 on page 136). This makes the projections opaque. A projection of the assumed mitigation in Mt / kt CO<sub>2e</sub> for each policy / proposal should be provided for transparency and to allow the assumptions to be assessed / tested.

##### Specific comments

3. **Page 137:** Policy outcome 1 – develop milestones on farm carbon audits: There are excellent examples of carbon audits helping farmers to improve efficiency / reduce emissions. For example, use of the Cool Farm Tool with organic egg producers supplying a large US retailer allowed them to reduce their emissions by around 16% over 3 years – without any targets being set. This was simply through the farmers' better understanding the sources of their emissions – and group learning among the farmer group. So consider making the carbon audits participatory (the farmers are involved with doing the audit), rather than something done to their farm by external experts without their explicit engagement. This will also improve awareness-raising.
4. **Page 137:** Policies for policy outcome 2 to reduce emissions from fertilizer – soil testing – soil N not mentioned in the tests and suggested frequency is every 5/6 years - why not test each year for soil N and apply fertiliser based on soil N status?
5. **Page 138:** Proposal for plants with better N-use efficiency – what R&D is planned to support this proposal? – need to start this soon to have varieties available in time.
6. **Page 138:** Policy outcome 3 – reduce emissions from red meat and dairy. Good to focus on emissions intensity (the approach is taken also in NZ and Ireland) – drives the industry to reduce emissions and prevents us simply importing meat /

dairy with higher environmental footprint – and effectively exporting our emissions. But see point below on demand management.

7. **Page 138:** Proposal on livestock feed additives to reduce methane emissions. Limited long term impact – and care must be taken to ensure that any additives do not compromise the “clean, green” image of Scottish meat and dairy – so suggests “natural” products only (e.g. not propionate precursors, growth hormones, or ionophores),. Also need to look at lifecycle GHG costs of any feed additives since these could have a considerable GHG footprint.
8. **Page 138:** Proposals which contribute to the delivery of policy outcome 4 - inclusion of livestock grazing in rotation on current arable land. Note that many areas most suitable for meat / dairy are in areas less suitable for crop production (the wetter west and on hillsides). Arable cropping (mainly in the drier east and lowlands) might be the best use of this land. Adding livestock grazing into arable rotations raises the issue of a) reduced crop production, b) overproduction of meat, c) logistical / expertise barriers for mixed farming on predominantly arable farms, d) economic implications – what market for new meat/ dairy?
9. **Page 138:** Policy outcome 5 - the carbon content of soil and agricultural land will have improved through carbon sequestration and expanded woodland/forestry and hedgerows. Proposals which contribute to the delivery of policy outcome 5 - Payment for carbon sequestration – excellent – easy to verify trees or hedgerows – a verification system will be required to monitor and verify increases in soil carbon stocks – I would suggest verification by activity – though soil testing could be combined with policies for policy outcome 2 to reduce emissions from fertilizer (see above).
10. **Page 138:** Policy outcome 5 - the carbon content of soil and agricultural land will be improved through carbon sequestration and expanded woodland/forestry and hedgerows. Combine ambitions for encouraging trees in agricultural landscapes with the ambitions for woodland expansion in the LULUCF sector (described in chapter 13).
11. **Page 139:** 14.4.1 – raising soil pH may improve productivity, but could speed decomposition of soil organic carbon – since low pH slows decomposition. Trade-offs of raising soil pH need to be further examined – suggest R&D to do this.

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