Stop Climate Chaos Coalition

Briefing on Decarbonising Ireland's Transport sector

4 October 2018

Rapidly decarbonising transport is an imperative, not just an option

Transport accounts for 20% of Ireland's overall emissions (and 27% of our non-ETS emissions), with 52% of overall transport emissions coming from private cars, 24% from freight, and 4% from public transport.

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- Decarbonising Ireland's transport sector needs to become an urgent priority for Government, and agencies such as the NTA. Transport is the only sector to have increased its share of emissions since 1990. In fact, emissions have doubled since 1990 to one fifth of Ireland's total. Actual total transport emissions rose 4% in 2015 and are continuing to rise quickly.
- The Environmental Protection Agency expects a 13% increase in national GHG emissions from transport between 2016 and 2035.
- As noted by Ireland's Climate Change Advisory Council, progress in tackling transport emissions has been very limited.
- Most especially for transport, Ireland's ratification of the Paris Agreement equates to a limited fossil fuel budget, including oil and gas. That means an overriding imperative to reduce the petrol and diesel use every year no matter what.
- It is notable that the Department's priorities fail to mention climate change or emission reductions. The only reference in the Department's annual report is a mention of the National Mitigation Plan, which suggests that insufficient regard has been taken to the urgency of what is required in this sector. The Minister should fully support a roadmap for the decarbonisation of the transport sector, specifying annual emissions reductions and how these will be achieved.
- How is the Department contributing to the targets set by the National Policy Position? By 2050 the long term vision was to see an aggregate reduction in carbon dioxide (CO_2) emissions of at least 80% (compared to 1990 levels) across the electricity generation, built environment and transport sectors.
- Failure of the Government to reach targets set for Smarter Travel and cycling policies to achieve emissions savings. Why are they not being implemented ?

Moving rapidly towards electric power

Transitioning the car transport fleet to electricity and providing additional charging infrastructure, with at least 500,000 electric vehicles on the road by 2030

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- Overcoming the obstacles to significantly expanding the charging network by exploring innovative solutions is necessary. For example the Netherlands, which has one of the highest rates of electric car ownership in the world, has started using their renewably fuelled electric cars to power the grid.
- Also Dun Laoghaire-Rathdown County Council is exploring idea of providing electric vehicle charging points via street lamps.
- **It is important to be clear that electric vehicles are only one part-solution to low carbon personal transport.** They do not address issues of congestion and land use for both operation and storage. Incentivising further use of electric vehicles for shared mobility schemes would help alleviate some of these impacts with up to 15 cars replaced for each shared car added to the fleet.
- The first priority should be to move away from car ownership towards public transport, shared electric car schemes and car-pooling. The public should be made aware of the real costs of running a car so that they can consider using the above mobility options.
- Other countries and cities have shown that efforts to reduce emissions and improve air quality can be successful. Fiscal incentives and accelerated investment in public transport network design should be considered as a matter of urgency. These measures should be, funded in part by revenues from increasing carbon taxes on petrol/diesel engine car use.
- Air pollution is a major issue requiring early diesel phase-out. Other European Governments may in any case force European car companies to end the manufacturing of fossil fuel powered cars before any date is set by the Irish Government. However, a date for banning these should be set for the urban areas in line with that set for other European cities e.g. Norway is proposing to ban petrol/diesel cars by 2025. Swedish cities will ban diesel cars not meeting Euro 6 standards and petrol cars not meeting Euro 5 emission standards by 2022 in several city centres. UK diesel car sales have already fallen dramatically as car-buyers favour cleaner options. Government needs to act to lead this transition in Ireland.

Accelerating away from fossil fuel dependence

A commitment to have no new non-zero emission vehicles sold in Ireland after 2030 and no NCT certificate issued for non-zero emission cars post 2045

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- The proposed timeframe here is too long as total emissions must go down every year, starting now. The government needs to recognise that substantial and sustained emissions reduction really is an imperative, and that further delays only make the transition more challenging, and more expensive.
- Total transport carbon fuel use must, as a priority, start going down fast, every year, without fail. This needs to be the most important strategic policy objective of this Department. Then plan policies that achieve it, without fail, in line with the Paris Agreement.

