Challenge 1; Transport

Transport is the single largest emitter after agriculture, with private cars accounting for 22.1% of Co. Kerry's energy demand in 2018, emitting 194 ktonne of CO_2 (3%)

- How might Co. Kerry reduce its reliance on petrol / diesel?
- What can be done to encourage people to try new or different forms of transport?

Co. Kerry 2018 Vehicle Stock	No. of vehicles[1]	Avg. km per year[1]	Avg. kWh / km	Private Cars	No. of vehicles[1]	Avg. km per year[1]	Avg. kWh / km
Private cars	71,897	16,665	0.665	**Diesel**	38,348	20,617	0.648
Freight				**Petrol**	32,150	12,817	0.694
Light goods vehicles[2]	10,907	19,946	1.314	**Hybrid**	1,327	13,444	0.46
Heavy goods vehicles[2]	901	45,068	2.621	**EV**	722	13,444	0.15

Example calculations

The average commute in Kerry is 16.97 km [3]. That will equate to;

16.97 X 2 X 5 = 169.7 km per week or 169.7 X 47 (work weeks in a year) = 7,975.9 km per year

So, for every person that switches to cycling instead of driving, the associated CO_2 savings are as follows;

Diesel car –

7,975.9 km X 0.648 kWh / km = 5,168.38 kWh / year

5,168.38 kWh X 0.264 kgCO_2 / kWh = 1,364.45 kg CO2

7,975.9 km / 20,617 km = 38.6% savings

Petrol car –

7,975.9 km X 0.694 kWh / km = 5,535.27 kWh / year

5,535.27 kWh X 0.252 kgCO_2 / kWh = 1,394.89 kg CO2

7,975.9 km / 12,817 km = 62.22% savings

In 2016 there were 98 commuters who lived in Dingle and 810 people would travel into Dingle to work [4]. Being a rural town, it is currently very difficult to replace with cycling or walking. However, for every petrol car that switches to an electric vehicle, the annual reduction is currently;

12,617 km x 0.694 kWh / km X 0.252 kgCO2 / kWh = 2,207 kg CO2*

13,444 km x 0.15 kWh / km X 0.3754 kgCO_2 / kWh = 757 kg CO2*

2,207 – 757 = 1,4850 kg CO2

**provided in supplementary information*

Useful sources of information

[1] Transport Omnibus 2018 - Road Traffic Volumes

[2] Irish bulletin of driver statistics 2019

[3] Census of Population 2016 – Profile 6 Commuting in Ireland

CSO National Travel Survey 2019

[4] http://census.cso.ie/p6map41/