Local Government and Communities Committee

The Draft Climate Change Plan (RPP3)

Submission from Industrial Nature

INTRODUCTION

Industrial Nature Co is a new manufacturer of truly sustainable, natural construction materials in Scotland. Our company is deeply concerned about the twin climate and environmental crises and are doing what we can to positively improve the built environment. Our aims include:

1. Lowering cradle-to-cradle carbon in the construction industry
2. Minimising environmental impacts of materials
3. Improving the health of people occupying buildings

We know Scotland's built environment can do better: we rebuilt a home which now needs no heating - all with natural materials.

Conventional construction materials in the UK have high embodied energy and embodied carbon, are damaging to the environment, many are made of petrochemicals and much of these materials end up in landfill. Their synthetic properties also lead to damp and mould by not being vapour permeable (as our traditional materials did historically) and many release toxic VOCs - all of which means unhealthy indoor conditions for occupants.

We are encouraged by Scotland's progress regarding decarbonisation and thank you for inviting public consultation. We ask you to please consider our following points:

RESPONSE

1. Embodied carbon is neglected.

Regarding buildings, policy focus is on operational carbon (heating demand in buildings) with negligible mention of embodied carbon of construction materials.

- Conventional materials like concrete, steel and petrochemical foam insulations have very high embodied energy - all the energy that might be saved by lowering heating demand is simply countered by energy which has gone into producing these materials.
- Does the TIMES greenhouse gas emissions model account for embodied carbon?
• Building Regulations should be requiring embodied carbon calculations for materials.
• We can do this now - there is already an excellent database available to use for calculations from the University of Bath called the Inventory of Carbon and Energy.

2. Environmental impacts of energy efficiency materials are neglected.

• In Scotland’s rush for a low carbon future, we’ve neglected regulations about what sort of building materials we’re using to increase energy efficiency - all at the cost of damaging environmental impacts.
• For example, the dominant insulation material in the UK is a pink toxic petrochemical-based polyisocyanurate foam. It comes from oil, has high embodied energy, uses a toxic process, on-site waste goes into skips and at end of life ends up in landfills.)
• Building Regulations should be requiring environmental standards of materials and asking: is the source renewable, abundant or local? Is the manufacturing process toxic? What happens to waste or end of life deconstruction?
• In this Plan, SEEP (Scotland's Energy Efficiency Programme) repeatedly mentions 'environmental impacts' but seems to only refer to operational carbon - not to the environmental impacts of materials.

3. Bio-based carbon sequestration

As a manufacturer of sustainable crop-based bio-composite construction materials, our company would like to see these materials promoted here as a more sustainable alternative to timber woodfibre as well as conventional materials. Like timber, our materials are also renewable - but sequester carbon more efficiently (they grow 7 times the speed of timber and can be harvested annually - with additional benefits to farmers).

4. Don't give in to pressure from unsustainable businesses.

In the Ministerial Foreword, Roseanna Cunningham talks of government concerns over preventing "industries moving away from Scotland if our carbon constraints are perceived to be too tight versus competing economies". We say they should be forced to comply or let them leave - and let sustainable, values-driven businesses grow in their place.
5. Let’s aim for Zero Carbon Scotland!

The Scottish Government has announced it will bring forward a new Climate Change Bill, including an ambitious new 2020 target of reducing actual Scottish emissions by more than 50%.

It’s great to see how much Scotland has already achieved and that the government is raising its ambitions for a lower carbon future - but why not aim for a Zero Carbon Scotland? We can do this, we already have the technologies and materials and knowledge - but we need more political will to enforce - and support - change rapidly. For example, the Zero Carbon Britain report outlines how this can be achieved with what we already have.

Regards

Scott Simpson (MSc Architecture: Advanced Environmental & Energy Systems)
Managing Director
Industrial Nature Ltd