

Made in Winchester

How we produce CO_2

This presentation was prepared by Phil Gagg, WinACC trustee, for an event on 7 December 2019.

This presentation looks at the Winchester context of the day's discussion:

- The scale of the problem in Winchester District
- Where emissions in Winchester District come from

Data is drawn from the following sources:

For CO_2 emissions

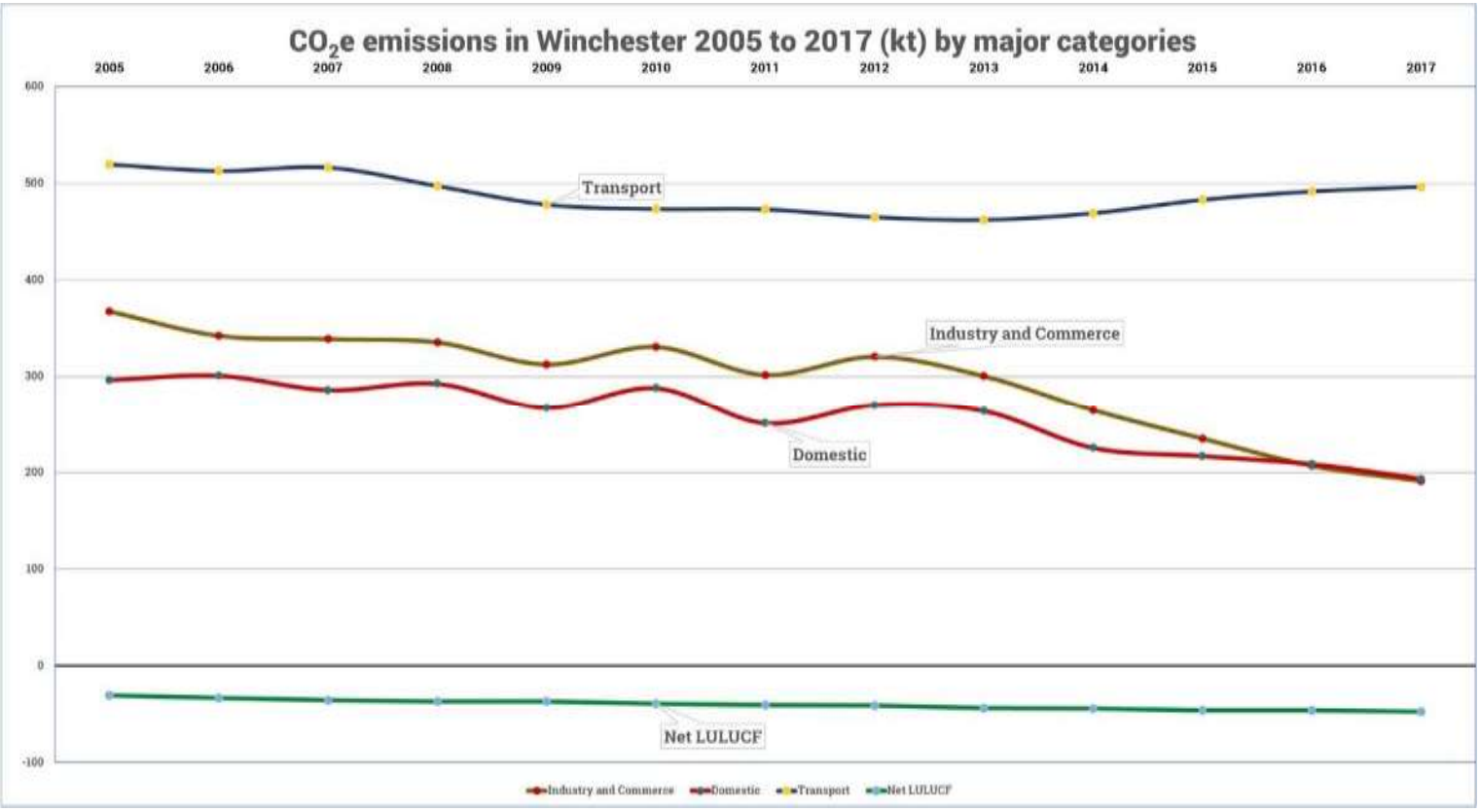
https://www.gov.uk/government/collections/uk-local-authority-and-regional-carbon-dioxide-emissions-national-statistics

