Submission on proposed statutory instruments (SI) relating to the Public Consultation on the EU 'Clean Vehicles Directive'

Irish Electric Vehicles Owners Association (IEVOA)

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Contents

Background

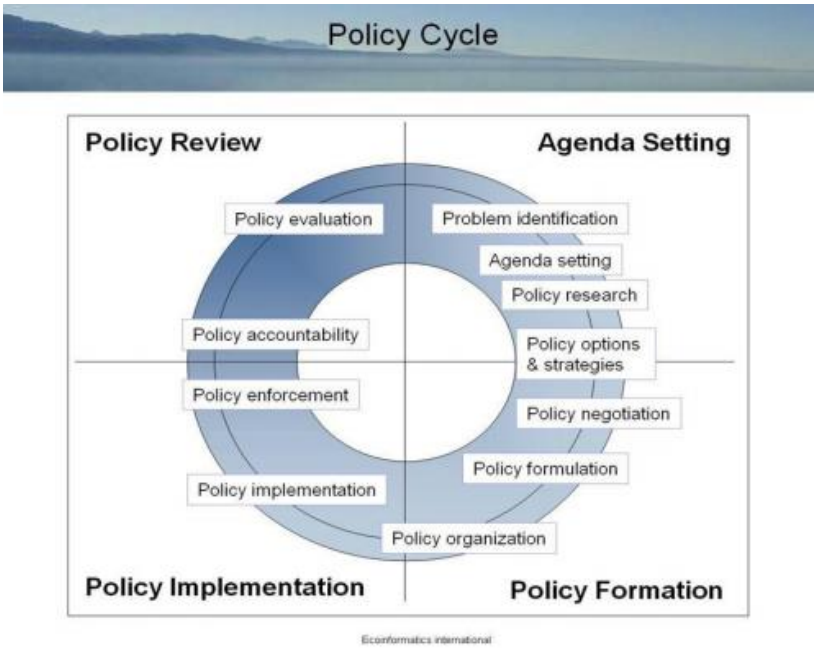
The 'Clean Vehicles Directive' (Directive (EU) 2019/1161 of the European Parliament and of the Council of 20 June 2019 on the promotion of clean and energy-efficient road transport vehicles). This sets out minimum targets for 'clean' (low- and zero-emission) vehicles in public procurements. The Government has requested input from various social partners. After internal discussion, the Irish Electric Vehicle Owners Association (IEVOA) offered the following submission.

According to the Irish Government, 'The aim of this consultation is to consider the policy options for transposing the Directive into Irish law; to set out the various means through which the Directive may be transposed; and to offer stakeholders the opportunity to reflect on key questions relating to how the Directive will be transposed'.

Strategic overview

The driving ambition behind this strategy is the overall reduction of carbon emissions and other related pollutants which are produced through the manufacture and use of internal combustion engines (ICE) vehicles. In addition, a secondary objective is the reduction of noise and nuisance caused by such vehicles. Notwithstanding plug-in hybrid (PHEV) and other types of fuel the focus of the following is on EVs. A tertiary objective not directly addressed here is the reduction and production costs, and consequent retail prices of EVs or similar alternatives to ICE (for example hydrogen fuel cells, biofuels, etc.).

Figure 1: The benefits of evaluation span the entire policy cycle



Source: *MaRei, 2020*

We are currently at the first of four periods in the policy development and implementation (Figure 1). Using the MaRei model, we are on the cusp of Agenda Setting and Formation.

There is a need for interdisciplinary input into this model from social partners not just in the formation of the SI but in an ongoing organic process of implementation enforcement and discovery. Some prior examples can be referenced:

- The Department of Employment and Social Protection post 2008 Financial Crisis developed an informal network including allied professionals, academics and the OECD, to draw on for evidence and policy advice, and a cycle of evaluation and learning was established.

- Foreign Affairs (DFAT) commitment to increase aid to 0.7% of Gross National Income (GNI) by 2030 utilised a similar structure.

- Irish Government Economic and Evaluation Service (IGEES) response to a weakness in economic analysis and economic planning highlighted during the 2008 Financial Crisis also had a similar structure.

IEVOA would suggest that the already existing structure of a group having senior civil servants as well as industry and expert academic input should be continued but in line with EU evolution of strategic policy and funding, we should be aware of the need to balance such a body so that we do not have over reliance on or capitulation to experts or to industry. We need inputs from Civil Society with sectoral knowledge and personal experience. This is a role IEVOA believe they can play in this process not only of the SI formulation but in implementation and providing feedback into the process.

In order to draft an SI on procurement, we need to consider evidence, metrics and agency. Preempting the formulation of an SI, the following is a non-exhaustive short list of prerequisites for such an implementation:

1. *An audit of all available transports in the state (including those used by contract)*

   For example, Government Departments, Local Authorities, Semi states (especially important for Dublin Bus, Bus Eireann and, Gardai and Defence forces). The number of private cars used by public workers and other private cars also need to be known as policy will have implications for **all** transports.

