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What is needed by institutions?

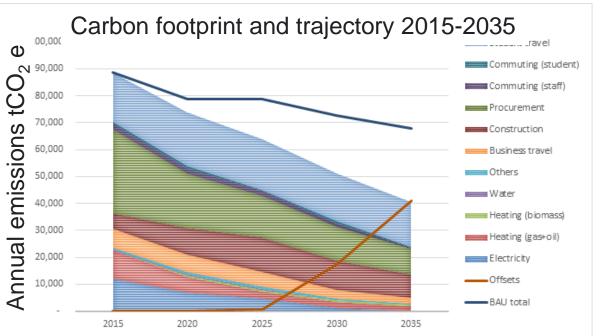
How should national governments respond?





Institutional context





Key learnings

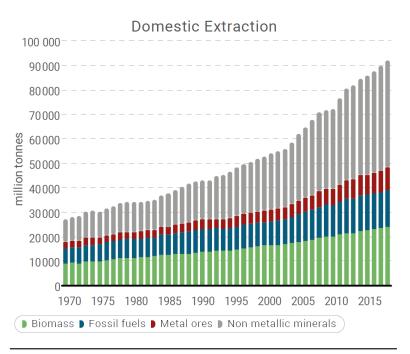
- "Net Zero" is hard work
- Culture needs to change throughout - intent is not enough
- Scope 3 included
- Business model needs to change
- Need to absorb carbon
- Its not just about carbon
- Statutory reporting is ineffective
- Regulation needed for a level playing field

"....the sense from people here is that we have to get on with things ourselves as there is no 'government cavalry' coming over the hill..."



National context

GHG are a symptom consumption of basic materials keeps on increasing



Material productivity declining

- Increasing evidence of resource exhaustion
- Some evidence of declining return on investment in innovation

In Scotland:

Each person consumes **18 tonnes** of raw materials each year

This needs to be **8 tonnes** to create a sustainable society

Source: UNEP & IRP, 2018

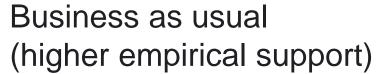


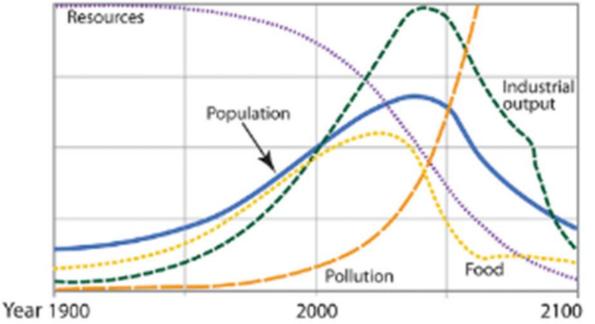
Global outlook (reasonable worst case)

Material productivity declining

 Increasing evidence of resource exhaustion

 Some evidence of declining return on investment in innovation

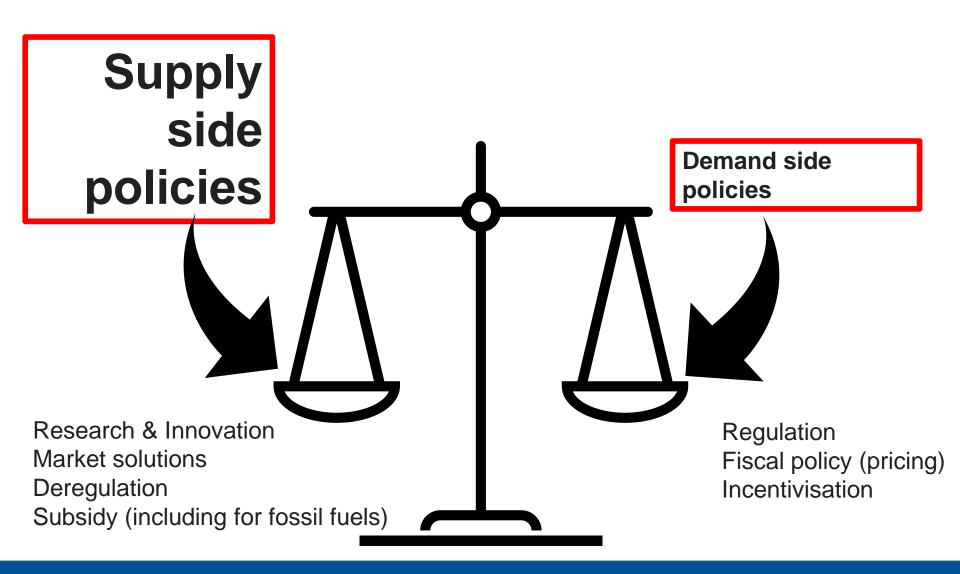




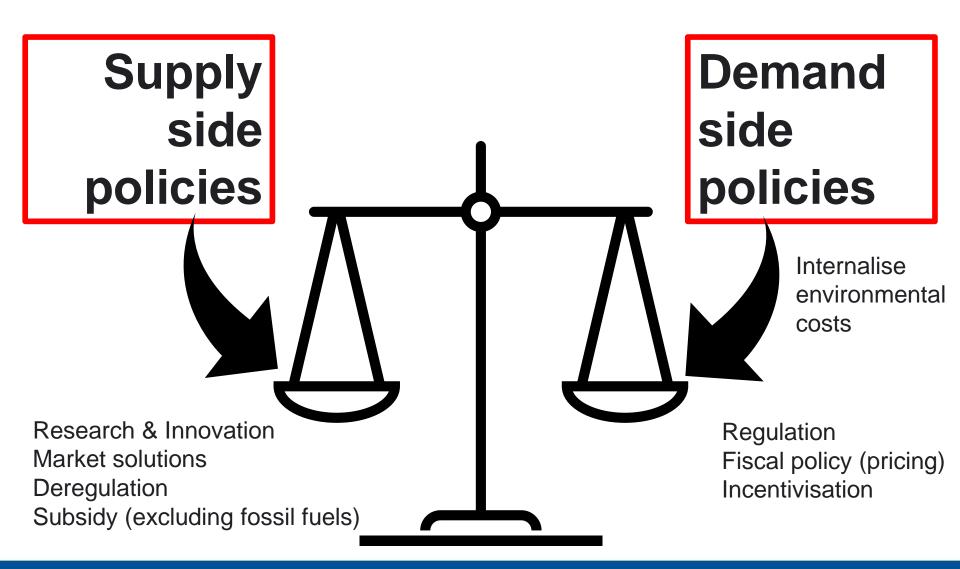
Herrington, G. 2021. Update to limits to growth: comparing the World3 model with empirical data. Journal of Industrial Ecology 2020:1-13.



Current policy context



"What next" policy context



What next?

- Machinery of government needs to reflect the size of the challenge
- Policy innovation is needed just as much as technology innovation
- Policies need to empower institutions to get on with the job
- Acknowledge that sustainability is much more than "net zero" carbon



What next?



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