

Fertiliser Programmes to Save Money and Emissions on Dairy and Drystock Farms

Dr. Seamus Kearney

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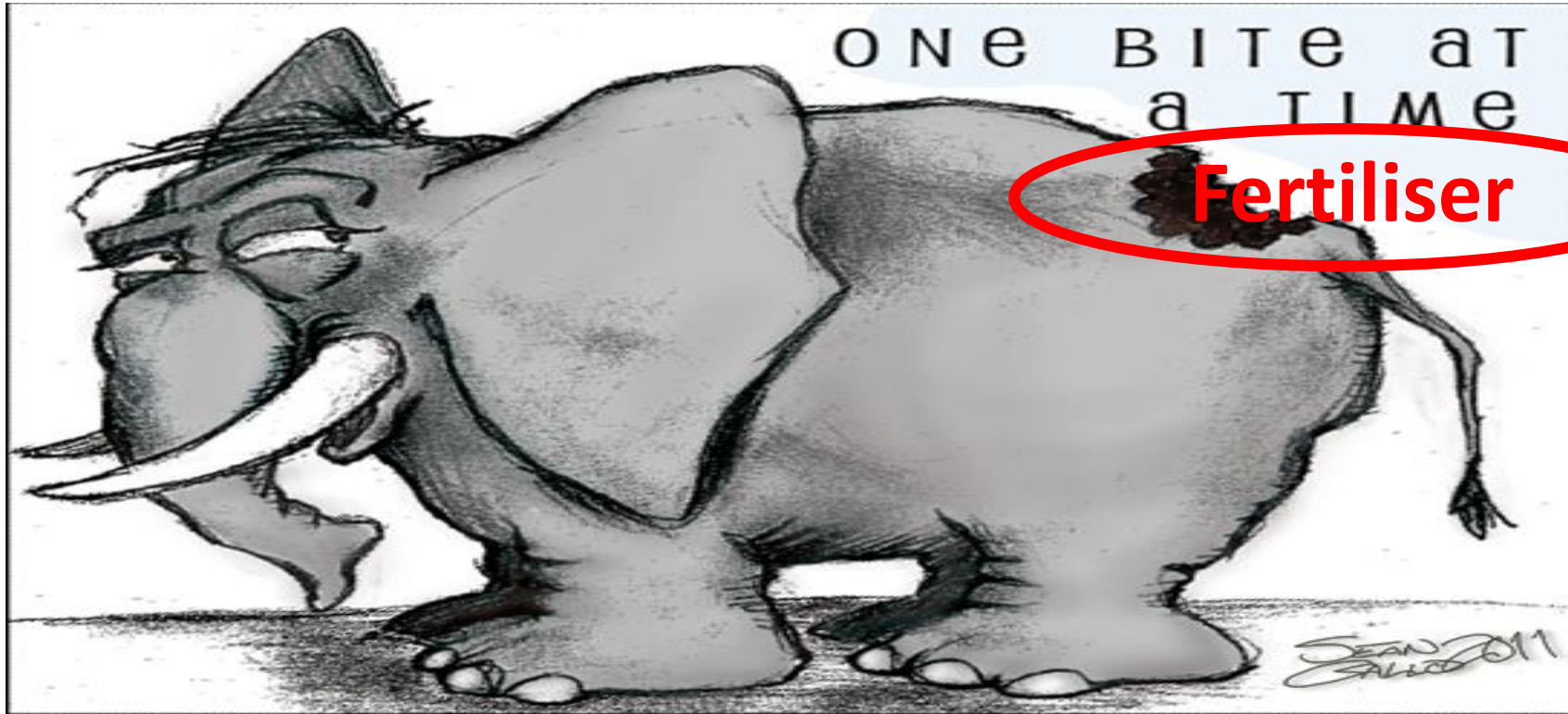


The Signpost Programme is a collaborative partnership of farmers, industry and state agencies working together for climate action. For further details please refer to www.teagasc.ie/signpost