Urban public transport must be planned by a single public agency

Delivering priority public transport programmes including BusConnects, LUAS Green Line Capacity Enhancement, DART Expansion Programme and Metro Link so that increased transport demand is met by greener public transport

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- For public transport, conversion to electric power equally makes sense, with inbuilt air quality improvements. Other sustainable options may include the use of biomethane, a lower carbon form of natural gas produced by the decomposition of organic waste material via anaerobic digestion (such as municipal waste, or farm slurry) - an already prevalent source of fuel in a number of European cities. This will required joined up thinking and coherent cross-departmental strategies to be successful.
- A commitment is required to facilitating low-carbon mobility, particularly by requiring (as a licensing condition) fully integrated transport networks across public and private sectors, offering seamless connectivity to passengers. This would specifically require zone, distance, or time-based fares for transfers between modes and transport operators. This integrated approach would ensure both progress in lowering emissions, as well as reduced transport demand and journey times.
- Paul Mees in Transport for Suburbia: "To operate effectively and avoid market failure, a natural monopoly like urban public transport must be planned by a single public agency".Yet Ireland runs multiple competing agencies: CIÉ, Bus Éireann, Dublin Bus, Irish Rail/Iarnród Eireann, Transport Infrastructure Ireland, and allows others like the Luas to further reduce a beneficial network effect.
- Dublin needs single-ticket, all modes anywhere to anywhere transport. Similarly Ireland as a whole needs coordinated, network-effect transportation, buses meeting trains everywhere and cycling/infrastructure coordinated with them.

- Without this kind of connectivity and policy coherence, rural communities will not be able to avail of public transport. Specific programmes piloting shared mobility schemes along with 'park-and-ride' for rural communities should be developed as a matter of priority for the rural catchment areas close to large cities (e.g. Cork, Galway and Dublin).

Prioritise the lowest emissions technology that is available and suitable

Replacing existing diesel buses for the urban public bus fleet with lower emitting alternatives under the BusConnects programme, with no diesel-only buses purchased from 1 July 2019, while promoting commercial bus services and small public service vehicle industry to use low-emission fleet

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- The BusConnects plan promises to fully transition to a so-called "low emissions" fleet by 2030, with half of the fleet transitioning by 2023. At the moment it is undetermined what "low emissions vehicles" might mean, and the plan states that research is currently ongoing, which was also the message received at local information sessions. Given the infrequency of large public capital investments such as this and the urgent necessity of climate action, the BusConnects fleet acquisition process must prioritise the very lowest emissions technology that is available and technically suitable - even if this involves greater initial capital cost.

Sourcing biofuels can have massive environmental impacts elsewhere

Expand the refuelling network for alternatively fuelled vehicles to address freight emissions

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- Palm oil and other vegetable oil additions to diesel are being used to claims emission reductions when in fact the biofuel emissions are not zero and can be higher emissions than fossil diesel, due to land use that is destroying tropical forest and emitting large amounts of carbon from carbon rich soils and deforestation. Over half the crops used in EU biofuel are imported, often from countries with inadequate land carbon accounting, making it entirely likely that biodiesel has even higher emissions than all-fossil diesel.
- The climate impact of using biomass for transport fuel will depend on lifecycle emissions arising from land-use change, fertiliser use, harvesting, collecting, processing and transport. Estimates for emissions from these sources are problematic but could be considerable especially where methane emissions from wood storage are taken into account. Over half the crops used in EU biofuel are imported, often from countries with inadequate land carbon accounting, making it entirely likely that biodiesel has even higher emissions than all-fossil diesel.