For energy consumption

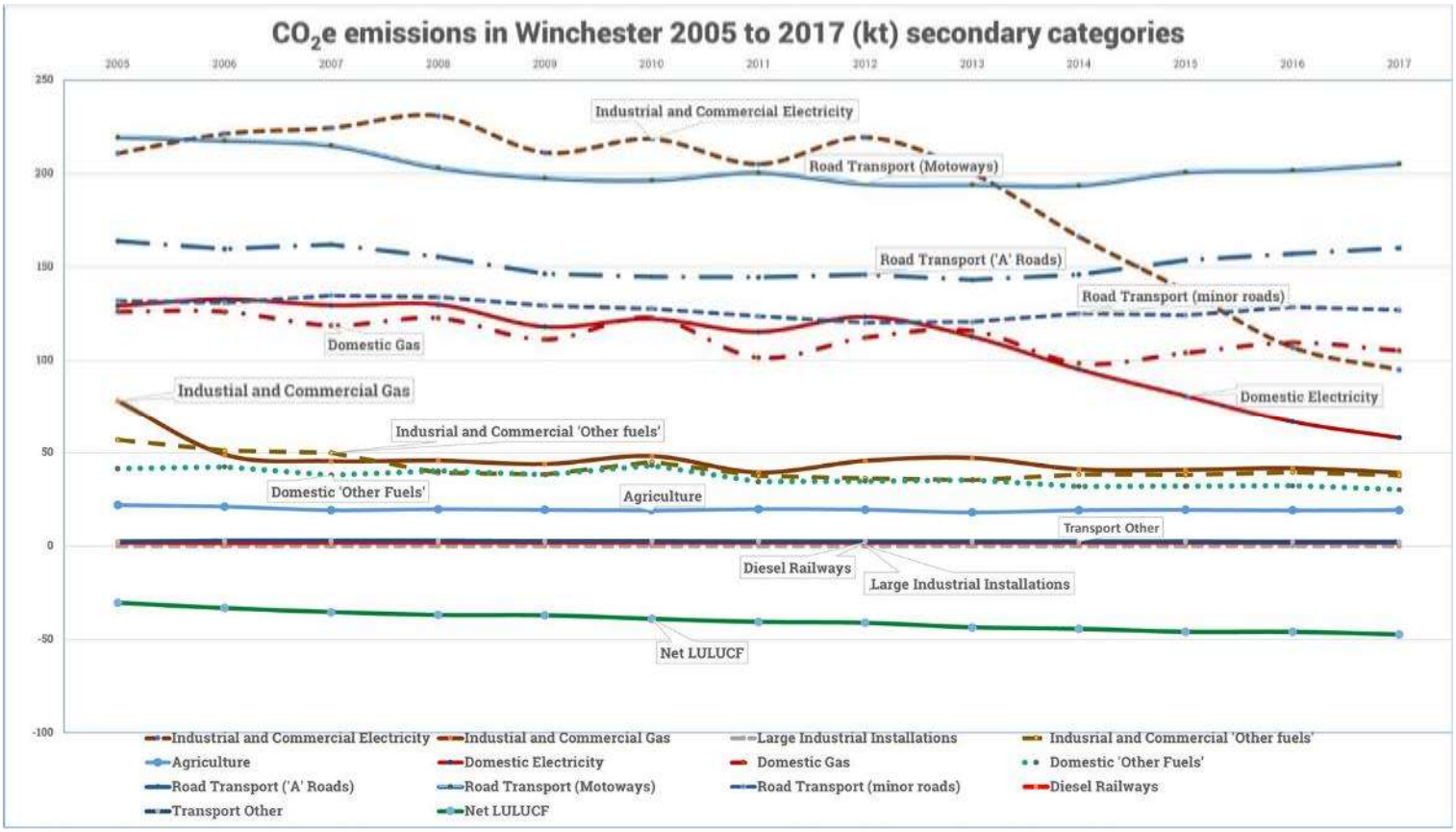
https://www.gov.uk/government/collections/total-final-energy-consumption-at-sub-national-level