Introduction

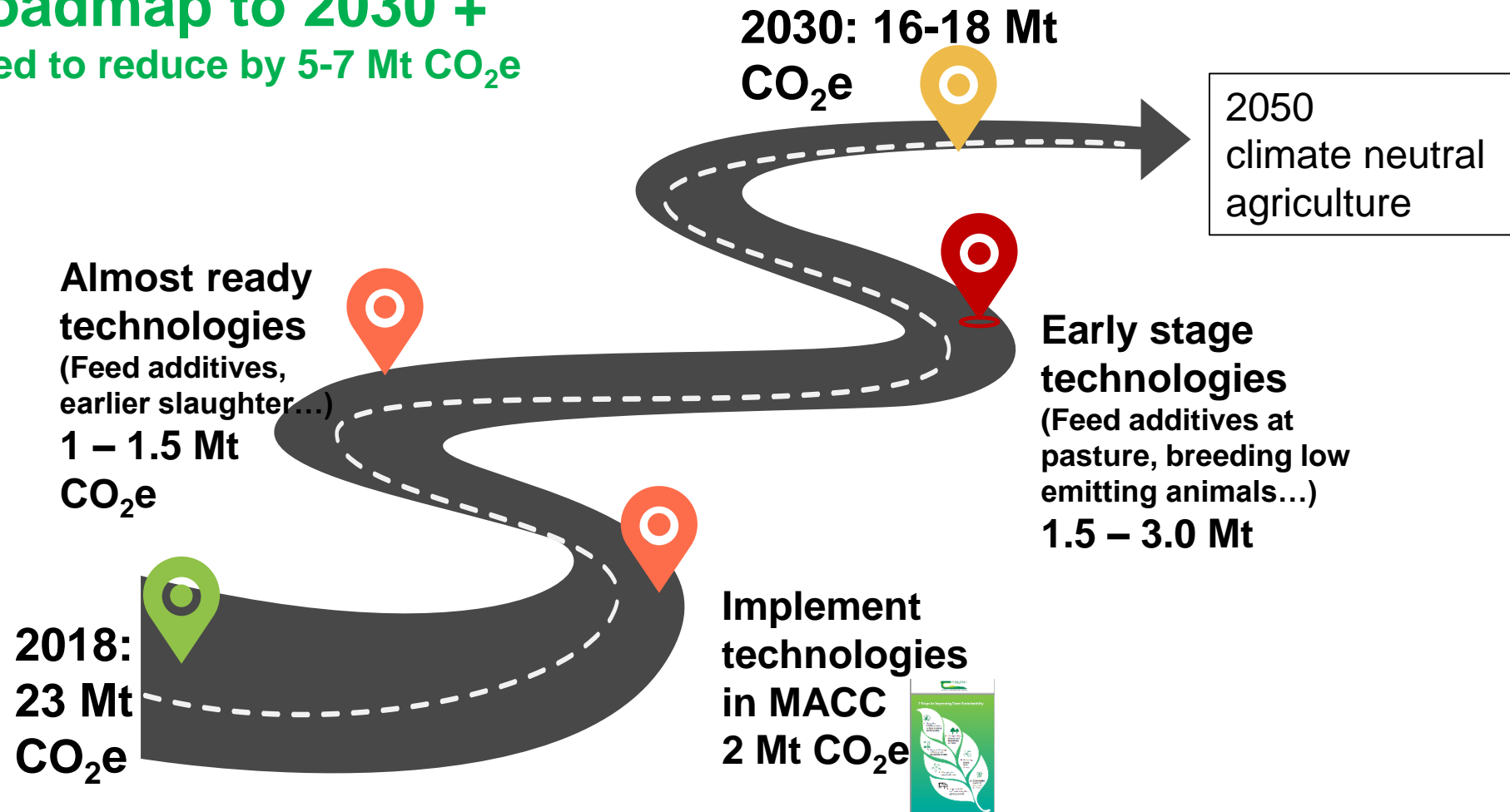
- Where do fertiliser quantity and type fit in to national policy
- Changing our thinking about fertiliser (ratings) emissions
- Save Dairy farmers money for 2022
- Saving Drystock farmers money for 2022
- Plan of action for 2022



