

Big Drop Energy



E0321 Presentation - Timotej Šulík

Our energy sources are changing!



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But there is a problem.



11:21



11:23



The solution?

Who are we?



Ecologically responsible people



What do we want?



Energy storage



When do we want it?



When the EU pays for it



OK, maybe not always batteries.

- Capacity?
- Response time?
- Cost?
- Requirements?

Physics!



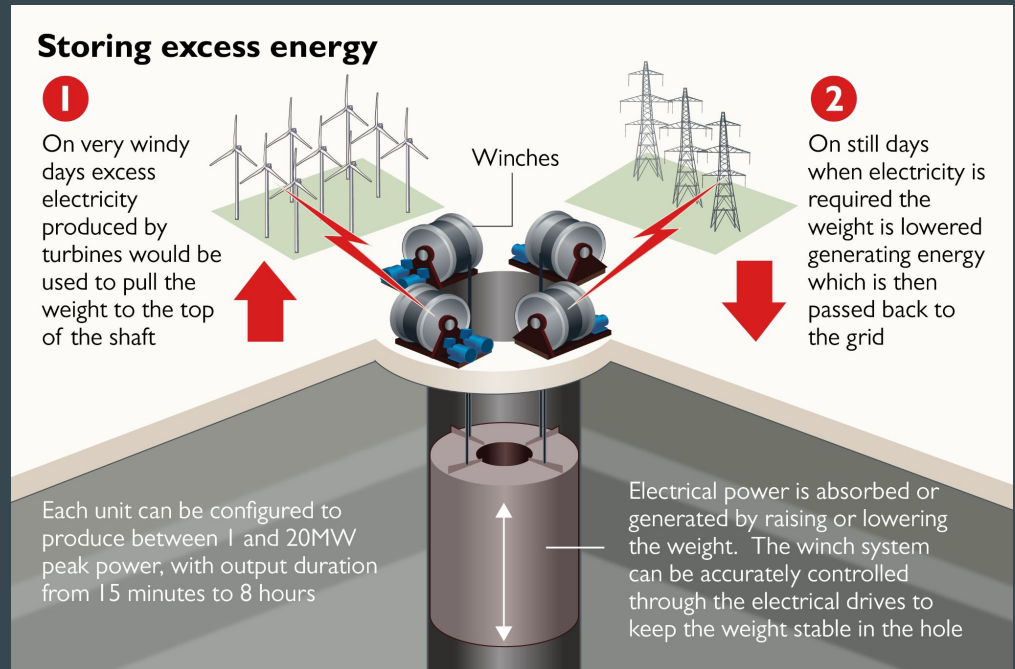
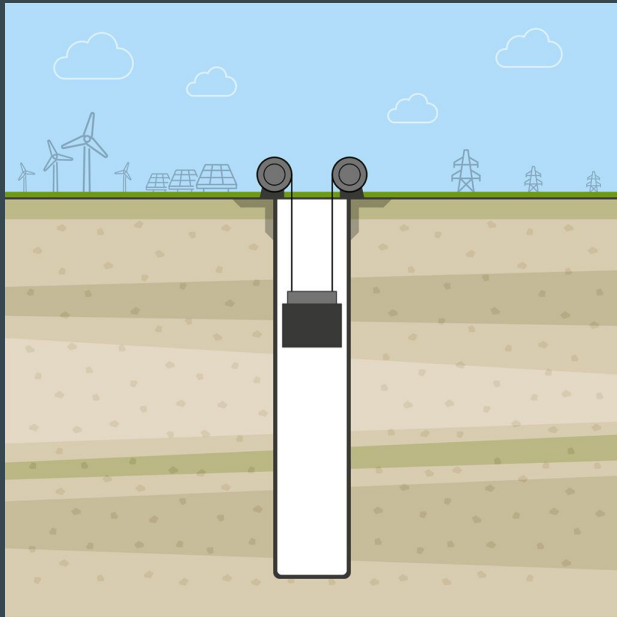


A Damn Fine Dam



Big Drop Energy!

- We can drop other things besides ourselves and water
- Company named Gravitricity



Give me some numbers

- Sub-second response time
- 500-5000-tonne weight
- 10 MWh
- Enough to power 13,000 homes for two hours

Which one is the best?

No single option is the best!

	Chemical battery	Pumped hydro	Big drop
Response time	Instant	15 seconds - 5 minutes	Sub-second
Lifespan	5-15 (25) years	40-100 years	25-50 years
Energy density	100-265 Wh/kg	0.5-3 Wh/kg	Varies; better than hydro
Infrastructure requirements	None	Insane	Hole in the ground
Cost	\$100-300 per kWh	\$100-200 per kWh	\$150 to \$200 per kWh

Where do we put it?

- Around 70 000 unused vertical shafts in the UK after coal mines
- Next market is reportedly the Czech Republic
- Ostrava! - Planned project for 30 000 000 EUR (700 000 000 CZK)

<https://www.e15.cz/byznys/prumysl-a-energetika/v-cesku-vznikne-prvni-gravitacni-elektarna-na-svete-postavi-ji-britsky-startup-1396719>

<https://www.vsb.cz/cs/detail-novinky/?reportId=44964&linkBack=%2Fcs%2Fmedia%2Ftiskove-zpravy%2Findex.html>