

The Potential of the Carbon Navigator

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The Problem

Sources of Greenhouse Gasses on the Farm



Methane 62%

Nitrous Oxide 35%

Carbon Dioxide 3%



- ❑ >30% of Irish GHG emissions
- ❑ Emissions reductions target
 - ❑ -20% → 40%
- ❑ Difficult to mitigate
 - ❑ Not simply energy` - Bio-Chemical Processes
 - ❑ Potent Gasses
- ❑ Rapid expansion of the industry –
Particularly dairy
- ❑ Plus and minus on farms
- ❑ Difficult to regulate

The Objective

To improve the carbon efficiency of Irish Agricultural Produce

- ❑ Develop awareness – Farmers and support professionals
- ❑ Identify mitigation potential at farm level
- ❑ Focus on negative cost options – win-win
 - ❑ Quantify financial benefits
 - ❑ Focus on efficiency
- ❑ Identify pathways for action
 - ❑ Targets
 - ❑ Plan of action
- ❑ Track improvement
- ❑ Support marketing of Irish Product - Price



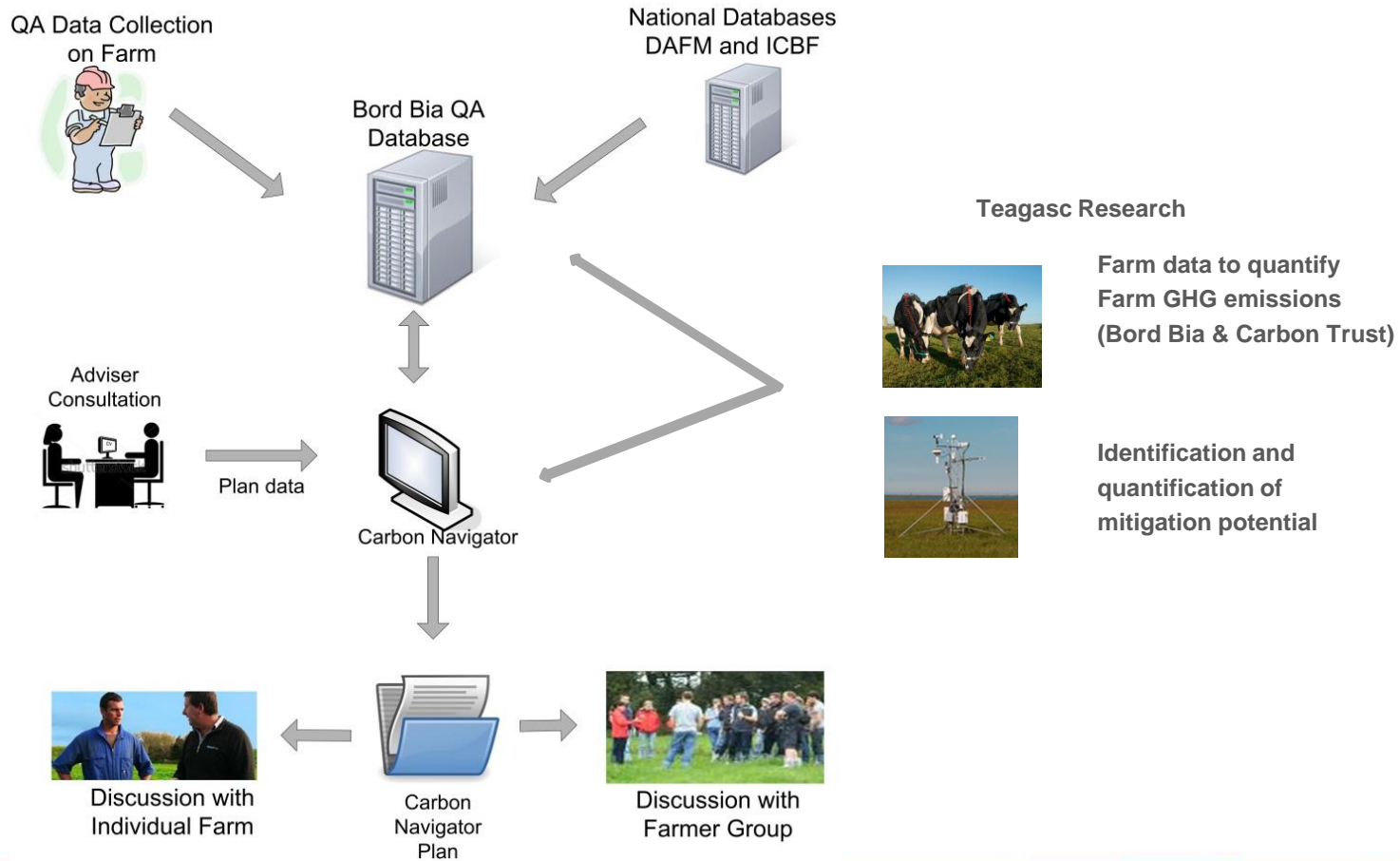
Farmer Name	<input type="text" value="Pat Murphy"/>	Average number of dairy cows	<input type="text" value="100"/>
County	<input type="text" value="Kilkenny North"/>	Average number of cows planned (3 years)	<input type="text" value="130"/>
Soil Type	<input type="text" value="Moderately Drained"/>	Livestock Units Other Stock	<input type="text" value="60"/>
Area farmed (ha)	<input type="text" value="85"/>	Livestock Units Other Stock (3 years)	<input type="text" value="30"/>
Plan Year	<input type="text" value="2014"/>		