2. *A determination of what percentage are replaceable by EVs (or low emissions alternatives) and exemptions*

   This could provide a target or be presented in a low/medium/high commitment scenario options.

3. *An audit of all public workers use of transport and possible replacements*
4. *Exemptions while legally acceptable should also be considered for carbon reduction*

   For example, armoured vehicles, ambulances, hearses, wheelchair accessible vehicles of category, mobile cranes, vehicles designed and constructed for use principally on construction sites or in

quarries, port or airport facilities, as well as vehicles specifically designed and constructed or adapted for use by the armed forces, civil protection, fire services and forces responsible for maintaining public order. Ireland doesn't have many 'tanks' but does have many trucks and minibuses in the Defence Forces. Whether remote Defence Forces locations come under procurement for wind and solar, or other renewable alternatives? Can they charge vehicles from their personally produced electricity or even offer public charging?

5. *Formalise the committee we consulted with on EVs having someone from CSO/third level/industrial standards?*

   This falls within the 'monitoring body and reporting obligations'. It is necessary to prevent 'reorganising' and postponing meetings and to give Civil Society Bodies a formal role with industry and civil service.

6. *Implication for EVs in car to grid and in local domestic generation through renewables*

   This has implications for existing legislation and regulation of small-scale generation in homes particularly wind and solar as well as emergent technologies such as wave or tidal power. Smart metering and integration of emergent technologies such as car-to-grid or car-to-home also need to be considered.

7. *Implication for and arising out of realistic targets for Private EV ownership by 2030-50*

   Are we assuming a level of 100k to 500k Evs and what implications arise? For example, options for Public/Private Partnerships (PPPs) such as shopping malls, LUAS, supermarkets, schools, private car parks, council car parks, train stations, universities, hospitals, etc.

8. *Procurement as for the public good. Or a service or competition?*

   For example, if councils allocate public charging spaces on lampposts, are they reserved only for EVs? Should they offer any free parking or free charging? What is the penalty for not charging or sitting on a space? Will procurement pay for the chargers or is public procurement available for chargers in non-publicly accessible spaces?
   It may be useful to consider a staged implementation where different priorities are emphasised relating to the percentage of EVs in the fleet. The first of these is the current levels under say 5%, stage II might be 10-20%, stage III 20-50% EVs and stage IV 50-80%.

The dilemma of policy implementation

We cannot consider public procurement without considering private car policy because public workers and their families use private cars. This has a clear knock-on effect relating to the utilisation of charge points in both private and public domains.

Private cars accounted for 77.6% of the total number of licensed vehicles and 75.7% of the total distance travelled in 2018 (CSO, 2018).

There are about 2.75 million [2.729 in 2018] vehicles on Irish roads with 2.1 million private cars and they increased by about 40,000 per year for 6 years.

A Role for IEVOA?

We offer input into the process not just in SI formulation but in the organic cycle outlined above. The submission deadline is not a process deadline. A possibility exists to formalise the already existent committee which consulted with IEVOA. Some statistical input may also be welcome from CSO or an academic source? It falls within the 'monitoring body and reporting obligations' remit of the proposed SI. This would prevent it being disbanded at least for the duration of implementation. The Civil Service may do this anyway, but they should welcome a statutory role for input of both industry and Civil Society Bodies, and academe into policy making.

How the Irish case is different to the EU: scale of the issue

1. Dependence on private cars

It seems clear that policy makers have long term goal to reduce the overall proportion of private cars on Irish roads particularly in the Dublin region to avoid congestion, pollution and emissions.
70% of people travelling are driving a private car, 5% are passengers in a private car and this matches the 5% or so using public transport.

2. Scales of investments/ road dependence outside Dublin

LUAS cost €250 million two decades ago and about half of the planned extensions were realised, bringing Dublin to 66% of level of tramways in 1916! DART and Metro lines brought the Transport 21 estimates up to

over €34 billion two decades ago. With that in mind €250 million in home charger grants or even €2.5 billion in home solar generation grants seems paltry.

3. Potential savings on emissions

Even reducing private cars by 50% still leaves one million cars, half of which will be in Dublin. Ultimately, the State is faced with society replacing 500,000 to one million cars with EVs. Of course, the carbon reduction alone would offset 5-6 Mt of CO2 and the 100% replacement with EVs bring that to 10-12 Mt of CO2 per annum.

Ireland is not alone in this. Some governments in leading auto markets have announced aggressive electrification goals with many targeting a 100% electric share in the 2020-2050 timeframe.

Procurement constraints

Is it realistic for example for a Semi State, Local Council or Public Body with several hundred to over a thousand cars to have one or two chargers for staff use if they plan to have over 50% EVs? For example, UCD has over 4,000 spaces and 2x 22kW double chargers (one not operative) and a double 7.2 kW charger usually with a 'Go Car' or hybrid EV attached! Just facilitating UCD would be probably over twice the current grant regime for the entire country for Chargers and solar generation!