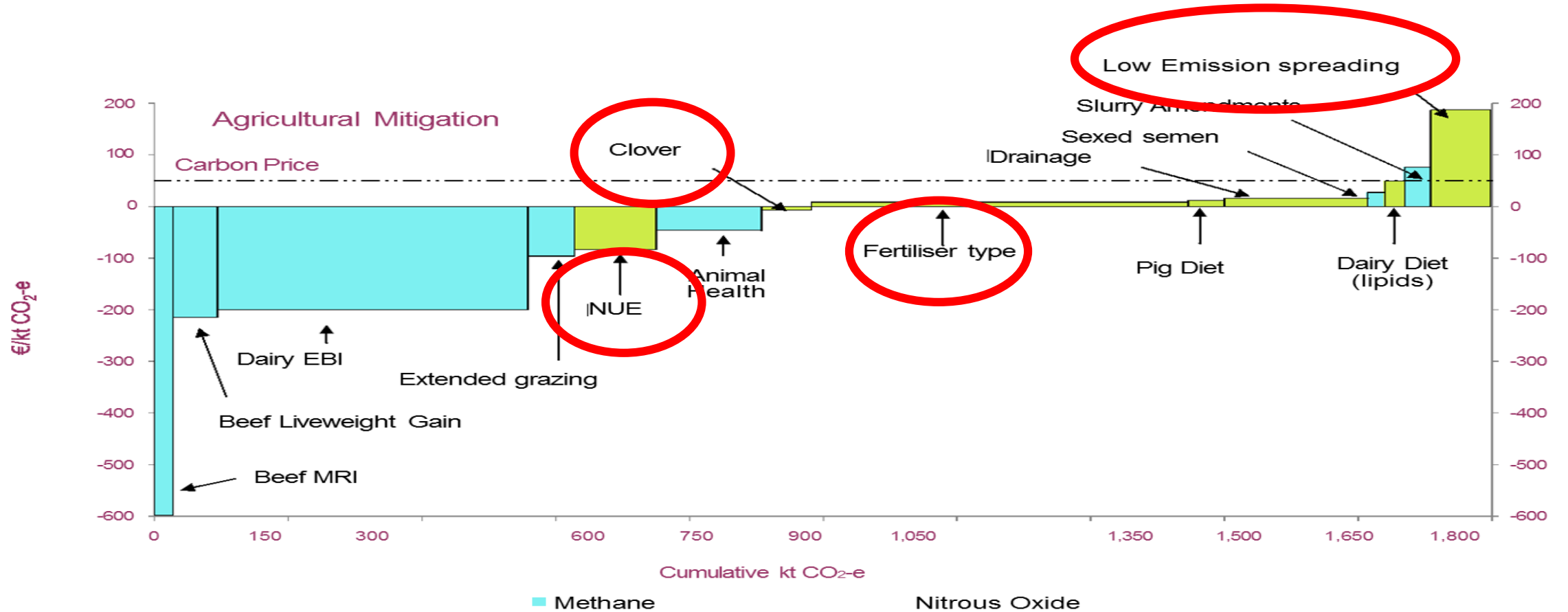
22% to 30%

Roadmap to 2030 +

Need to reduce by 5-7 Mt CO₂e



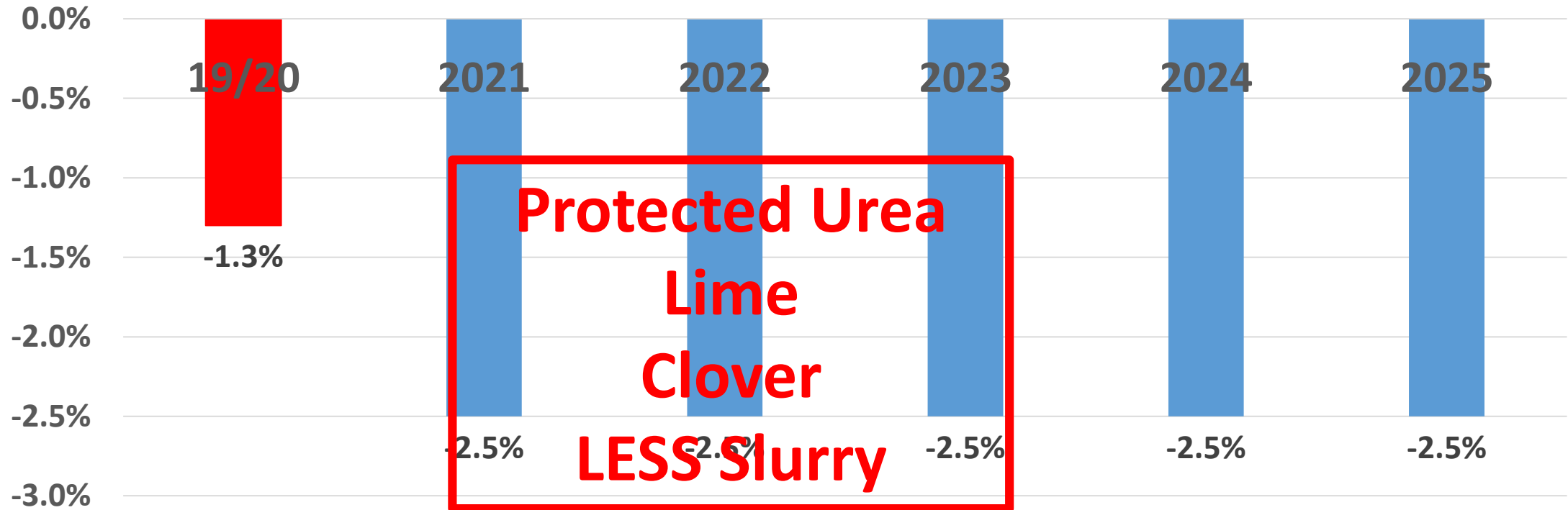