For imported emissions

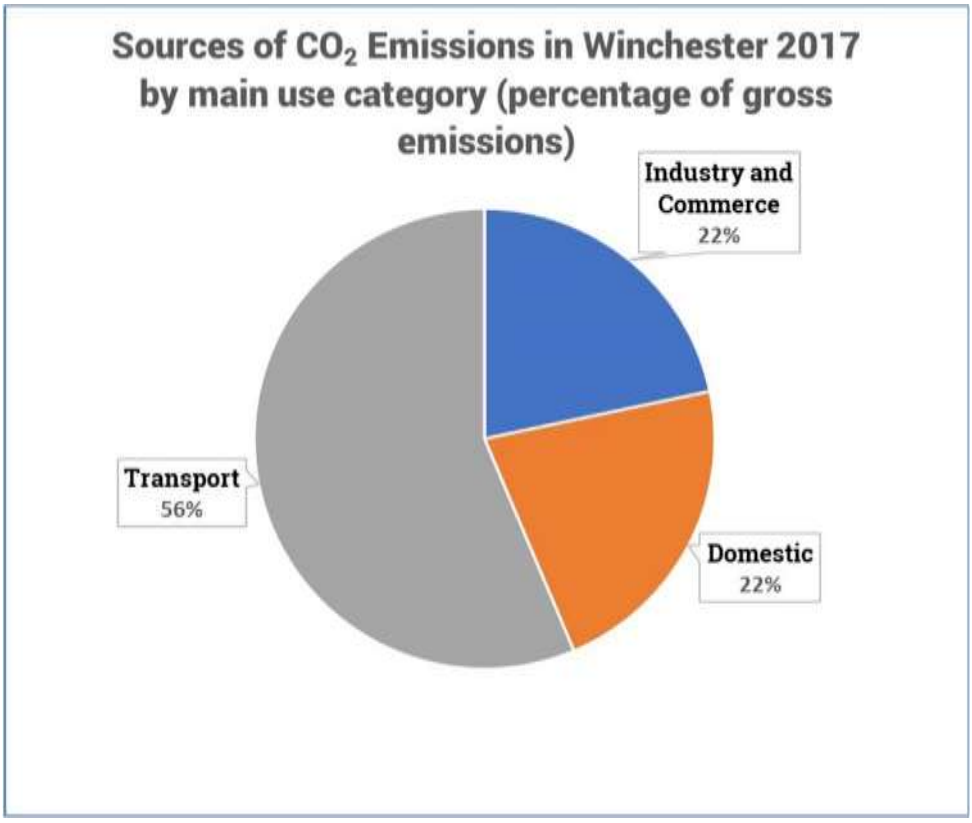
https://www.ons.gov.uk/economy/nationalaccounts/uksectoraccounts/compendium/economicreview/october2019/thedecouplingofeconomicgrowthfromcarbonemissionsukevidence



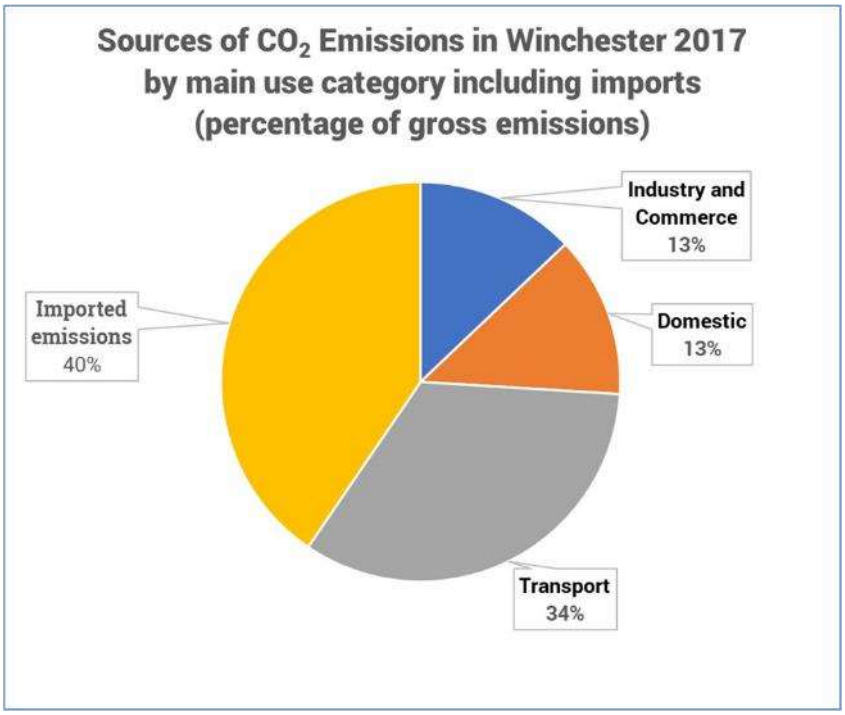
Transport produces the most emissions
(Transport includes all transport, whether by households or business)
Transport emissions are still growing – cars are getting bigger though engines are more efficient
Emissions from industrial and domestic use are reduced – more electricity now comes from renewables and less from burning coal