Potential impact of meeting all targets

-12.9% **+€10957**

Year 2014		Current	Target	Chart	GHG change	€ benefit
Grazing season length	Turnout Date - Part Time	<input type="text" value="10/Mar"/>	<input type="text" value="01/Mar"/>		-2.9%	+€4590
	Turnout Date - Full Time	<input type="text" value="20/Mar"/>	<input type="text" value="15/Mar"/>			
	Housing Date - Part Time	<input type="text" value="01/Nov"/>	<input type="text" value="07/Nov"/>			
	Housing Date - Full Time	<input type="text" value="01/Nov"/>	<input type="text" value="15/Nov"/>			
EBI	EBI	<input type="text" value="85"/>	<input type="text" value="115"/>		-6.0%	+€3900
Nitrogen Efficiency	Stocking rate (Kg N / Ha grass)	<input type="text" value="160.00"/>	<input type="text" value="160.00"/>		-1.7%	+€1045
	Chemical N used (Kg N / per Ha) : Urea	<input type="text" value="20.00"/>	<input type="text" value="50.00"/>			
	Ammonium N	<input type="text" value="140.00"/>	<input type="text" value="110.00"/>			
	Import (+) or Export of Org Manure N/Ha	<input type="text"/>	<input type="text"/>			
	Meal kedingg Kg / Cow	<input type="text" value="600.00"/>	<input type="text" value="600.00"/>			
	Milk output / cow (Kg milk solids)	<input type="text" value="400.00"/>	<input type="text" value="420.00"/>			
Slurry Spread Timing	% in Spring	<input type="text" value="40"/>	<input type="text" value="60"/>		-1.2%	+€154
	% Summer following 1st cut	<input type="text" value="60"/>	<input type="text" value="40"/>			
	% Later in Summer	<input type="text" value="0"/>	<input type="text" value="0"/>			
	Application Method	<input type="text" value="Splash Plate"/>	<input type="text" value="Splash Plate"/>			
Energy Efficiency	Plate Cooler Present	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		-1.0%	+€1268
	Average Temperature of Milk after Plate Cooler	<input type="text" value="20.0"/>	<input type="text" value="14.0"/>			
	Variable Speed Vacuum Pump	<input type="checkbox"/>	<input checked="" type="checkbox"/>			
	Method of Water Heating	<input type="text" value="Electricity"/>	<input type="text" value="Oil"/>			

The Carbon Navigator Partnership – DATA Model



Key Issues for Data Model

- ❑ Co-operation and Integration
- ❑ Efficiency in Process
 - ❑ Data hungry user input does not work in Adviser Farmer Context
 - ❑ Permission based access to DAFM and ICBF databases (Land, cropping animals)
 - ❑ Sustainability data collection integrated into Quality Assurance Scheme
- ❑ “Perfect is the enemy of good”
- ❑ Carbon Navigator – Does not count Carbon at farm level
- ❑ Focus on Setting Targets and looking at actions needed to achieve
- ❑ Support for engagement
 - ❑ DAFM Knowledge based support – Available service and incentivisation