TCD is limited to a few hundred spaces on main campus (probably more influenced by elitism by staff than concern for environment) and we believe has one charger used by the Engineering Department. EasyGo have installed two 50kW DC chargers in DCU and plan for 180 chargers nationwide but again while preserving a postitive outlook this is scratching the surface of the target. On might compare it to a hundred years ago putting one petrol station in Dublin and one parking place on every ten streets when within a decade horses will be obsolete. These are institutions with 'public oversight' teaching environmental planning and energy efficiency! One can assume this is mirrored throughout the State. Other NUI, TUD, UL and DCU do not fare better and we can extend this to hospitals, Garda and Army barracks, etc. One might ask that an audit be conducted as to how many Board meetings of these bodies this issue was raised in the last five years? We suspect the answer to what should be 'environmentally informed body' would be zero in their minutes and would be delighted to be proven wrong in this.

At our last AGM, a discussion arose about public car parks or new private complexes and that they should require chargers as a planning issue or older ones be encouraged to retrofit them?

Maybe when we actually express a will to understand our own positions in each of these institutions at Board level, we can think about implementations such as e-zones and how they relate to EVs? As part of a Phase II strategy? For example, Paris was the first city in France to introduce the ecological zones. Since September

2015, all buses and trucks over 3.5 tons with the manufacturing date prior to 1st October 2001, are banned from entering the city (Environmental Badge, 2020).
This is just one example of how a legislative regime such as an SI can influence local authorities to work with local institutions and national institutions to implement **integrated** carbon reducing strategies with respect to transport. It took decades to get just bus rail and Luas on an integrated Leap card that bicycle hire and similar began then to integrate into.

Formal change and legislative history

2019 'Clean Vehicles Directive' (Directive (EU) 2019/1161 of the European Parliament and of the Council of 20 June 2019 amending Directive 2009/33/EC on the promotion of clean and energy-efficient road transport vehicles) sets out minimum targets for 'clean' (low- and zero-emission) vehicles in public procurements. The Directive entered into force on 14 August 2019 and must be transposed into Irish law by the Minister for Transport before 1 August 2021. This is part of a wider EU plan to reduce emissions overall.

There is a nine-month lead time between submissions and the SI deadline. This equates with the Policy Formation stage as outlined above. IEOVA would wish to continue their current input and to suggest a structure similar to the preexistent consultation body be formalised and also be an oversight reporting monitoring and implementation body.

Directive (EU) 2019/1161 enabled by Statutory Instrument (SI) under the European Communities Act 1972
Proposal to amend /replace SI 339 of 2011 which is to be changed so that we can have:

- Minimum targets for the share of 'clean' vehicles in public sector procurement
- Include vehicle purchase, lease, hire-purchase and rental contracts
- New rules for calculating the lifetime costs
- Exemptions
- An appropriate monitoring body for public procurements of 'clean' vehicles
- Reporting obligations upon public sector bodies to the appropriate monitoring body

Transport sector analysis

Over the last 30 years (1990 -2018), of all sectors the Transport Sector shows the greatest overall anthropogenic increase in atmospheric carbon (EPA, 2020), with road transport increasing by 143.4% and currently about 2% year on year, although about 15% below the 2007 peak. The economic collapse and lower levels of ownership and use of vehicles are the main factor in this, that is the absence of Internal Combustion Engines (ICE) vehicles are the same as them replaced by zero emissions. Improved emission standards for new

ICE are a slight contributory factor. EVs however, offer a possibility not to improve on, but to eliminate ICE emissions altogether.

As a general rule, one might consider EVs in relation to the approx. 12 Mt CO2 equivalent produced by Transport, 11.7 Mt in the Energy sector and 5.7 Mt in the Residential sector with implications also for the approx. 1 Mt in Public services (EPA, 2019). Albania is considered one of the best countries for emissions for electric cars as it generates all of its electricity from hydroelectric power. Electric cars are currently used by the Albanian Police Force.

A move to a large number of EVs, say 50% to 90% of the available fleet, will have implications for infrastructure outside of emissions policy for both public procurement and private use or dual use.

It may be useful to consider a staged implementation where different priorities are emphasised relating to the percentage of EVs in the fleet. The first of these is the current levels under say 5% (Engineers Ireland, 2019). where adequate destination charger infrastructure needs to be implemented. As EV numbers rise to between 10-20% (currently ICE numbers are 503,000 in Dublin and 737,000 in Greater Dublin Area) (CSO, 2020), policy will have to consider how to facilitate 100,000 to 250,000 EVs in the Dublin region. There are thus implications here for local distribution/capacity; home charging; smart metering; council development of street side streetlamp chargers; planning of further urban developments to include adequate numbers of chargers with targets such as 1 charger for every 2 parking spaces; similar targets for public car parking and retrofitting current parking and the cost implications for grants/taxation policies; grant policies for income generated by or losses incurred by such chargers, etc.