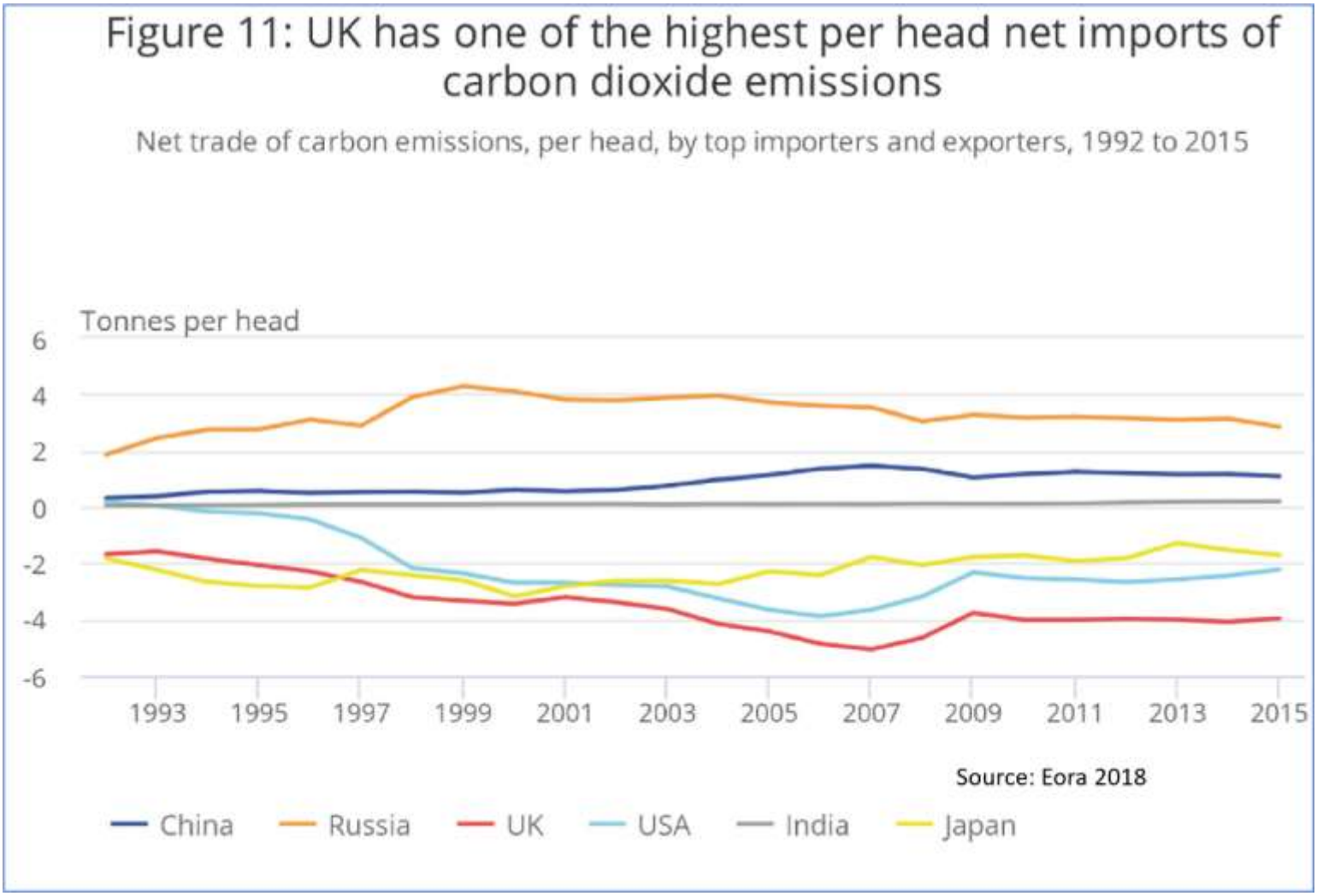
- Emissions from all categories of road are very high and growing
- Domestic gas varies according to winter temperature
- Land use (net LULUCF) is negative because land capturers more CO_2 than it emits. Farming emissions aren't counted under LULUCF but under industry. The negative is very small compared with most positive emissions categories