- If the accounting system does not include proper accounting of the environmental impact of indirect land use change (ILUC) for example, then a true figure for GHG emissions from biofuel will not be possible. When agricultural land is converted for biofuel production this may result in land elsewhere being converted into agricultural land often with the release of GHGs. Assessing the impact of the ILUC and including it in biofuels policy is essential to ensure that the biofuels produced do in fact reduce carbon emissions and not increase them. Tailpipe emissions from vehicles are not counted as it is assumed that they will be absorbed by trees, grasslands, etc. eventually. This may take many decades and in the meantime the GHGs are adding to climate change

Modal shift needs to be mandated not just encouraged

Encouraging a significant modal shift through greater levels of investment and further development of meaningful alternatives to private car use under the following three major environmentally sustainable transport schemes:

- *new urban cycling and walking routes which will provide additional sustainable travel options to complement increased capacity and faster, higher quality public transport in our main cities;*
- *traffic management, bus priority and other smarter travel projects in the five cities: Dublin, Cork, Limerick, Galway and Waterford; and*
- *pilot initiatives for low-emitting technologies in the transport sector*

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- Urgent and ambitious realigned investment to achieve the goals of the Smarter Travel Policy, increasing the share of transport investment that goes to walking, cycling and clean public transport. As well as reducing emissions, redirecting existing funding will create benefits for public health, cleaner air, and improved public spaces.
- Current funding of walking and cycling is around 2% of overall transport budget, even with proposals from Ireland 2040 it's estimated to be around 5%. To have significant impact here in encouraging behavioral change the 20% share of transport funding for walking and cycling recommended by the UN Environment Programme would go a long way to this progression.
- There is considerable information available on the environmental, economic, health and societal benefits of cycling and much greater investment in high-quality cycle paths is needed throughout Ireland.
- The need for greater investment is also evidenced by the decisions of Irish commuters - the number of people using sustainable modes of transport (such as bus, train, Luas, walking and cycling) to travel into Dublin city centre is increasing year on year, and now accounts for 70% of all journeys.

- Investment and development of cycling as a means of mobility has been very piecemeal and inconsistent even with the existence of guidance from such as the NTA's Great Dublin Area Cycle Network Plan which would begin to regard bicycle use as a system not unlike public transport.
- Given the failure of transport policies to date, modal shift needs to be mandated not just encouraged. That means limiting car privileges and air pollution, especially in commuting, as a matter of policy. We no longer have time to mess around.
- The National Planning Framework understands the requirement for walkable communities and encourages increased investment in the provision of Public Transport and cycling and walking infrastructure as a means of preventing sprawl. Long commutes are a social problem as well as a cause of added transport-induced GHG's. However, the National Development Plan shows a far larger investment in Motorways and the Second Runway at Dublin Airport. Rather than the 5% of the Transport Budget in the National Development Plan, we suggest that a 2/3 share of the transport budget for public transport, walking and cycling would be needed to drive the necessary behavioural change.
- All funding for road improvements in urban areas must be assessed for their impacts on vulnerable road users, air quality, and community severance. Road improvements should only be permitted to enhance road safety and give further priority to cycling, walking and public transport.

What best practice examples of low-carbon transport systems in other countries is Ireland learning from?

In Switzerland an integrated public transport system works on a fully integrated timetable, ensuring connections for public transport trips, and in the canton of Zurich every settlement with over 300 jobs, residents or educational places must be provided with public transport. In many countries, industrial and residential developments are only permitted alongside the delivery of required public transport provision, especially on greenfield sites.

