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Greece: temporary reprieve / Ukraine stand-off / The implausible Fed / Cutback in drilling rigs / Obama stymies Keystone again / Restraints on militant Islam / When solar energy fails / How good are batteries? / Will new batteries succeed? / Zenn/EESU looks promising

The EU has approved the temporary Greece plan but Europe is not out of the woods yet...

<http://www.bbc.com/news/world-europe-31606986>

and

<http://www.telegraph.co.uk/finance/economics/11433072/Troika-raises-fresh-concerns-over-Greeces-last-ditch-debt-deal.html>

meanwhile nothing changes..more is printed by the ECB, more is borrowed, and more cannot be repaid as each month passes...

http://seekingalpha.com/article/2948016-eurogroup-money-for-nothing-and-your-debt-for-free?source=email_macro_view_edi_pic_0_0&ifp=0

Meanwhile the issues of Greece, Ukraine and the relationship between USA and Iran remain linked and fragile...

Ukraine stand-off

https://www.stratfor.com/weekly/intersection-three-crises?mc_cid=b4d47921da&mc_eid=f6520e17b6

And training for the Ukraine army ...training in what?...

<http://www.telegraph.co.uk/news/politics/david-cameron/11432686/British-forces-head-for-Ukraine-as-David-Cameron-issues-warning-to-Vladimir-Putin.html>

The implausible Fed

The US economy seems managed by the Fed. Frankly Janet Yellen's comments on interest rates are the only news as the goosed markets head to new heights...preparing for a crash ...and when Janet provides an interest rate increase, a decrease in the dollar exchange rate...

http://seekingalpha.com/article/2944046-daily-state-of-the-markets-the-story-of-the-day-is?source=email_macro_view_mar_out_17_18&ifp=0

Cutback in drilling rigs

The cutback in drilling rigs is probably more serious for the USA (e.e Bakken) than anywhere else...those decline rates are ferocious.

<http://peakoilbarrel.com/bakken-data-tells-us/>

We know of the cut-back in rig use in USA shales, but what about deepwater progress elsewhere? Asia for example?

<http://www.bbc.com/news/business-31596810>

South America? From Seeking Alpha...the darling of the cornucopians?

Petrobras' ratings junk

“**Announcing its fourth downgrade** to the state-run oil company in five months, Moody's has cut Petrobras' (NYSE:PBR) ratings two steps into junk, and placed the new Ba2 ratings on review for downgrade. The ratings agency said the downgrade reflects increasing concern about the corruption investigations and liquidity pressures that might result from the delay of its audited financial statements. PBR **-1.5%** premarket.”

And Obama keeps playing politics as trains filled with ultra-light oil have a tendency to derail and explode ... from Seeking Alpha...

Obama stymies Keystone again

“**As expected, President Obama swiftly vetoed** a bill approving TransCanada's (NYSE:TRP) Keystone XL oil pipeline, leaving the long-debated project in limbo for another indefinite period. Immediately after receiving the veto message, Senate Majority Leader Mitch McConnell, countered by announcing the Republican-led chamber would attempt to override it by March 3. Obama offered no indication of whether he'll eventually issue a permit for the pipeline, but a White House spokesman said it's "certainly possible" after the State Department review.”

Restraints on militant Islam

In Europe, legislative restraints on militant Islam cause a world outcry...while the kidnapping of many more Christians in preparation for their execution by ISIS does not raise as much as a murmur...

<http://www.bbc.com/news/world-middle-east-31622883>

and

<http://www.bbc.com/news/world-europe-31629543>

and a fairly high proportion of the UK's Muslim population have some sympathy with militant Islamists...

<http://www.telegraph.co.uk/news/religion/11434695/Over-a-quarter-of-British-Muslims-have-sympathy-for-the-Charlie-Hebdo-terrorists.-That-is-far-too-many.html>

There appears no balance between the right to worship and the right to peaceful existence. (Editor's note: see today's 'must read' article - the best explanation to date.)

When solar energy fails

Next month Europe could face an emergency. The new solar century has begun, but they expect a solar eclipse. What price grid storage?

<http://www.ft.com/intl/cms/s/0/6d366fc2-bb5b-11e4-b95c-00144feab7de.html?siteedition=intl#axzz3SdM0NdAM>

Life in the future will likely be enabled by electricity alone as energy storage via fossil fuels phases out. So issues like the one above will need to be thought through.

The advent of lower oil prices has hit those folk trying to sell or use renewable energy or battery storage...

<http://www.caseyresearch.com/cdd/david-stockman-tears-apart-tesla>

How good are batteries?

So let's recap on the energy storage situation...how good are batteries really? And have they caught up with the yet to be realised promise of the mythological EESU?

- The amount of energy in a kg of diesel is 11,600 whrs
- The amount of energy in per kg of lead acid starter battery is 18 whrs
- The amount of energy in the typical lithium-ion battery is about 70 whrs per kg
- The energy density required to power a commercial airliner must be more than 500 whrs per kg according to Elon Musk

Even so, one problem with li-ion batteries is that they must be managed between a tight temperature range and must never go below retention of 50% of their charge.

So there seems plenty of leeway yet for the mythological EESU to change our futures

Each of the major universities seems to have their own battery spin-offs. It seems that Quantscape are making rapid progress together with VW and planning to attack Tesla.

Then there is the MIT battery project – a company called “Solid Energy”. This is their latest offering...

<https://www.youtube.com/watch?v=oxNAJuFUmsY>

So at 120 whrs per litre, it could potentially provide an extended range for vehicles – but not by much and still retaining the same limitations.

Will new batteries succeed?

Then there are the battery majors like Panasonic (now partnering with Tesla to build their giga factory) and LG Chem (now partnering with Siemens). Each has something they claim as advanced. But how advanced?

To be really useful in motor vehicles it needs to be cheaper than current and projected costs and it needs to be ahead of 350whrs per litre or about 450 whrs per kg. It also needs to recharge in minutes rather than hours and to use the entire charge rather than a portion of it.

Meanwhile Lockheed Martin (who are sitting on the side-lines watching the development of the mythological EESU and with rights to use it for all government applications just get deeper into it as diversification from fighter planes and missiles...

<http://www.usatoday.com/story/money/columnist/2015/02/22/column-bill-loveless-lockheed-marting-energy/23708149/>

Zenn/EESU looks promising

This week we expect another set of quarterly accounts and at the forthcoming AGM we expect to hear something of what the company has been doing with its new cash – in terms of development work with extra staff and the results of any IT testing and the promotion of the multi-layer samples of capacitor dielectric to prospective JV partners.

Lockheed Martin still have the rights to Government use of the mythological EESU but that requires them to make progress payments of about USD120 million after the concept is proven to their satisfaction. The recent acquisitions have not abated their interest in the EESU.

Remember this. No-one yet has a suitable grid storage product.

The chosen steps by Zenn and EEStor are however, to raise money through capacitor JVs and then focus on finishing the development of the EESU. It seems the main impediment to the use of CMBT as a revolutionary energy storage dielectric, lies in the resin composition sufficient to resist lattice strain and thereby (via cracking) the leakage that has plagued previous iterations of the EESU.