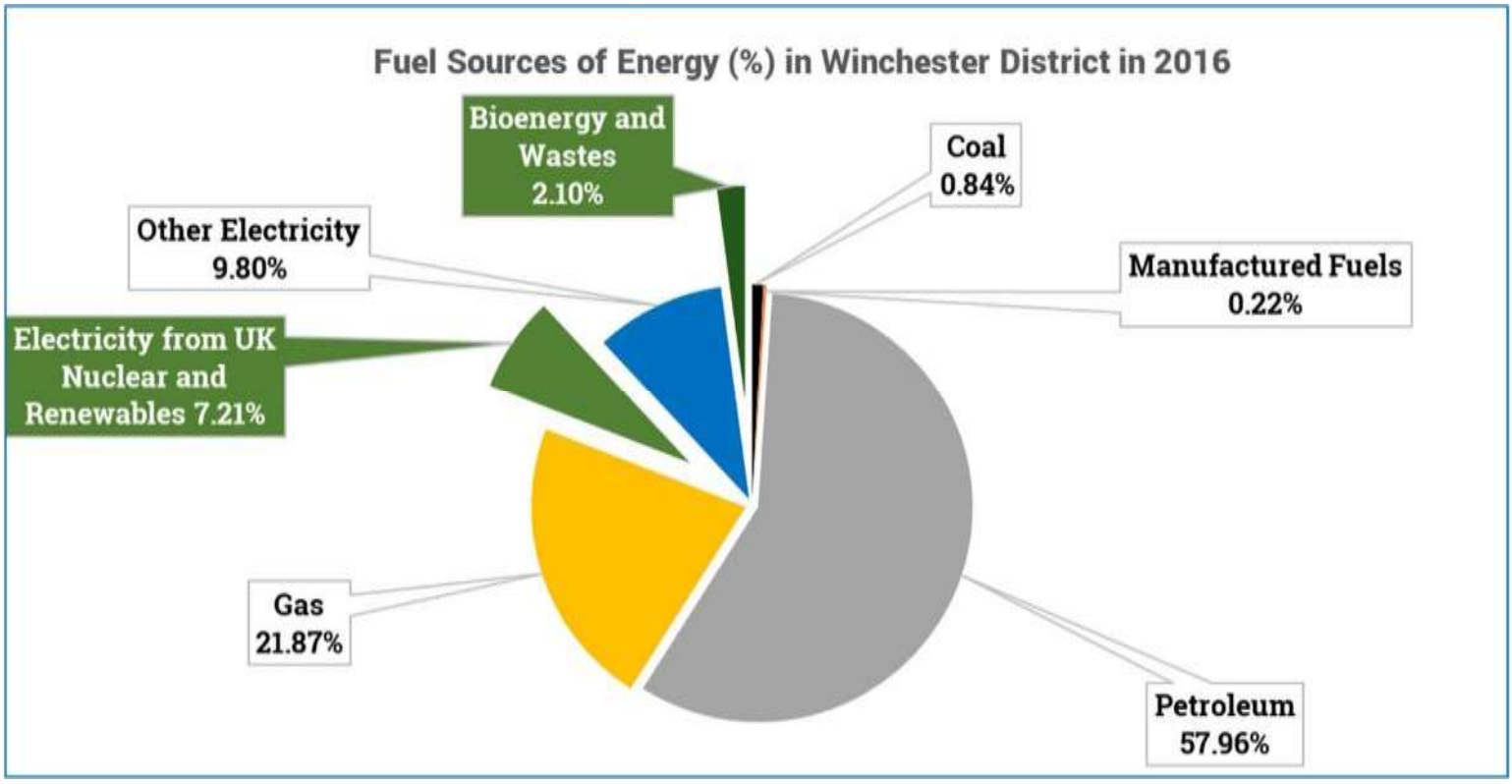
- Road transport dominant at 56%
- Industry and domestic are equal – and together are less than half



- But "imported emissions" are the biggest of all. These are emissions caused by things made elsewhere and imported to Winchester – most of what we buy e.g. white goods, computers, clothes, and services we buy in from abroad
- Greta Thunberg says we do not tell the truth unless we count imported emissions
- Imported emissions are based on UK estimate per person by Eora; we have compared them with the internal level of emissions per person reported by the government
- Europe is our main source, but they also are imported from SE Asia and China



- This graph shows exported emissions minus imported emissions, which gives a net figure. So the more emissions per person a country imports compared to the emissions they export, the lower their line on the graph.
- UK has the lowest line – in other words, we import far more than we export.