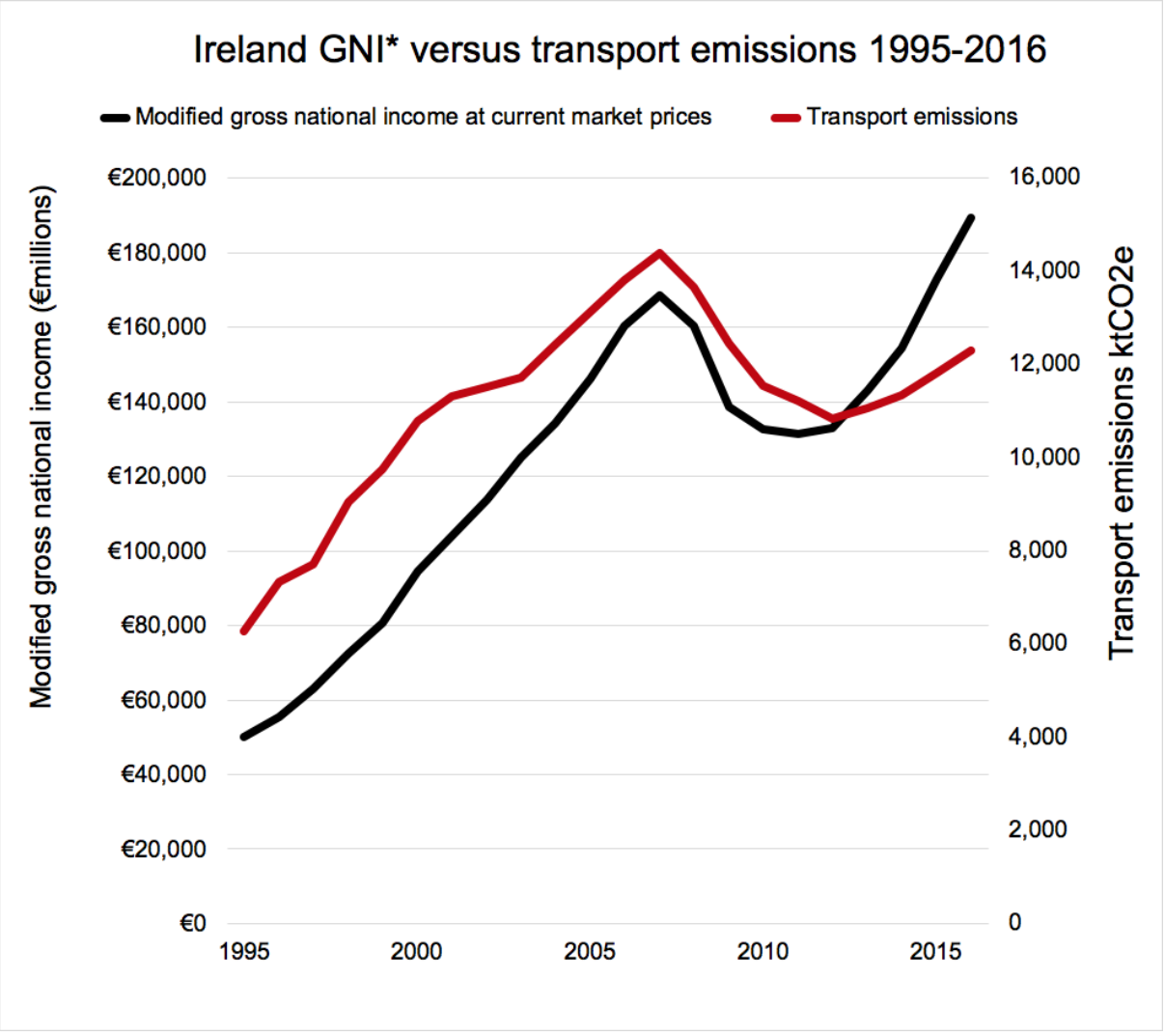
It's important to note that improvements in energy efficiency alone, such as electrification of transport, will not be enough to reduce Ireland's emissions. A shift to walking, cycling and public transport, as well as other measures such as pricing, are needed. A recent report for the European Environment Agency put it this way: "meeting decarbonisation goals for the sector requires not only incremental changes like the wider introduction of electric vehicles and improved fuel efficiency in planes and ships, but also more far reaching changes to lifestyles and habits which greatly influence the way we use transport."

What is Ireland doing about rising emissions from the aviation industry?

The impact of business as usual growth in global aviation has been largely ignored and emissions are rising. Aviation is only becoming marginally more efficient, but its share of total emissions is growing. If we allow it to grow at predicted rates it will make the achievement of our Paris Agreement commitments impossible. See analysis of the UK