Role of public procurement in this process

How does public procurement integrate into this process? What are the issues we might encounter? For example, will dual charging protocols hamper procurement? EV owners experience unavailability of charging on long journeys. For example, Type II charger cars such as Renault Zoe which charge at 22kW per hour slower than the 50kW DC charging Nissan Leaf or a 90KW/hour charging Tesla may find an AC 22kW charger blocked by a Tesla or Leaf charging at 11Kw or 7.2 kW. What is a ‘fair and balanced’ way to deal with such issues?

Will private demand affect public procurement? For example, workers or teachers getting more EVs. There are little to no chargers in schools most of which are not publicly funded for infrastructure such as chargers.

The transition roadmap

From Stage I to II

Currently more than half new cars sold are in Dublin and counties bordering Dublin plus Wexford (CSO, 2019).

The addition of Cork brings this to about two thirds of EVs. This has implications for capacity in terms of transport infrastructure and acceptability to chargers in these regions.

From the point of view of users, it is of interest to also consider chargers at home or worked based and 'destination' chargers, that is those along the road network that allow for drivers to stop and 'top up' or recharge and the implications for capacity, availability, and policy to regulate both of these networks. Currently a system of home grants is available. We could consider suggestions for augmenting this such as increasing or combining with home generated electricity, for example subsidised or battery grants for home storage, investment in Irish battery research, etc.

Some distribution possibilities are cause for concern.

Private cars accounted for 77.6% of the total number of licensed vehicles and 75.7% of the total distance travelled in 2018 (CSO, 2018).

In general, according to Road Traffic Volumes by Type of Vehicle, Year and Statistic (CSO, 2019), there are about 2.75 million [2.729 in 2018] vehicles on Irish roads with 2.1 million private cars and they increase by about 40,000 per year for the last 6 years Given 60,000 new cars per year this suggests about 20,000 cars are scrapped every year. This in turn suggests a current replacement rate of 20,000 existing cars per year Current, EVs (~12,000) are < 1% of the road using traffic and PHEVs about 6%. But EVs have experienced exponential growth in the past few years currently selling [8,000?] per year. [This suggests 40% of scrapped cars are being replaced by EVs.?] While this seems positive, there are over 2.1 million private cars of which zero emission EVs are a little over 8,000 a year at current highest ever sales!

EVs will need to sell 25,000 to 50,000 a year for at least a decade to approach savings of 4-5 Mt CO2 equivalent per year.

Pressure is no doubt being made on policy makers to favour a slow planned migration, which civil service and planners prefer as it offers a low-risk strategy but given Ireland has no auto production or large-scale alternative energy research, politicians and visionary leaders have to consider how a radical shift in certain policies may establish Ireland as a world leader in certain fields much as how Ireland punches above its weight in many additional sociocultural fields.
outside of economics.

Without 'winning over' the public to EVs, through funded policies promoting marketing and reduced cost (both capital and running and the absorbing the underlying cost of all such policies) how does a government plan for a 15-year period where 50,000 plus EV are sold per year?

Stage III and beyond

It is envisaged that government policy would have Stage II targets by 2030 as a minimum requirement. Hopefully, by 2030, Ireland will have embarked or have achieved Stage III targets, embracing the spirit of carbon and pollution reduction rather than to avoid EU penalties (see Legislative history in the following section). Stage III begins at 20% but is a very broad band and achieving 50% EVs by 2030 is ambitious and will require the engagement of social partners. To this end, manufacturers and other stakeholders will have to discontinue current practices in the transition period but this is beyond the scope of IEVOA and Government.

Legislative history

Original targets

2014 EU Commission's Communication of 22 January 2014 entitled 'A policy framework for climate and energy for the period from 2020 to 2030' recommended that we:

- reduce greenhouse gas emissions by at least 40% by 2030 as compared to 1990 levels
- increase the proportion of renewable energy consumed to at least 27%
- make energy savings of at least 27%
- improve the Union's energy security, competitiveness and sustainability

Directive (EU) 2018/2001 of the European Parliament and of the Council added:

- renewable sources increased to 30% of the Union's gross final consumption of energy by 2030

Directive (EU) 2018/2002:

- renewables targets increased to 32.5%

2016 Commission 'A European Strategy for Low-Emission Mobility':

- quoted Paris 2015 'decarbonisation of the transport sector must be accelerated'
- and added 'zero by mid-century'
- 'pollutants' are also referenced in this document, not just carbon

2017 Commission 31 May 2017 'Europe on the Move: an agenda for a socially fair transition towards clean, competitive and connected mobility for all' addressed:

- uptake of clean vehicles
- alternative fuels infrastructure

- new mobility services which take advantage of digitalisation and automation

and broadened the role of EU emissions policy:

- protects the planet
- empowers its consumers
- defends its industry and workers'

4 April 2017 Council and Commission recommendations:

- foster green public procurement policies
- purchasing of zero-emission/ultra-low emission vehicles

These recommendations for public authorities were for their own fleets or for public or semi-public car-sharing programmes, and for the phasing out of ICE production by 2035.

