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Electric vehicle progress depends on far higher capacity and much lower cost batteries

I'll report on progress at EESor after their AGM tomorrow.

The battery technology race continues hotting up, such as this press release...
<http://www.greentechmedia.com/articles/read/graphene-battery-too-good-to-be-true>

Admittedly graphene does seem to have promise, but short of it being an ultra-capacitor, the claim of 1,000 Whrs/kg is a bit steep. It seems to me that this development is only at the early stages and therefore suspect. If you remember my earlier comments, it may be possible to have electric airplanes operating on this level of energy density.

There is still a lot of work being done on dielectric polymers and this stuff from Penn State seems typical of the avenues being tried...

<http://phys.org/news/2015-08-flexible-dielectric-polymer.html#nRlv>

The mainstream media is picking winners on the back of the investments by Tesla and Sir James Dyson. Goldman Sachs reckon Lithium is the way forward. But in fast moving technology where do you make your pick?

http://seekingalpha.com/article/3960907-goldman-calls-lithium-new-gasoline-get-late-stay?source=email_macro_view_top_articles_1_1&ifp=0

Then there is Sir James Dyson's car manufacturing...

<http://www.theguardian.com/environment/2016/mar/23/dyson-developing-electric-car-government-documents>

There is of course a problem with the idea of electric vehicles. (this is where the fatalism bit starts J) There is well over one billion cars out there and probably a third as many trucks, buses etc. There is probably another half as many motor bikes. AND, our production of vehicles with an ICE drive continues to increase as this graph shows.

<http://www.statista.com/statistics/262747/worldwide-automobile-production-since-2000/>

How expensive, and how practical, will it be to scale up for mass-replacement?

Where will folk find the cash to replace fossil fuel driven vehicles, boats and planes with electrically driven ones even assuming there is the battery technology and materials? The answer is that they likely cannot. But in addition how do we scale up to produce a couple of billion batteries?

There are some crazy prognoses of 12 billion people by 2100, although the UN forecasts more like 9 billion. There will be many threats to this, not the least being the likely short-term collapse of the global economy and global financial system. But we must remember that the world's major agricultural aquifers are almost played out and we are finding strategic minerals less plentiful and harder to produce...the same goes for fossil fuels – despite current prices being below cost. Do we invest all our capital in finding and producing enough of these resources to stay alive, or to try to do so to make a transition towards a battery powered world?

<http://culture.todayquestions.com/1572707-04747617/?title=Population+Growth+the+Impact+on+the+Environment>

So far the claims that one or another technology will be the answer are a bit tenuous. We are faced almost daily by a stream of claims that this or that is the “new gasoline”.

One thing for certain is that the warm weather in February/March is getting all the climate change folks very agitated and causing a massive institutional bias against continued use of and investment in fossil fuels. If no substantial oil price happens this year, the volume of oil produced will not just drop, but will take years before it can ever grow again. In the respect public perception and political correctness, we have at least reached “peak hypocrisy”...

<http://www.zerohedge.com/news/2016-03-23/peak-hypocrisy-rockefeller-fund-divests-fossil-fuels-finds-standard-oil-successor-ex>

As any mathematician will tell you, “two into one won't go”. Yet our politicians are guided by economists who think the opposite. Take the Indians...

<http://www.dnaindia.com/money/report-india-to-be-a-nation-with-100-electric-vehicles-by-2030-says-piyush-goyal-2194483>

Does realism have any part to play?

<http://resourceinsights.blogspot.co.nz/2016/03/energy-policy-and-uninformed-opinion.html>