Teagasc – Marginal Abatement Cost Curve (MACC Curve)



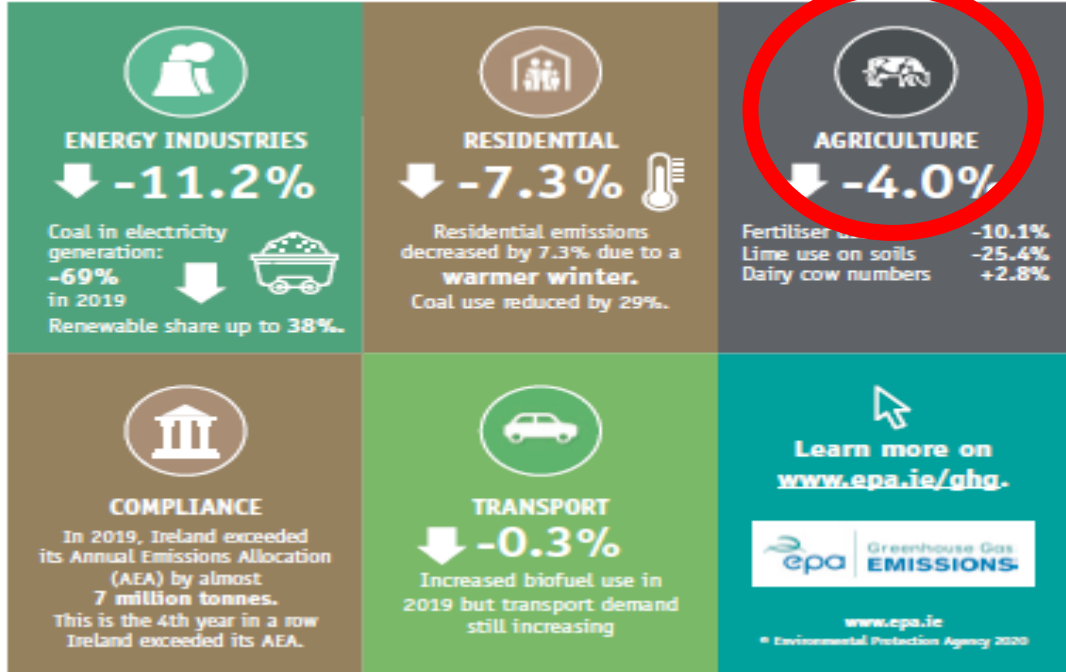
Importance of Fertiliser Type & Quantity