3 October 2017 'Making public procurement work in and for Europe':

- Public authorities, through their public procurement policy, can foster and support markets for innovative goods and services

8 November 2017 'Delivering on low-emission mobility - A European Union that protects the planet, empowers its consumers, and defends its industry and workers' addressed:

- People are worried about jobs and industry being destroyed

Given the above overview, it is necessary for the Government and social partners to understand the scale and embrace the spirit of the policy and, to implement policies which tackle fears and promote positive and necessary change.

There are many references in EU law to Directive 2009/33/EC (annex shown below) which outlines 'clear and transparent requirements, including clear, long-term procurement targets and a simple method for their calculation'. Unfortunately for the lay person, this goes through 38 paragraphs referring to other directives before the Directive even begins! This suggests an additional role for social partners in assisting the broader public to understand and embrace policy proposals in order to avoid difficulties that arose in similar processes with respect to the Nice Treaty and European Constitution. This task is not to be underestimated and will require significant effort in communicating the policy and mechanisms involved and we believe IEVOA can assist in this. Given the 'rabbit warren' of interconnected EU legislation, policy implementation is difficult for Civil Society and has caused a disconnect in the past. It is essential for people from Civil Society Bodies are brought on board to allay fears and interpret the rabbit warren of regulation as being well intentioned and having fair and achievable targets which benefit society as a whole. This is the reason why the Nice Treaty and other EU endeavours were originally rejected by Irish people.

Under the Renewable Energy Directive 2009/28/EC (EC, 2009), Ireland set a target of producing 16% of all its energy needs from renewable energy sources by 2020.

'European Commission, National action plans' (EC, 2020)

Table 1: Renewable energy targets and projected consumption (%) 2005–2020

	2005	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
RES- Heating and Cooling	3.50	4.30	4.90	6.10	6.90	7.57	8.90	9.70	10.10	10.50	11.20	12.00
RES-Electricity	6.90	20.40	24.60	25.30	30.50	31.00	32.40	32.20	33.80	37.50	37.30	42.50
RES-Transport	0.00	3.00	3.90	4.60	5.10	5.50	5.90	6.60	7.40	8.10	8.80	10.00
Overall RES	3.10	6.60	8.10	9.00	10.50	11.00	11.80	12.20	12.90	14.00	14.40	16.00

Source: *European Commission, 2020*

There is a notable low rate in Transport (10%) compared to electricity (42.5%). This prompts the consideration that domestic heating/cooling will be augmented by EV home chargers, and car-to-grid options through increased solar domestic or other means (biomass; domestic wind or water mills; tidal/wave power). Achieving level III targets for example will cause a paradigm shift. If we have one million EVs they will have to charge mainly at home (or in procured work chargers) not on the current Ecar charging grid or the emergent competing network of private chargers. This is a different model to the ICE regime where fuel is collected from remote stations. This has implications for home solar and wind policies (grants) and domestic renewables supplying the grid and related directly to EV usage and peak demands through offsetting demand if local domestic autonomous capacity is available.

An SI about public procurement targets cannot realistically be considered in the absence of a coherent policy on domestic and commercial renewable generation and charging infrastructure

Also worthy of note is that electricity generated for EVs at 42.5% is saying 57.5% of supply is currently from fossil fuels. As the generation capacity moves to renewables, existing EV offer constant gains in this regard as on their carbon footprint reduces. This of course depends on the metrics used. Or one can regard transport as separate to powergen and rate EVs at zero emissions or rate EV output as dependent on the carbon emissions

of the generating resources used. This is of course an artificial artifice of accounting but is worth keeping in mind in terms of the analytics used.

Feasibility of Solar Domestic may be off topic but maybe is relevant because it may save the state money in the long run in not having to underwrite free charging at work or limited charging at work causing issues for staff. The policy feasibility implication is should a home charging network not be implemented whether a state public procured one could meet demand?

Negotiating the Cusp – Agenda setting to Policy formation
An analysis/audit like the following needs to be done for schools, gardai (OPW may have estimates for Gardai as they oversee properties. If not, they should be tasked with it) and army barracks, hospitals, government departments, public buildings Museums galleries universities schools, etc. Procurement of solar or other renewables should be considered along with charging infrastructure. A third level institution for example may have the same footprint and possible charging base of a large town or small city.

Note: the following are nominal statistics that require rechecking.

Ball park figures of an EV using say 20kW per 100km at 50km per day ~10 kw ~2.5Mw per year.

Solar Domestic Capacity Analysis

- currently 4kW solar home panel (ISEA, 2019)
- installations have up to €3,000 grants
- 500,000 installations ~ €1.5 billion in grants for replacing ~1.5 GWh of capacity. About a third of our current installed windpower (4.2 Gw 2019)
- currently we have ~40 MW, the UK 8,915 MW and Denmark 790 MW
- grant applications currently run at 2500 to 3000 applicants per year (ISEA, 2020) http://irishsolarenergy.org/rule-restricting-number-of-solar-panels-is-relaxed/

Have we the labour capacity to install at fifteen times the current rate?
Current grants were increased from €3.5 million to €6.5 million to meet 2020 demand. Can we invest €100 million a year in domestic installation? Note, that is only to meet a demand to reach near 500,000 installations. Such questions will involve consultation with academics and engineers.