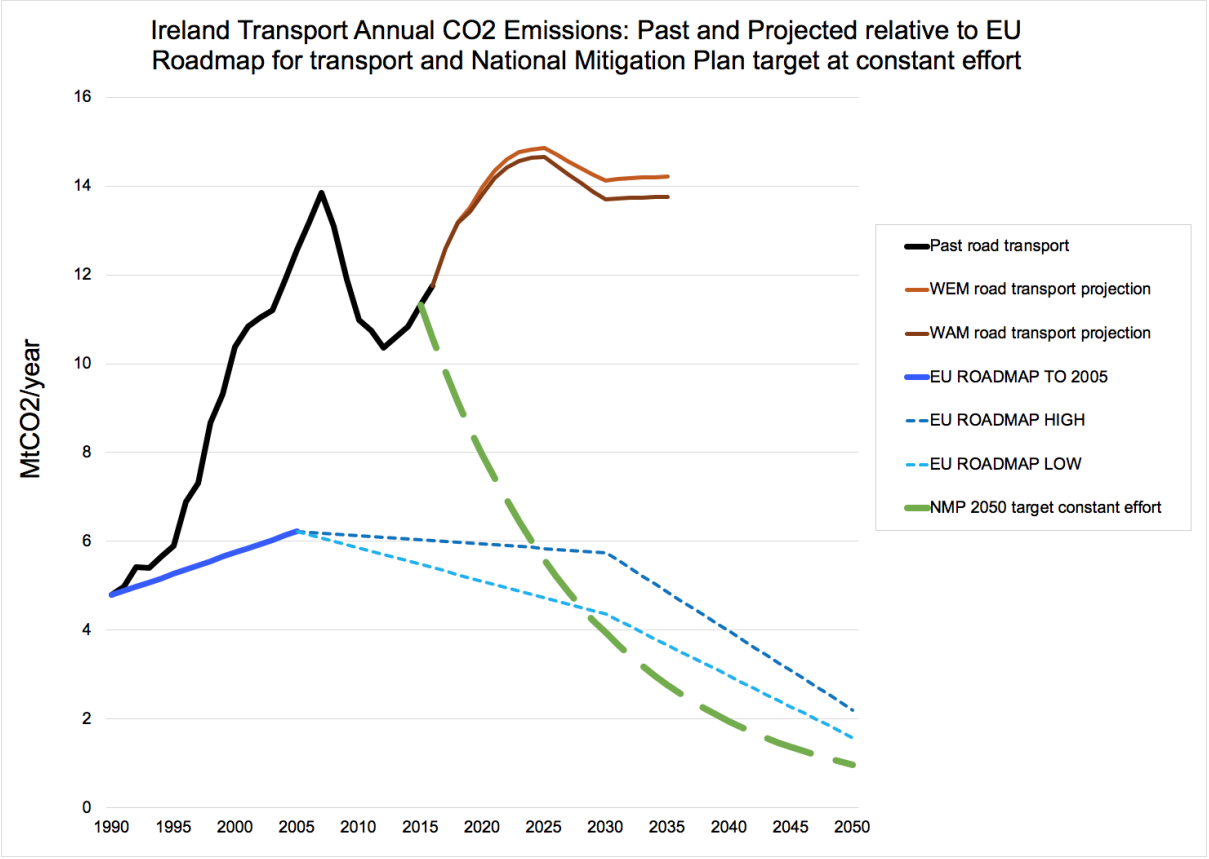
Committee on Climate Change here. All new airport infrastructure should be assessed for its climate impacts, and that aviation emissions should be capped so that demand can be managed better. Offsetting is not a solution for aviation emissions. Measures to promote sustainable tourism in Ireland, and incentivise the use of sail/rail should feature in the Department's plans.