	MACC	% of MACC	2021 Climate Action Plan
Protected Urea	50% CAN switched	28%	65% CAN switched
Lime, P & K	22% of land to receive 3 tons/acre	6%	Reduce Chemical N by 15% by 2025 20% by 2030 From 2018
Clover	25% Beef Farmers 15% Dairy Farmers	4%	
LESS	50% of Slurry	6%	90% of Slurry
Total	0.8 M Tons Co2 Eq	44%	

Agricultural Greenhouse Gas Emissions



2019

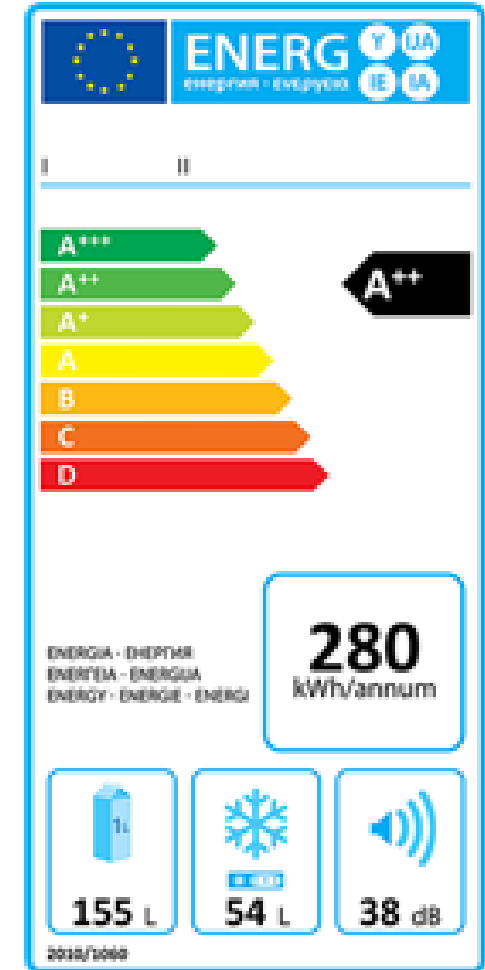


2020



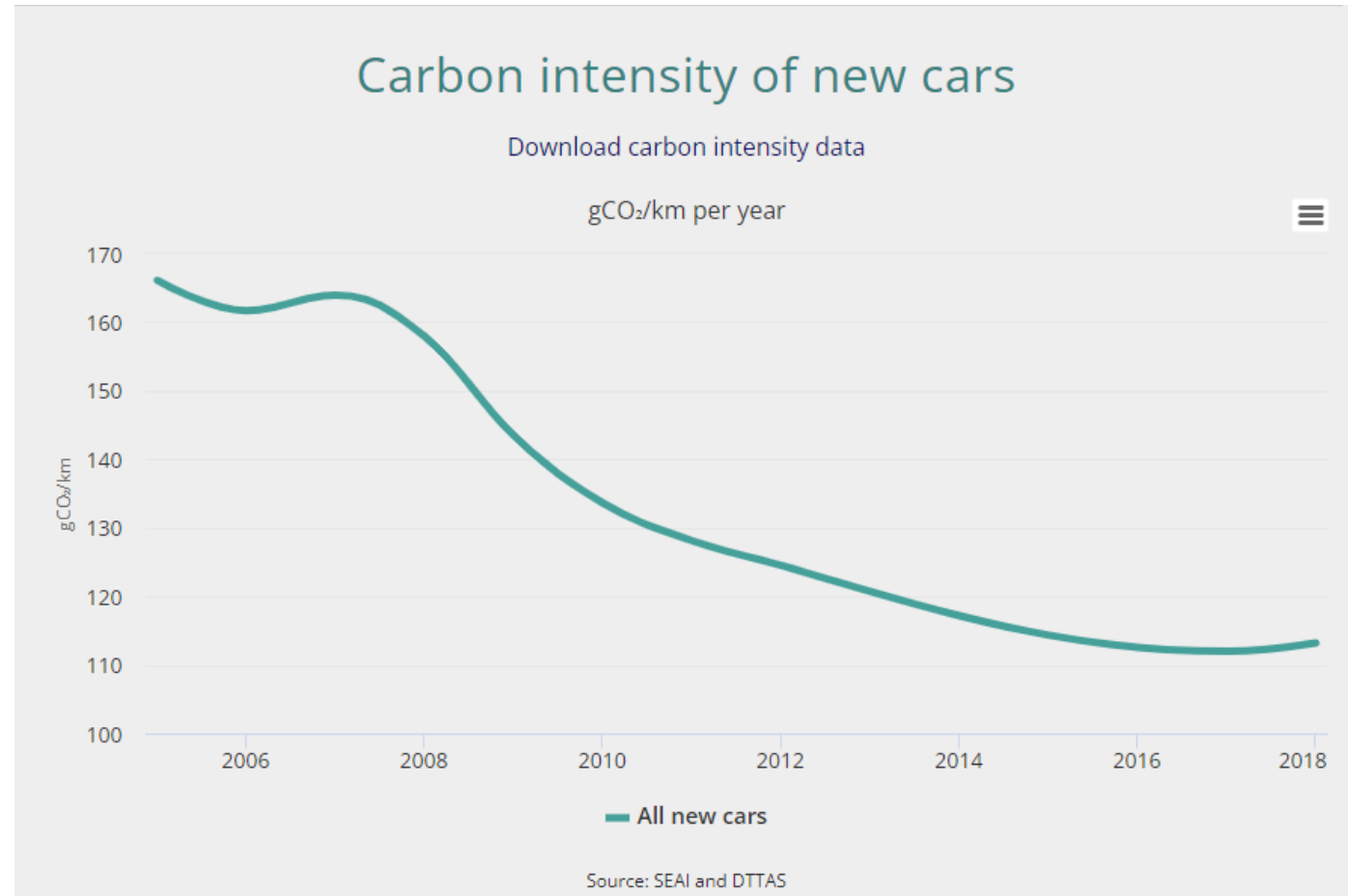
Product Ratings

- Washing Machines
- 88% are A+++ Rated



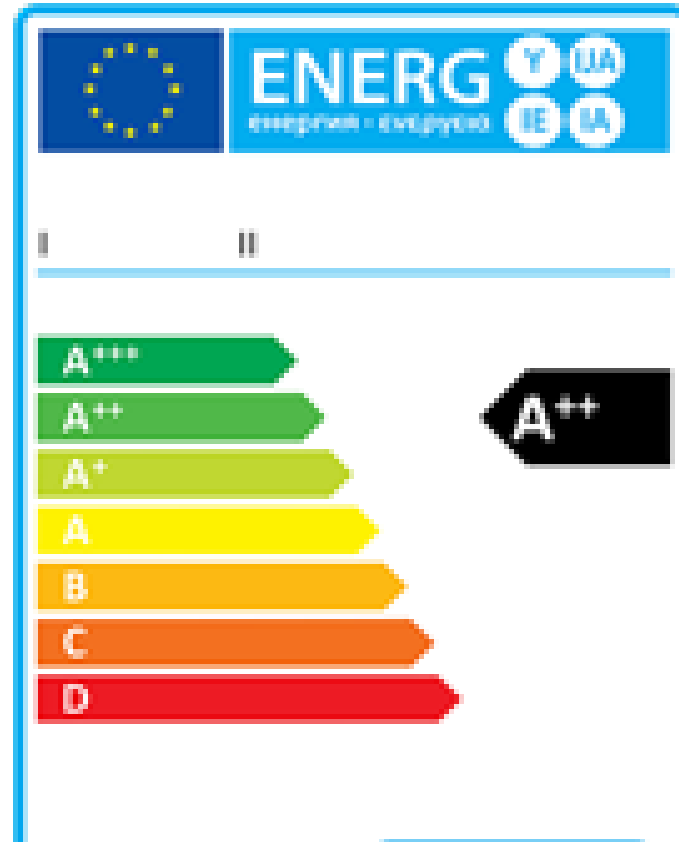
