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Sent: 04 February 2017 12:13
To: National Planning Framework
Subject: Fossil Free Future

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Hi All,

The number of countries approaching 100% fossil free usage is growing and with electric transport and hybrid/electric vehicles this is going to accelerate.

Tesla for example have super charge points installed all over Europe (not Ireland) and just bought a German car maker as it prepares to start making millions of cars annually. All major car makers such as a Ford Focus or VW Golf are ready with the range for mass production.

Our approach to renewable energy is heavily focus on wind and R&D. We import €5 billion of fossil fuel and this was €10 billion with higher prices and I will show how with state owned generation of renewable these prices can be raised with a margin above inflation for a stable and incremental income to the state.

Our state should pursue power generation and capture this transfer of wealth, we send to the Middle East and North Africa which is funding war.

When transport is included we are no where near being fossil free without a major intervention.

What do we need?

We won't be exporting energy as Norway, Germany rapidly implement 100% renewable and the UK and France are major countries that will want its own market. Ireland needs to focus on capturing those billions from fossil fuel as transfer of wealth to the state.

Solar:

<http://www.reuters.com/article/us-climatechange-summit-france-solar-idUSKBN0TK5GW20151201>

Bordeux in France on 250 acres of land was funded by the EIB cost €360 million and powers around 300,000 homes. (Ireland only has 2 million homes),

Bord Na Mona own 175,000 acres of land and Coilite 8% of all land. Ireland has 80% of the solar light in the southern counties such as Wexford.

This can be built in a matter of months once all approvals are in place and the above project shows how 2,500 acres of land can power most of the daily requirement in homes and business.

Solar has been built in the UK without impacting wildlife.

Hydro:

Ard Na Crua is nearly 100 years working and provided the majority of power until the 60's. We have more suitable hydro sites by using the power grid to pump water and release it as demand required in glacial lakes and valleys. Hydro works 24/7.

Chile is currently building a large sea hydro plant which uses solar to pump the water and its then released.

We have had projects proposed in Mayo, Donegal, Galway and by a professor in Trinity where wind farm pumps the water and the hydro feeds the entire grid. There may more options such as an Ard Na Crua sea water canal for 300MW power in multiple locations.

Hydro is a 100 year investment vs wind and solar which is 25 years.

Our demand for electricity will be less as we move to better buildings, off grid generation etc.

Here are some published works on pumped hydro.

<http://www.hydroworld.com/articles/2015/12/chile-s-proposed-300-mw-espejo-de-tarapaca-pumped-storage-plant-gets-environmental-go-ahead.html>

<https://setis.ec.europa.eu/setis-reports/setis-magazine/power-storage/europe-experience-pumped-storage-boom>

<http://www.hydroworld.com/articles/2016/10/report-reveals-how-pumped-storage-hydro-benefits-the-uk.html>