IF IRELAND WAS A LEADER IN TACKLING CLIMATE CHANGE WHAT WOULD AGRICULTURE / LAND USE POLICY LOOK LIKE IN IRELAND?

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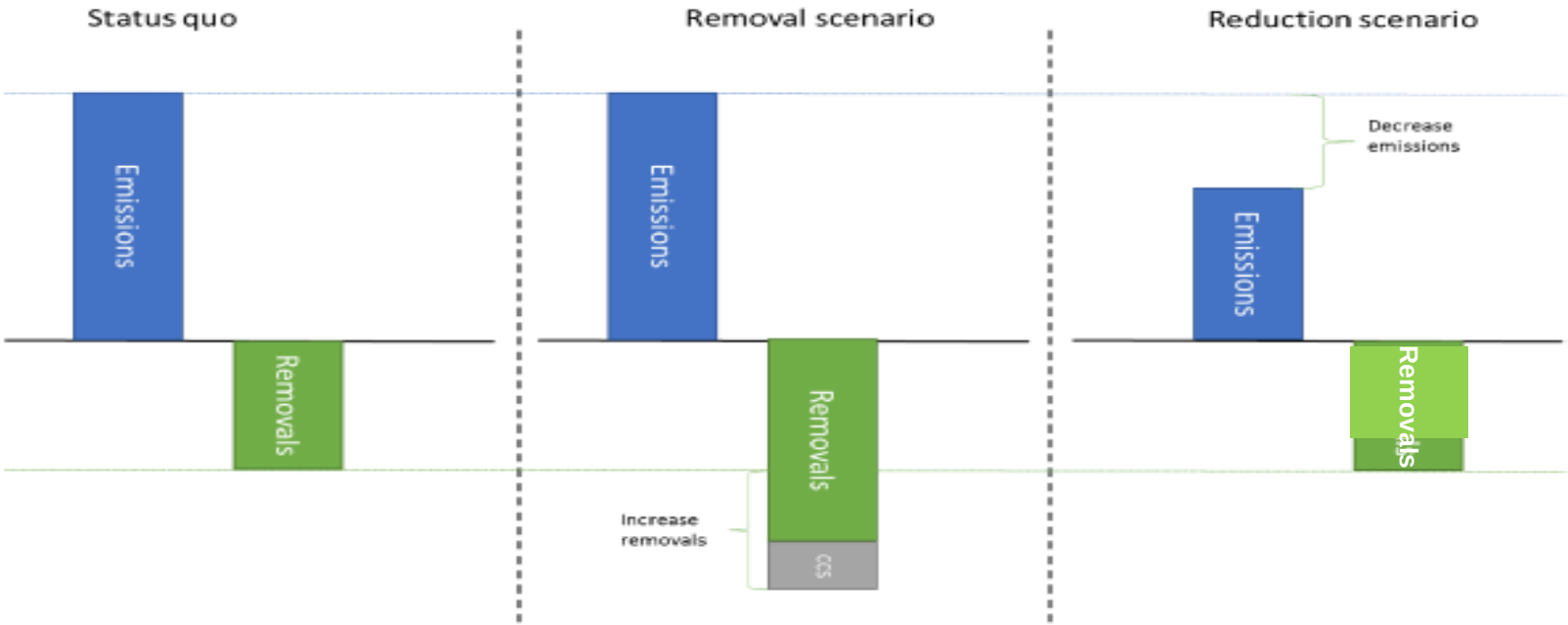
National Policy Position

- an aggregate reduction in carbon dioxide (CO2) emissions of at least 80% (compared to 1990 levels) by 2050 across the electricity generation, built environment and transport sectors;
- in parallel, **an approach to carbon neutrality in the agriculture and land-use sector**, including forestry, **which does not compromise capacity for sustainable food production**.

