Soil, climate and policy

Mike Grundy
21 May 2015
A policy-implementation gap is the difference between the anticipated outcomes of a policy, and the results observed on-the-ground (Hinds, 2003; Ran, 2013)
The Queensland Government's drought policy is based on the concept of self-reliance. Primary producers should therefore adopt risk management strategies to minimise the impact of drought on their enterprise. However, it is recognised that prolonged and severe events may be beyond the ability of many producers to cope with financially and physically.
Probability of exceeding Median Rainfall
for May / July
based on consistently negative phase
during March / April
From the IPCC:

- The annual average temperature has already risen by 0.85°C since 1880 and should increase by 0.3-4.8°C by 2100,
- The oceans hold over 90% of the additional energy accumulated in the climate system between 1971 and 2010.
- The melting of the ice caps has become a major issue.
- Predictions for the rate of sea level rise have been revised upwards.
- The atmospheric concentrations of carbon dioxide, methane and nitrous oxide have risen to unprecedented levels.
- Anthropogenic carbon dioxide concentrations have increased by 40% since pre-industrial times (1750) and by more than 20% since 1958.
- This rise is the result of human activity
  Concentrations of the greenhouse gases carbon dioxide (CO2), methane (CH4), and nitrous oxide (N2O) now exceed the highest concentrations recorded in ice cores during the past 800,000 years.

The goal to limit global warming to 2°C is still possible under certain conditions. For global warming to be limited to 2°C between the end of the 19thcentury and the end of the 21stcentury, emissions would need to peak around 2020, then decline until 2100.
the European Council (2014) endorsed a binding collective target for the 28 Member States of the European Union of “at least 40% domestic reduction in greenhouse gas emissions by 2030 compared to 1990”. This was confirmed in the submission in March 2015 to the secretariat of the UNFCCC . . .

“The United States intends to achieve an economy-wide target of reducing its emissions by 26%-28% below its 2005 level in 2025 and to make best efforts to reduce its emissions by 28%”. This was confirmed in the submission in March 2015 to the secretariat of the UNFCCC . . .

“China intends to achieve the peaking of CO2 emissions around 2030 and to make best efforts to peak early and intends to increase the share of non-fossil fuels in primary energy consumption to around 20% by 2030”.
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Submissions to date: 10; Parties Represented: 38
Figure 1: Annual emissions between 1990 and 2030 for the European Union, United States and China

- **China** - Peaking emissions by 2025 or 2030
  - 2030: 15.3 Gt CO2e

- **US** - 28% below 2005 by 2025
  - 2030: 13.8 Gt CO2e
  - US - 28% below 2005 by 2025

- **EU** - 40% below 1990 by 2030
  - 2030: 3.2 Gt CO2e

Boyd et al ESRC Centre for Climate Change Economics and Policy, May 2015
Stéphane LE FOLL a annoncé la mise en place d’un programme de recherche international, le « 4 pour 1000 », dont l’objectif est de développer la recherche agronomique afin d’améliorer les stocks de matière organique des sols de 4 pour 1000 par an.
A policy-implementation gap is the difference between the anticipated outcomes of a policy, and the results observed on-the-ground (Hinds, 2003; Ran, 2013)
Designing, implementing and sustaining policy

Permanence, additionality, leakage

Equity in implementation – who pays or how is the cost shared (including Intergenerational equity)?

Achieving production and increasing productivity from soil

Measuring and monitoring progress (from the national account to the paddock . . .)

Managing system change . . .
And:

It has to play politically

It should fit within the context of the overall policy thrust – ie. It does not produce poor outcomes in other policy areas

Efficient, equitable, targeted, reviewable and reviewed

It needs consistency – and to be maintained (and therefore move beyond political ping pong)

Multinational buy-in
Figure 1: Estimates of changes in net emissions from soil carbon from changes in agricultural management practices in croplands
Figure 4. Spatial variability in soil carbon sequestration and/or reduction in rate of loss (t C ha\(^{-1}\) yr\(^{-1}\)) in a scenario where the yield of agricultural species were increased by 20% over a period of 25 years.
Carbon Farming Initiative

Aim: mitigate greenhouse gas emissions through adoption of carbon sequestration
Sequestering carbon in soils in grazing systems

Reference
2014SC056

Applicant
Department of the Environment

Status
Methodology determination made. Project applications to implement methodology determination may be made to the Clean Energy Regulator.

The Carbon Farming (Carbon Farming Initiative) (Sequestering Carbon in Soils in Grazing Systems) Determination is available on ComLaw.

Description
This methodology determination applies to soil carbon sequestration projects in grazing systems and relies upon direct measurement of soil carbon to estimate sequestration. It sets out instructions for undertaking projects and estimating the resulting abatement. In addition to the tools and fact-sheet set out below, the Department will shortly publish a calculator to assist proponents to undertake reporting in accordance with the methodology determination and the Clean Energy Regulator will publish guidance on their website about how to undertake a project to sequester soil carbon in grazing systems. These documents will be linked to this page as soon as they are available.

Domestic Offsets Integrity Com

The methodology determination gives the decision to endorse the methodology as the Domestic Offsets Integrity Com 2011.

Carbon Credits (Carbon Farming Initiative) (Reduction of Greenhouse Gas Emissions through Early Dry Season Savanna Burning – 1.1) Methodology Determination 2013

Note: Appendix A of this document provides guidance on sampling intensity and frequency.
A policy-implementation gap is the difference between the anticipated outcomes of a policy, and the results observed on-the-ground (Hinds, 2003; Ran, 2013)
Source: ABS (date to be provided) and LUTO volume and GIAM price projections.
So, we need:

A way to imagine and plan for a range of futures:
- Scenarios and trajectories
- Market designs, signals, dynamics
- Evolving methodologies (from the “assured” to the measured?)

A robust and flexible policy design, review and evaluation process
The question in soil, climate and policy has never been can we start and even where should we start – the real question is can we keep starting again and again.
Thank you

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