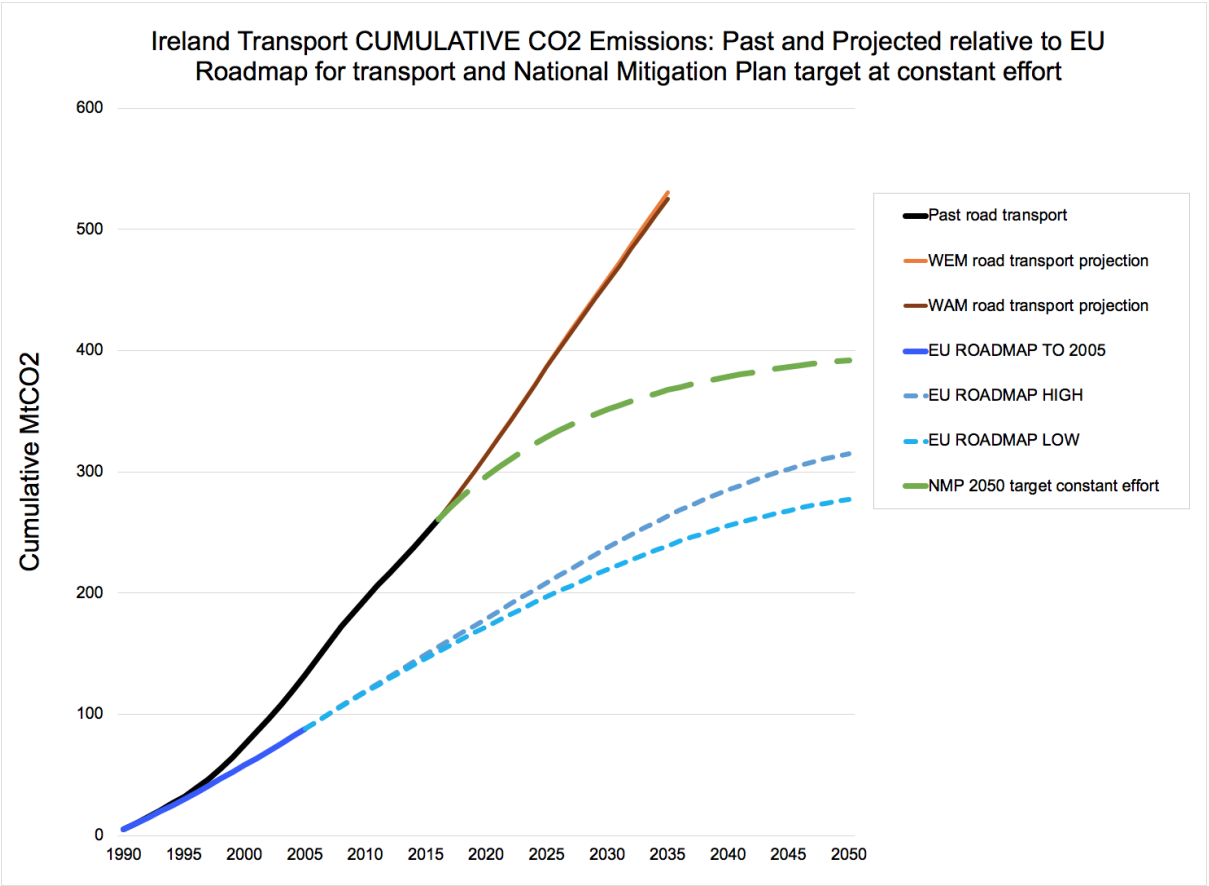
Figure: Transport emissions continue to be strongly coupled with the Irish economy. To date there is no evidence that policy has affected this pattern.