Alternative approaches to carbon neutrality

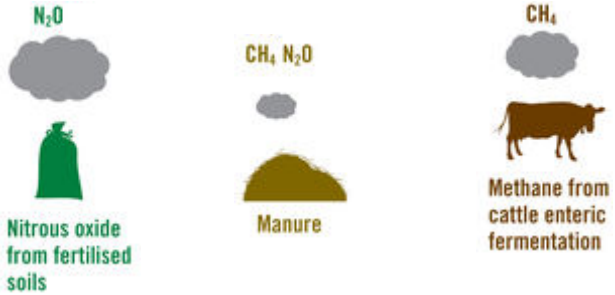


In practice, approaching carbon neutrality will require elements from both scenarios – 'integrated land management'

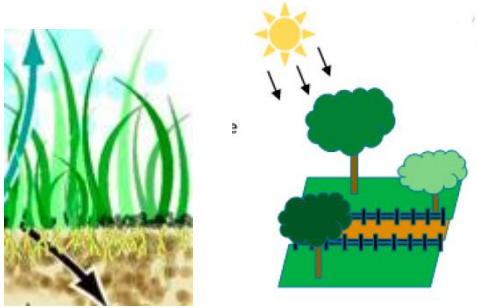
Source: ICF et al, Agriculture and LULUCF in the 2030 Framework, 2016

How to interpret carbon neutrality (1)

Source = Emissions

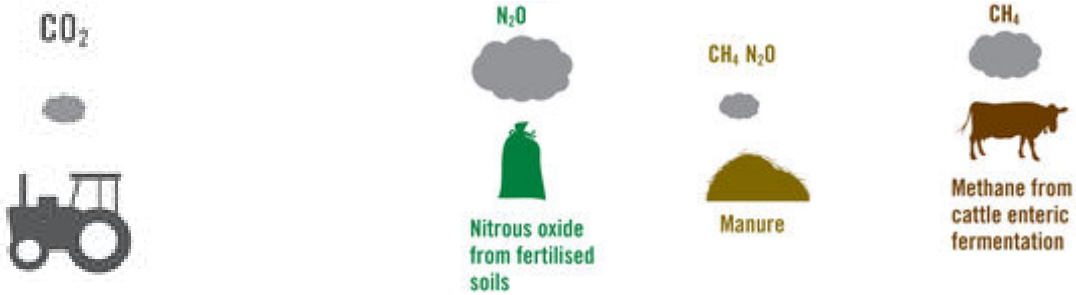


Sink = sequestration

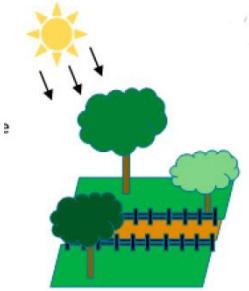


How to interpret carbon neutrality (2)