Product Ratings

- Cars
- 32% more efficient/km
- Between 2007 and 2017



Product Ratings

- N Fertiliser Types
- **Difference**
 - Best Rating
 - Cheapest Product



A+++ Protected Urea

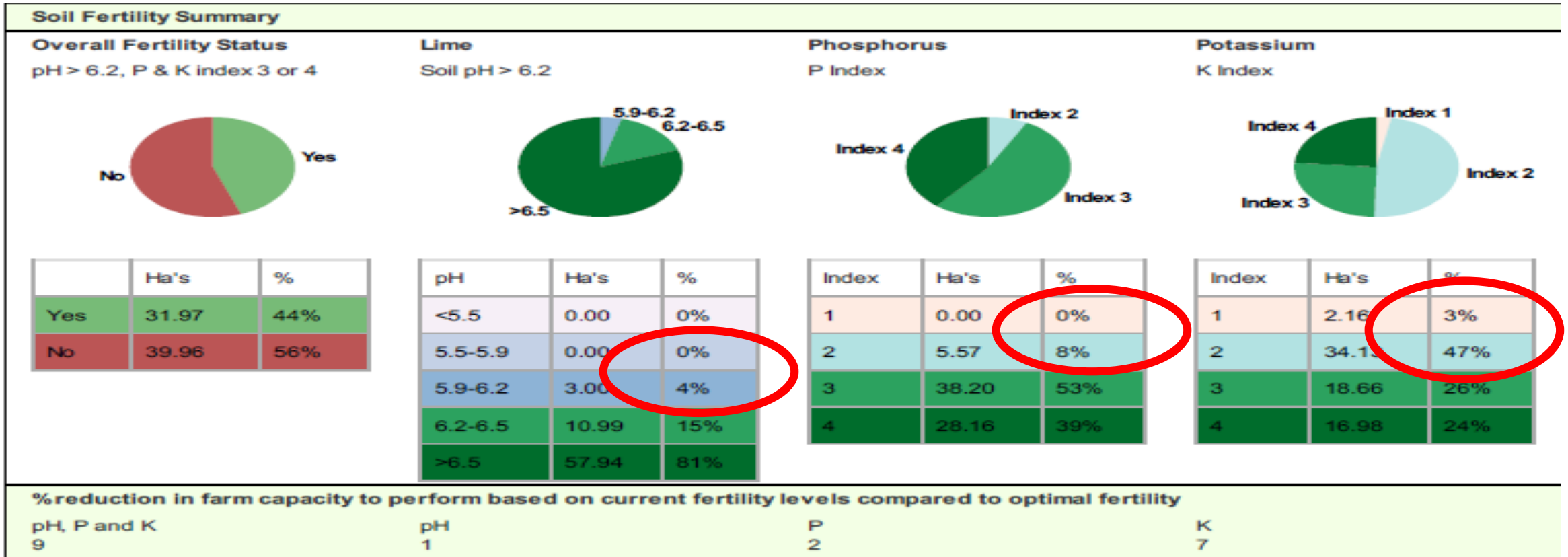
A Urea

C CAN

Dairy Case Study (Average Herd Size)