ISEA's projections for Ireland's Solar PV market for the years between 2017 and 2023, assume that the market will start in 2017 with 140 MW and installations will increase until 2019, and then will stabilise with 350 MW added each year. ~ 3.75 GW by 2030
Ireland is way behind these targets!

It is likely that several 'scenarios' could be looked at by civil servants. Proposing a mild/med/strong change/risk. For example, ten times or one hundred times the current level of solar domestic by 2030 rather

than 500 times. Even ten times requires installing our current capacity (which is the total sum of all solar panels installed since the invention of solar panels) every year for ten years.
A hundred times means about ten times current capacity every year, some options might include

Allowing larger domestic panels.

Increased grants up to 80% of installation cost.

Some questions on achieving targets

1. Where will 500,000 EVs get charged if not at home? (this is a capacity and infrastructure issue, but it would be ludicrous to consider it without considering options for solar domestic or wind for example and/or similar generation from public buildings).

What will provide the electricity generated to service these chargers? (which relates directly to the SI but cannot be considered without doing 1.).

A New legislative framework will also allow more schools and community buildings to install solar for their own energy needs.

2. Also worth considering is that the logistics of fossil fuels requires a number of storage and distribution resources. If for example petrol stations close what happens the delivery drivers?

3. We are planning to displace a several billion Euro Industry and replacing it with renewable production and consumption. ICE Car manufacturers are beginning to see the writing on the wall, but the home heating and fuel supply industry will be in a situation similar to hansom cab drivers and horse feed farmers were a century ago. It would be beneficial to hear what they think, but it is likely they do not want to make it known that their current sales manufacture and distribution structures will have to change and they may not want to let hundreds of thousands of workers aware of this. The government has an important role and responsibility in this domain too.

The following is analysis brought about through informal discussion:

- The social climate is certainly fertile since (ironically a positive effect of COVID-19) people are interested in improving their homes. They will need to match funding.
- A prior government brought in a ‘no planning required’ law for windmills. Similar could be done for solar? Why are panel sizes limited?
- Restrictions on the number of rooftop solar panels on houses and other properties need to be lifted to boost the amount of solar energy generated in communities.

- Rural Ireland, farmers and others can also benefit from parallel independent funding for example LEADER in both production of power and in introducing new technologies e.g. EVs or electric alternatives to ICE powered machines
- Opportunities exist for Ireland to harness existing Fourth Level STEM infrastructure to develop and implement technologies either directly related to EVs (e.g. motors/ parts/chargers /solar panels) or augmenting technologies (software/adaptors) in the emergent society

Some Fringe Benefits which can be a positive in Ireland

If we move to 50% plus EVs then petrol stations may well be replaced by charging stations. Unless ultra-fast charging becomes widespread, most charges might be of the order of 10 to 30 mins. These would be similar to motorway stops and would have to offer recreational food toilets and other facilities. The knock-on effect may be many smaller petrol stations will close and offer city Councils options to Rezone. Similar happened in the 1990s. City Planners could consider this as an option to facilitate small integrated residential developments before private speculators identify this market. We might expect market readjustments on many city-based petrol stations to therefore contribute to other societal needs as a direct result of the changeover to EVs.

Directives 2014/24/EU (178 pages) and 2014/25/EU of the European Parliament and of the Council set out minimum public procurement rules. Most people will not read this 132-page document. On the other hand, given past construction and bank scandals, most people accept the need for oversight in procuring property and in financial accounting. Still, we suggest something more than an "Explanatory Note" for Civil Servants should accompany any proposed SI particularly as the implications will affect employment and infrastructure. Far better to plan and get thing right without having to introduce more SIs than the current plethora of complicated and cross references SIs relating to Covid following on from a lengthy debate on enabling legislation. A similar situation with respect to SIs on emissions will result in public suspicion and resistance which may well be harnessed by some who are opposed to EVs dominating the market.

This explanation of procurement and how it related to EV emissions we can assume will be done by senior civil servants who will advise us why we cannot do certain things. For example, local councils and Government Departments will have people for this but 107 and 108 of the Formation Treaty are worth knowing and relating to the public as they refer to the unfair competition in EU grants and a mechanism to deal with them. Public servants should know the limits of market competition and advise accordingly. Particularly as it is possible Industry or other social partners may resist this change and challenge it.

The 2009 directive eventually has an annex which outlines emissions of fuels but no 'Life-cycle costing' which refers to 2009/33/EC annex on emissions but not disposal or production. It refers to two more directives on 'cost effectiveness over lifetime' But **no metric exists** for that (which the government now need). This would probably involve talking to third level and avoiding any scandals like the DOE testing had (mainly applies to PHEV but also to footprint for disposal and manufacture). Maybe a 'broad consensus' body in which IEVOA could participate as a member, to advise the government on metrics and monitoring it will formalise links.