Source = Emissions



Offsets = sequestration + substitution



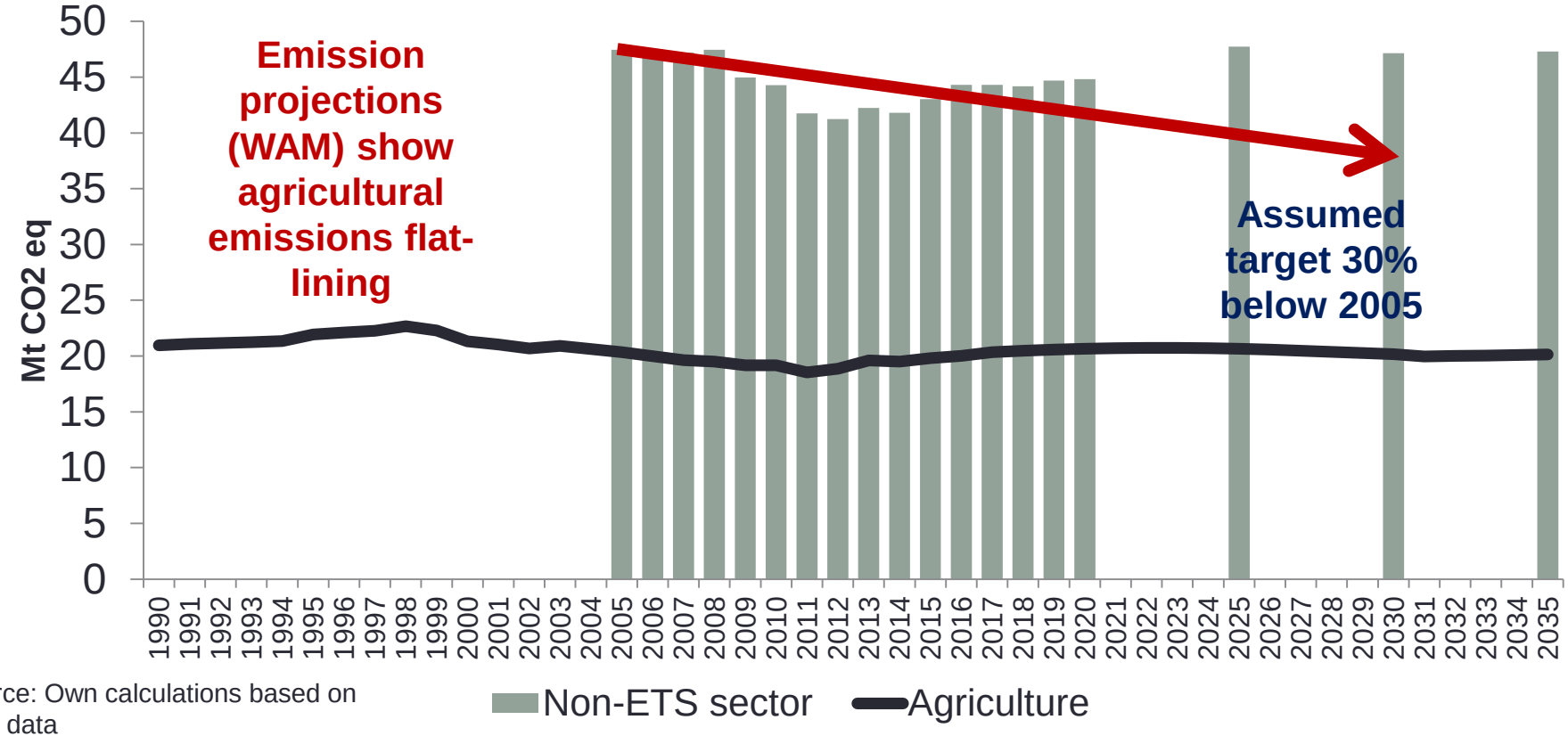
Is approach to carbon neutrality taking a leadership position?

- Yes, provided we work on both sides of the balance sheet (sources as well as sinks) at the same time
- Current best estimate for Ireland is that sinks will offset 35-25% of agricultural source emissions in 2030/2050
- To reduce net emissions we must also reduce source emissions
- Note that the contribution of sinks is restricted by EU legislation when counting towards our EU targets

First priority – reduce emissions through increased efficiency

- Lower emissions per unit of output = reduce carbon intensity of production
  - improved grassland management
  - Improved feed efficiency
  - Improved genetics
  - Improved animal health
  - Greater use of no-till and cover crops

But improving efficiency is not enough…



Source: Own calculations based on EPA data

How to interpret "… without compromising capacity for sustainable food production"

- "Climate policy must not hinder emission efficient food produced in Ireland"

- "Since agriculture is a main emitter of greenhouse gases, it is essential not to expand the national herd"

    - How to decide between these two positions?

Principles of efficient climate policy

- Make emission reductions by reducing that activity where there is the lowest economic cost of doing so
- Agricultural emissions are currently exempt from purchasing allowances (ETS sector) or carbon tax (non-ETS sector) and sinks only partially recognised
- This raises the efforts (and the costs) of meeting non-ETS target in buildings, transport and small industries
- If Ireland must purchase allowances each year to be compliant with 2030 target, then the taxpayer is providing a further subsidy to agricultural expansion

Objections to including agriculture in emissions regime

- There are great practical difficulties to applying a carbon price signal, either a tax or subsidy, in agricultural production
  - Biological nature of emissions
  - Direct measurement of emissions or sequestration is currently not possible on a per animal or per field basis
  - High transactions and monitoring costs

