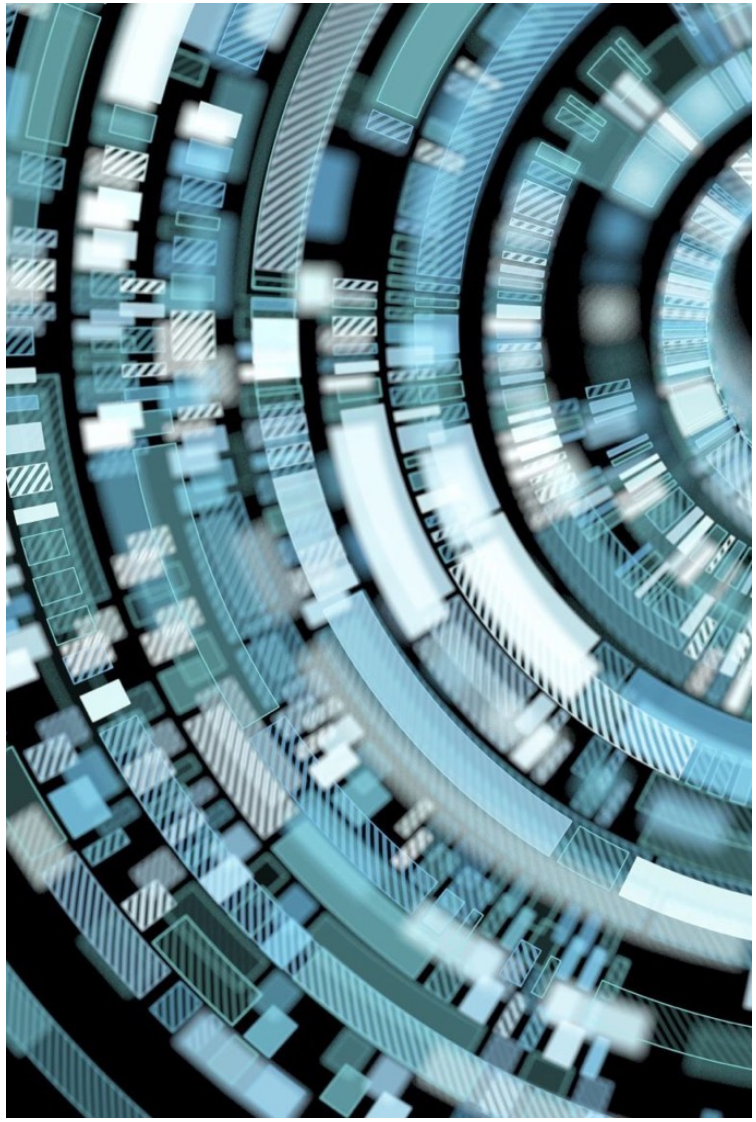
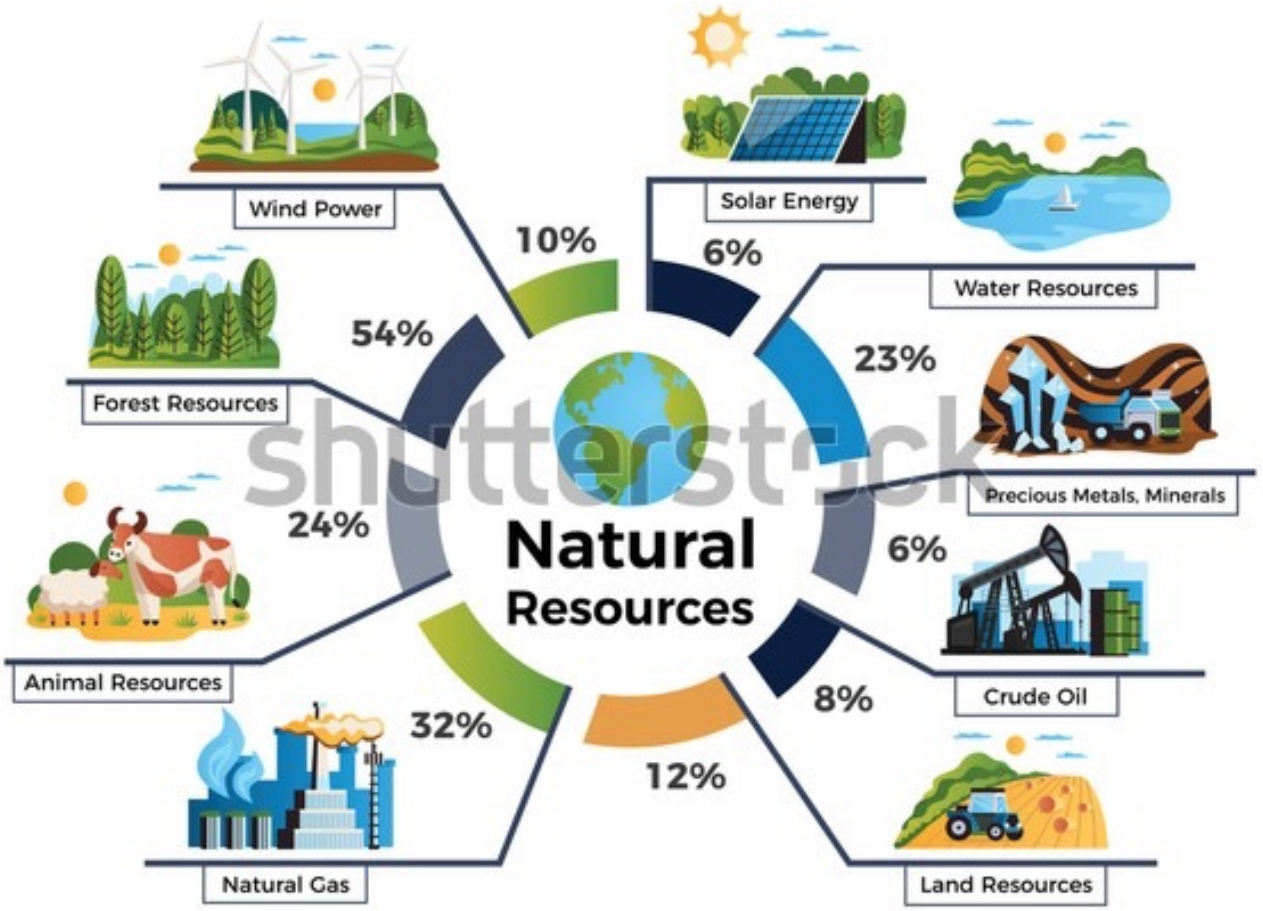