One might ask would such a body involve a large budget? Not necessarily. If industry leaders and academics who are on full time pensionable salaries are prepared to act on these bodies pro bono with say nominal travel or subsistence allowances, then Civil Society Bodies are already doing that, and civil servants are already paid to do it.

We can avoid all the rigmarole of emissions (energy production excluded) as EV are Zero emission. (We are not here referring to PHEV but we could do that someone no doubt will have to as industry as pushing PHEV as part of their solution).

Also, there is **no metric** for carbon footprint of disposal or manufacture. 'Emissions deriving from the fuel supply chain, from the extraction phase to the tank, as well as due to the process of manufacture of the components and their level of recyclability' (Ireland will not manufacture new batteries but need procedures for disposal of EVs and how to measure them). This is valid in terms of the reporting aspect of the SI. IEVOA favour the idea of fixed and current costs i.e. the manufacture and disposal are fixed and there is a current consumption footprint each year reported separately. Just as there is a year-on-year percentage of renewable production reported.

Public Bodies need to audit what they currently have both in terms of their own vehicles and in terms of private vehicles of workers (we can build that into the submission through the phraseology of the EU Policies above although it is not statutory procurement).

Someone does have to be tasked with working out what current emissions are and write this down as a 100% saving on emissions. They can subtract out the disposal or manufacturing cost, but we should have a separate 'current account' of annual emissions probably as a CSO published statistic. This will avoid the "leprechaun economics" factor creeping into emission statistics.
This will emerge into SUMPs. Sustainable Urban Mobility Plans which will integrate national policy with Local Authorities.

REGULATION (EU) No 182/2011
This is a cumbersome procedure to enable the EU to wave a big stick for non-compliance. The idea being the carbon and pollution targets are not advisory and we have to achieve them unless we have a big excuse that the EU accepts e.g., the scale of forests in Finland burning down. We should have no qualms about accepting that the EU will bring these penalties down on Ireland if we fail to achieve targets. One might suggest any such financial penalties be put in a specific fund and awarded in grants to those members who are using them to implement carbon and pollution reduction. AS such this would create a positive feedback loop but is beyond the remit of this report.
The regulation mentions:

'Focus on higher air and noise polluters' suggests Dublin Bus, Gardaí, etc.
Here "pollution" is not only atmospheric particles but also noise.

This secondary objective may provoke controversial implications for 'brave decisions' which policy makers may wish to avoid.

We also need to consider that legislative reform may impose similar requirements also on private operators and services outside the scope of this Directive, such as taxi, car rental and ride-pooling companies', for example, Go Car have an 'arrangement' with Wicklow CC. How does competition policy deal with that? The directive allows for us to make laws to bias things in favour of emission reduction, but we need to consider for example if the ESB had continued 'free' charging how would that enable competition for new entrants into the charging network? Maybe there is a possibility for a scheme where private operators get rental car spaces for EV only for public worker use? Reducing state maintenance purchase and insurance but encouraging zero emission transports? This is where 107 and 108 (Articles about the EU not affecting competition) of the Formation Treaty may apply.

Timeline

- Preliminary submission of information by Member States to the Commission by 2 August 2022 and continue with a first comprehensive report on the implementation of the minimum procurement targets in 2026 and every three years thereafter.
- Long term: By 31 December 2027, the Commission should review the implementation of Directive 2009/33/EC (which set 32% percent renewable production and emission metrics).

Ireland is already ahead on production.

So CSO have to be prepped and guidelines for County Councils and Semi states set up to enable reporting to CSO.

Specific codes in the Common Procurement Vocabulary will help the registration and monitoring under the Tenders Electronic Daily database (TED) (implies a formalisation of procedure for tender bids).

'support for market uptake of clean vehicles and their infrastructure can be achieved by providing targeted public support measures... use of Union funds to support the renewal of public transport fleets and better exchange of knowledge and alignment of procurement to enable actions at a scale great enough for cost reductions and market impact. The possibility of public support in favour of promoting the development of infrastructure necessary for the distribution of alternative fuel' but it does stipulate anti competition directives 107 and 108 in TFEU.

'facilitate and structure the exchange of knowledge and best practices between Member States in order to promote the purchase, lease, rent or hire purchase of clean and energy-efficient road transport vehicles by contracting authorities and contracting entities'.

‘assistance should include encouraging contracting authorities and contracting entities to pool their resources in the joint procurement of low emission and energy-efficient road transport vehicles, in order to achieve economies of scale’.

‘sustainable urban mobility plans (SUMPs). SUMPs are plans that are developed across individual policy areas and in cooperation with different levels of governance combining different transport modes, road safety, freight delivery, mobility management and intelligent transport systems’.

We can go broader than that and refer to UN ‘sustainable goal’.

A cursory investigation reveals National Politicians have private cars which they are not subject to saying if they are low or zero emissions. Could the SI change this?

Could it also regulate travel allowances based on use of ‘environmentally efficient and sound means of transport’? Or should that matter?