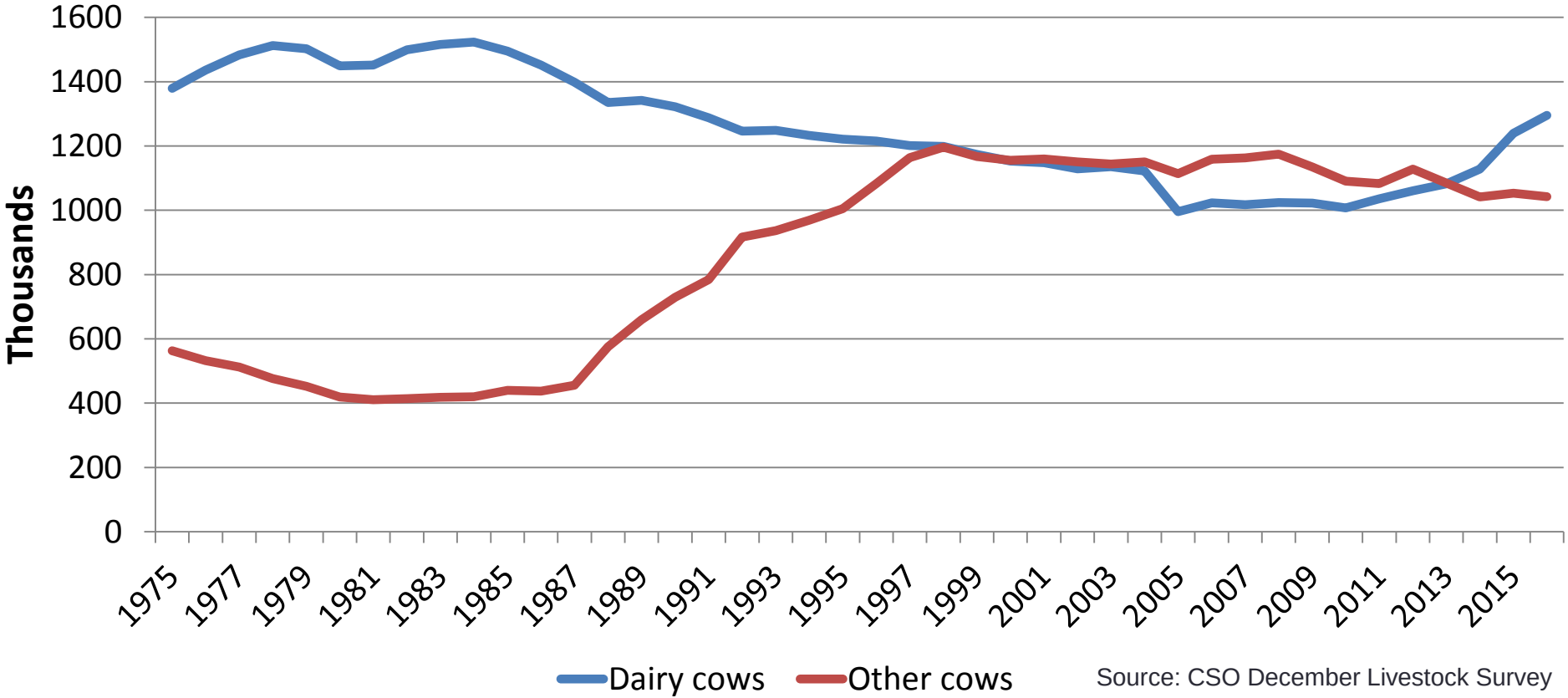
Objections to including agriculture in emissions regime

- Would reduce the competitiveness of Irish agricultural producers and lead to carbon leakage
  - Important advances always require someone to make the first move
  - Whether global emissions would rise would depend on where the substitute beef would be produced and under what conditions
  - International coordination can help to solve this issue
  - Farmers could be protected in interim by recycling tax revenue back to farmers

What would a sustainable agriculture look like?

- A reduction in carbon-emitting activities and expansion in activities that were less carbon-intensive or that helped to sequester carbon
  - Expanded area under forestry
  - Further reduction in suckler cow numbers
  - Greater emphasis on energy crops
  - Changes in cropping and livestock systems

Cow numbers in Ireland, 1975-2016



Source: CSO December Livestock Survey

Financial performance cattle enterprises per hectare

	Single suckling		Cattle finishing	
	2015	2016	2015	2016
Gross output	920	886	1,074	1,031
Direct costs	456	424	613	583
Overhead costs	446	448	492	495
Net margin	-18	18	-31	-47

Source: Teagasc, Outlook 2017

Climate leadership – what would it look like?

- No country in the world has yet included agricultural emissions within an emissions regime
  - Voluntary approaches supported by subsidies
  - The New Zealand example
- Global action required on food waste and shifts towards less meat-intensive diets in developed countries
- Irish agriculture will face particular challenges in coming years
- Pricing carbon in agriculture - is this the direction we should go?

THANK YOU