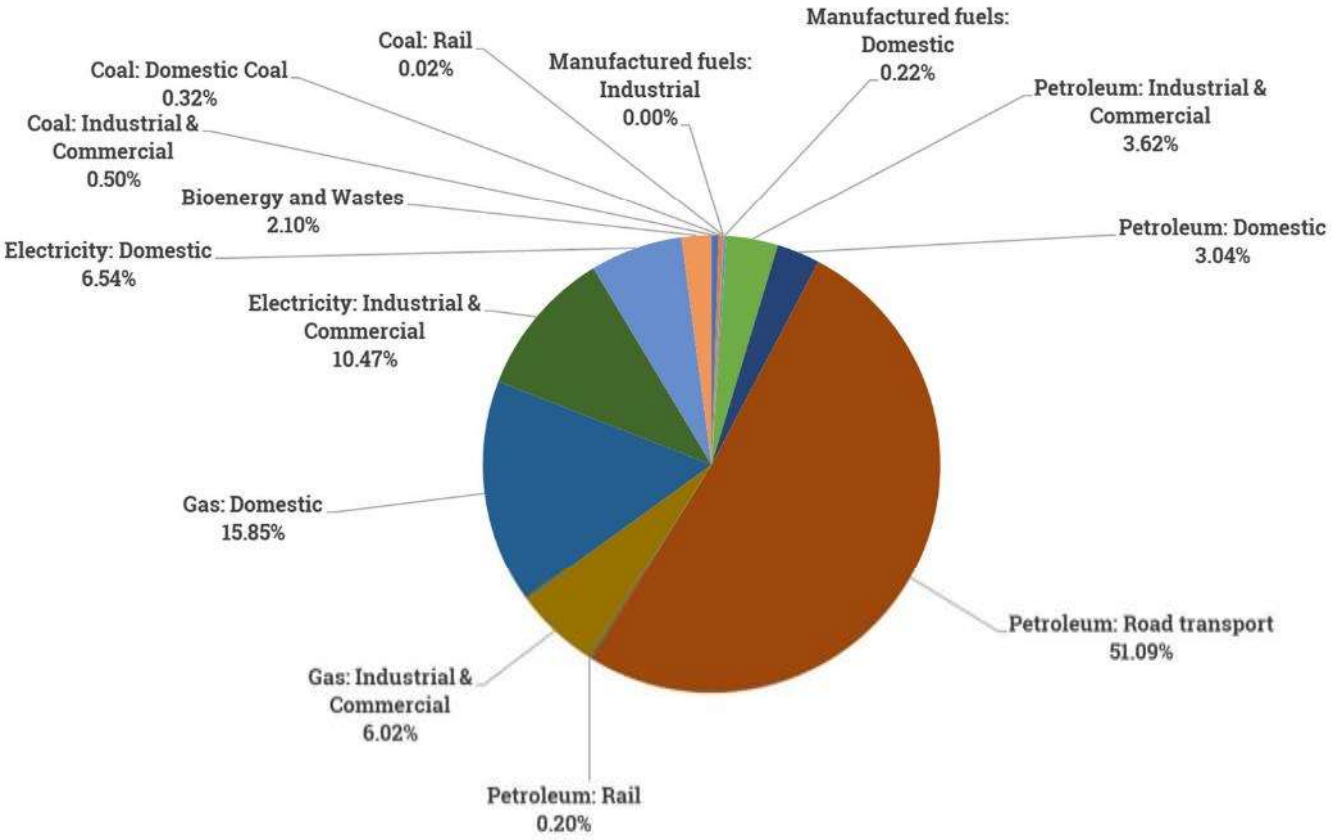


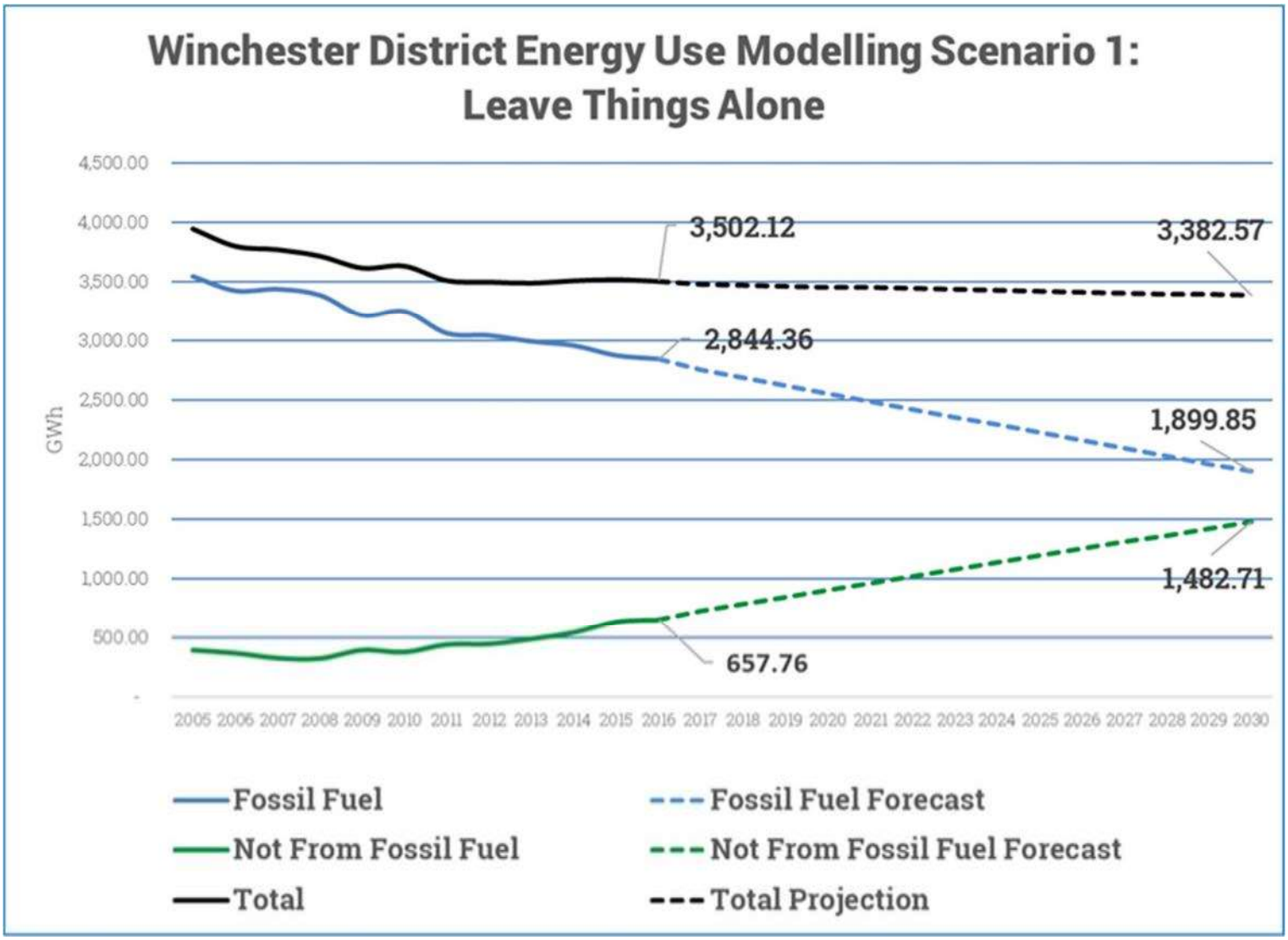
- If we don't cut the total fuel we use, we'll need a tenfold increase in clean energy to replace the dirty energy

We can cut because:

- Electric vehicles convert energy into movement 3 to 5 times more efficiently than burning petrol / diesel
- Air source heat pumps convert energy to heat 3 times more efficiently than gas heating
- We can replace cars with walking, cycling and use of public transport
- We can insulate buildings.

Fuel Sources and Uses of Energy (%) in Winchester District in 2016:





- If we do nothing, this is what will happen (projections are middle of range Excel 'forecasts' based on data for 2005 to 2016)
- We'll continue to burn fossil fuel well past 2030 without a major effort to change
- We won't produce enough non fossil fuel energy without a major acceleration of production
- It would be interesting to develop alternative scenarios

These slides have been produced to inform the discussion on what to focus on to achieve a zero carbon Winchester District.