Current metrics

Dublin City council ‘Climate Action Plan’ have a strategy to procure EVs They have 33 with 10 more by end 2020 (compare again to the EU targets and Ireland meeting only 10% in transport)’ They have issues with a distributed charging network. So, we must consider charging infrastructure along with procurement. It is no use getting 100 workers to switch to EVs and have only 2 chargers at work (unless they have free chargers installed at home). On the other hand, if you diverted a travel subsidy into a charging subsidy and made free charging or cheap charging available then given available capacity this will encourage a switchover.

Procurement of Ministerial Cars and Lord Mayor’s cars which have a very small footprint overall, but they may provide a role in promoting use of EVs.

Members’... flexibility to distribute efforts to meet the minimum targets within their territory, in accordance with their constitutional framework and in line with their transport policy objectives. In the allocation of efforts within a Member State, different factors could be taken into account, such as differences in economic capacity, air quality, population density, characteristics of the transport systems’.

Can we get Road capable LUAS?; Dublin Bus million journeys a day replacement; huge motorway development vs rail; Agri machines (Bord na Mona)

Policies to decarbonise transport and reduce air pollution (Dublin Bus, etc.)?

SI needs ‘valid’ and ‘reliable’ targets. The current one has qualitative rather than quantitative levels. IEOVA like the idea of a group of representative parties including Civil Society Bodies (you could include the CSO or MaREI or a transport economist) who would advise government on implementation of metrics and monitoring.

For example, the Current SI 339 of 2011 has the following in paragraph 4 mentions '...operational lifetime energy and environmental impacts ...shall include …

(a) energy consumption,

(b) carbon dioxide emissions, and

(c) emissions of—

- (i) oxides of nitrogen,
- (ii) non-methane hydrocarbons, and
- (iii) particulate matter.

Some suggestions for Phase I -II Agenda setting to Policy Formulation and Implementation

1. An audit of all available transports in the state (including those used by contract):

   - Government Departments
   - Local Authorities
   - Semi states (especially important for Dublin Bus, Bus Eireann, and Gardai and Defence Forces)

2. A determination of what % are replaceable by EVs (or lower emissions) and exemptions

3. An audit of all public workers' use of transport and possible replacements

Exemptions while acceptable should also be considered. For example, armoured vehicles, ambulances, hearses, wheelchair accessible vehicles of category, mobile cranes, vehicles designed and constructed for use principally on construction sites or in quarries, port or airport facilities, as well as vehicles specifically designed and constructed or adapted for use by the armed forces, civil protection, fire services and forces responsible for maintaining public order. Ireland does not have many 'tanks' but does have many trucks and minibuses in the DF. Whether remote DF locations come under procurement for wind and solar?

4. Formalise the committee we consulted with on EVs having someone from CSO/third level/industrial standards? This falls within the 'monitoring body and reporting obligations'

ANNEX I from the 2009 Directive

Data for the calculation of operational lifetime costs of road transport vehicles

Table 2: Energy content of motor fuels

Fuel	Energy content
Diesel	36 MJ/litre
Petrol	32 MJ/litre
Natural Gas/Biogas	33-38 MJ/Nm3
Liquefied Petroleum Gas (LPG)	24 MJ/litre
Ethanol	21 MJ/litre
Biodiesel	33 MJ/litre
Emulsion fuel	32 MJ/litre
Hydrogen	11 MJ/Nm3

Source: *European Commission, 2009*

Table 3: Cost for emissions in road transport (in 2007 prices)

CO2	NOx	NMHC	Particulate matter
0,03-0,04 EUR/kg	0,0044 EUR/g	0,001 EUR/g	0,087 EUR/g

Source: *European Commission, 2009*

Table 4: Lifetime mileage of road transport vehicles

Vehicle category (M and N categories as defined in Directive 2007/46/EC)	Lifetime mileage
Passenger cars (M1)	200 000 km
Light commercial vehicles (N1)	250 000 km
Heavy goods vehicles (N2, N3)	1 000 000 km
Buses (M2, M3)	800 000 km

Source: *European Commission, 2009*

References

CSO (2019), Statbank, *Road Traffic Volumes of Private Cars*, link

CSO (2019), Statistical Yearbook of Ireland 2019, *Transport*, link

CSO (2019), Transport Omnibus 2019, Vehicle licensing and registrations, Table 1.2, link

Engineers Ireland (2018), Accelerate investment in Transport infrastructure, p. 2, link

Environmental Badge (2020), Ecological zone Paris, link

EPA (2019), Greenhouse gas emissions from transport, link

EPA (2019), Ireland's Final Greenhouse Gas Emissions, p. 6, link

European Commission (2020), 'European Commission, National action plans', link

Irish Solar Energy Association (ISEA) (2019), Factsheet, *Solar in Ireland*, link

Irish Solar Energy Association (ISEA) (2020), Rule restricting number of solar panels is relaxed, link

European Commission (2020), National renewable energy action plans 2020, link

European Commission (2009), Promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC, link

MaRei (2020), Policy Brief, *Policy Evaluation in Ireland in the 21st Century – An Evolving Landscape*, p. 2, link