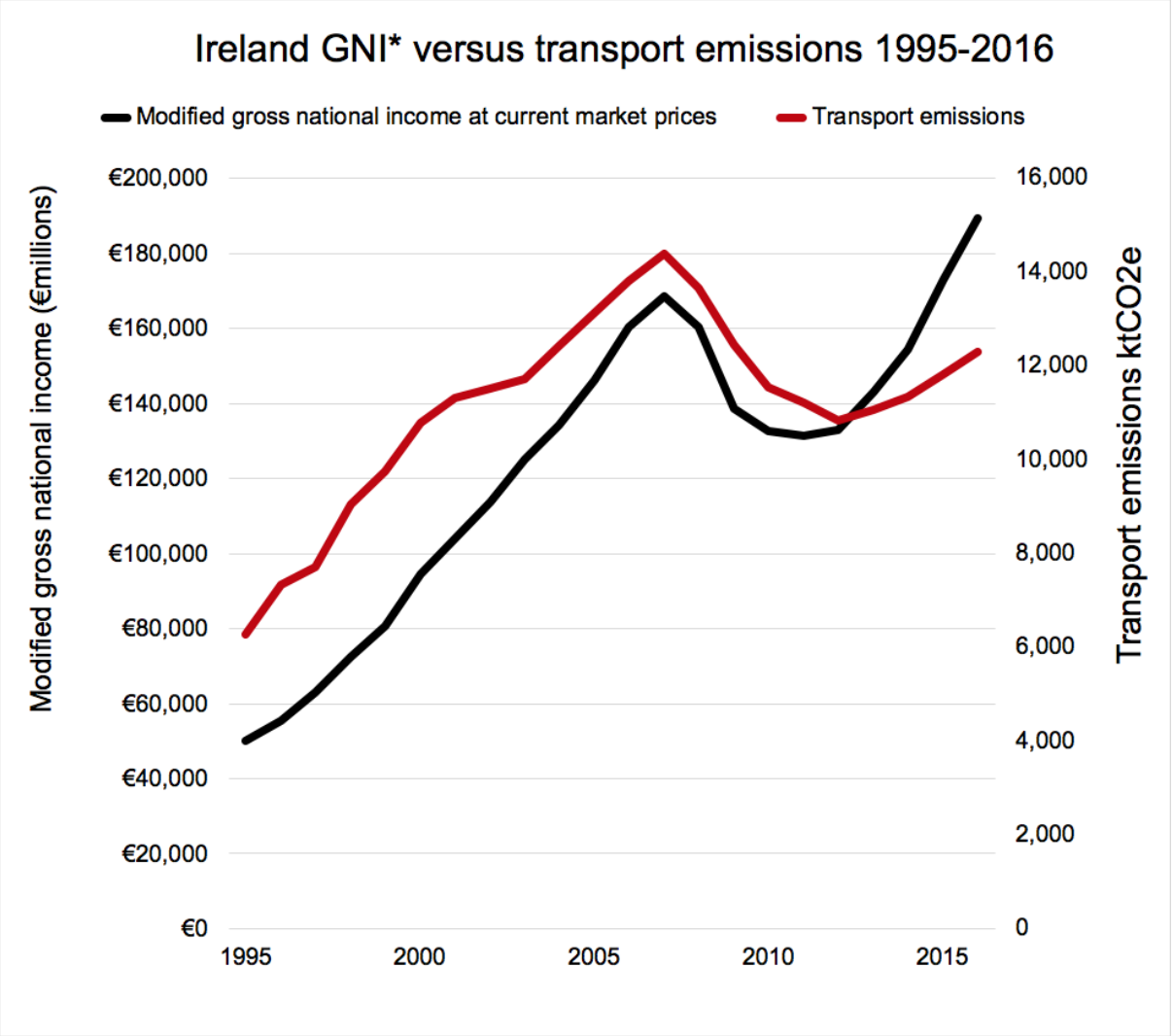
Below, annual and cumulative transport CO_2, past and projected compared to EU Roadmap (for transport) and NMP to target (20% of 1990) at constant annual effort (=exponential percentage rate of -6.8%/yr).

For climate action limiting cumulative CO_2 is critical. Utter failure of current policies is evident, WAM little better than WEM, both heading for ever more emissions with no reductions projected.


Ireland Transport Annual CO2 Emissions: Past and Projected relative to EU Roadmap for transport and National Mitigation Plan target at constant effort
MtCO2/year
16
14
12
10
8
6
4
2
0
1990
1995
2000
2005
2010
2015
2020
2025
2030
2035
2040
2045
2050
Past road transport
WEM road transport projection
WAM road transport projection
EU ROADMAP TO 2005
EU ROADMAP HIGH
EU ROADMAP LOW
NMP 2050 target constant effort


Ireland Transport CUMULATIVE CO2 Emissions: Past and Projected relative to EU Roadmap for transport and National Mitigation Plan target at constant effort
Cumulative MtCO2
600
500
400
300
200
100
0
1990
1995
2000
2005
2010
2015
2020
2025
2030
2035
2040
2045
2050
Past road transport
WEM road transport projection
WAM road transport projection
EU ROADMAP TO 2005
EU ROADMAP HIGH
EU ROADMAP LOW
NMP 2050 target constant effort

Correlating data for economic (CSO) and transport emissions (EPA)



No sign of any policy causing a decrease in total diesel and petrol car energy use