Stock Numbers		
90 Cows	Land Farmed	50 ha
22 Heifers	Stocking Rate	2.26 LU/ha
22 Calves		
1 Bull	Fertiliser Used	11,150 kg N
113 Livestock Units		223 kg N/ha

Nutrient Plan for 2022



Dairy Case Study

2021 Fertiliser Used	N kg	P kg	K kg
1 Ton Cut Sward	240	25	100
1 Ton CAN	270	0	0
Cut Sward 24 Tons	5760	600	2400
CAN 20 Tons	5390		
Total Nutrients	11150	600	2400

Dairy Case Study

2022 Fertiliser Used	Price	Option 1	Option 2	Option 3
Cut Sward	€835	24.0 Tons	24.0 Tons	
18:6:12	€770			10.0 Tons
CAN	€700	20.0 Tons		
Protected Urea	€960		11.7 Tons	20.3 Tons
50% K (Murate of Potash)	€715			2.4 Tons
Total Nutrients		11150 N	600 P	2400 K

Dairy Case Study

2022 Fertiliser Used	Option 1	Option 2	Option 3
Fertiliser Combination	Cut Sward & CAN	Cut Sward & Protected Urea	18:6:12 & Protected Urea
Cost	€34,014	€31,289	€28,929
2022 Savings to Farmer		€2,725	€5,084
% N as Straight N	48%	48%	84%
Savings of €101/ha (€41/acre) or 1 c/litre of milk			

Dairy Case Study

2022 Fertiliser Used	Option 1	Option 2	Option 3
Fertiliser Combination	Cut Sward & CAN	Cut Sward & Protected Urea	18:6:12 & Protected Urea
Tons Co2 Eq	54	34	17
Saving to Planet Tons Co2 Eq		20	37
Savings of 37 Tons Co2 Eq or 7 Dairy Cows			

Beef Case Study (Average Farm Size)

Stock Numbers		
38 Cows	Land Farmed	42 ha
36 Cattle to 2yrs	Stocking Rate	1.78 LU/ha
36 Calves		
1 Bull	Fertiliser Used	5,160 kg N
75 Livestock Units		122 kg N/ha

Beef Case Study

2021 Fertiliser Used	N kg	P kg	K kg
1 Ton Cut Sward	240	25	100
1 Ton CAN	270	0	0
Cut Sward 8 Tons	1920	200	800
CAN 12 Tons	3240		
Total Nutrients	5160	200	800

Beef Case Study

2022 Fertiliser Used	Price	Option 1	Option 2	Option 3
Cut Sward	€835	8.0 Tons	8.0 Tons	
18:6:12	€770			3.3 Tons
CAN	€700	12.0 Tons		
Protected Urea	€960		7.0 Tons	9.9 Tons
50% K (Murate of Potash)	€715			1.0 Tons
Total Nutrients		5160 N	200 P	800 K

Beef Case Study

2022 Fertiliser Used	Option 1	Option 2	Option 3
Fertiliser Combination	Cut Sward & CAN	Cut Sward & Protected Urea	18:6:12 & Protected Urea
Cost	€15,080	€13,442	€12,798
2022 Savings to Farmer		€1,638	€2,282
% N as Straight N	63%	63%	88%
Savings of €54/ha (€22/acre) or 18 c/kg carcass weight			

Beef Case Study

2022 Fertiliser Used	Option 1	Option 2	Option 3
Fertiliser Combination	Cut Sward & CAN	Cut Sward & Protected Urea	18:6:12 & Protected Urea
Tons Co2 Eq	25	13	7
Saving to Planet Tons Co2 Eq		12	18
Savings of 18 Tons Co2 Eq or 4 to 5 Suckler Cows			

Summary

- Fertiliser quantity and type are main technologies to 2025
- Reduce Chemical N
 - LESS Slurry/Lime/Clover
- Incorporate Protected Urea
 - Switch CAN to Protected Urea
 - Use higher P & K compounds to maximise Protected Urea
- Environmental gains = Financial Gains



Spread Protected Urea



Save €€€€€



Save Emissions



Be Happy