Ressursid, X-neutraalsus ja rohe-amokk

Alvar Soesoo
Tallinna Tehnikaülikool, professor
Tartu Ülikool, külalisprofessor

Mis on ressursid?

- The Earth's natural resources include **air, water, soil, minerals, fuels, plants, and animals**. ...



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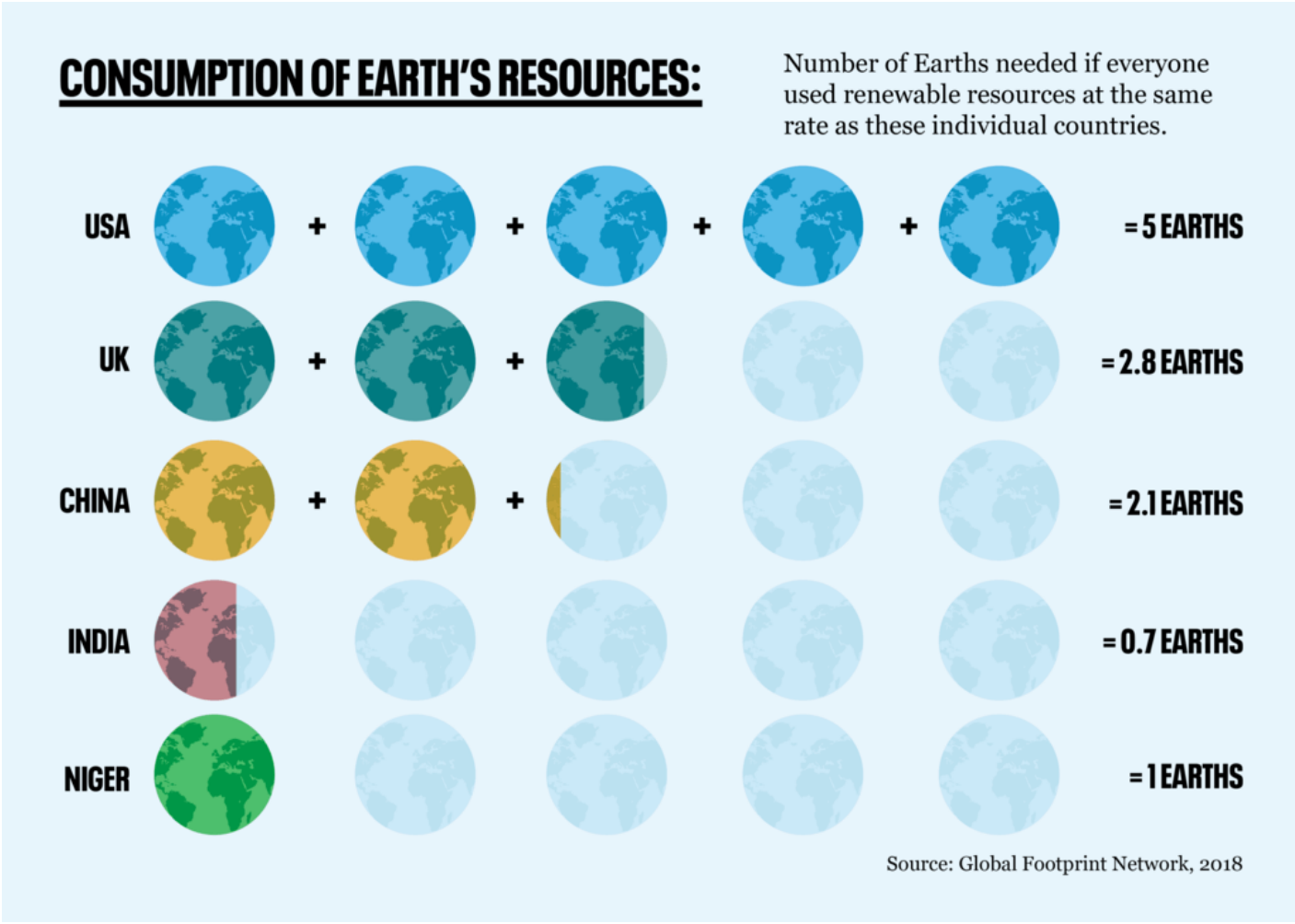
sciencephoto.com


CONSUMPTION OF EARTH'S RESOURCES:
Number of Earths needed if everyone used renewable resources at the same rate as these individual countries.
USA
= 5 EARTHS
UK
= 2.8 EARTHS
CHINA
= 2.1 EARTHS
INDIA
= 0.7 EARTHS
NIGER
= 1 EARTHS
Source: Global Footprint Network, 2018

Mis on neutraalsus?

- **Sooneutraalsus** on ühiskonnapoliitiline käsitus, mille kohaselt ranged soorollid on ebasoovitavad. Probleemiks võib olla soopimeduse tekkimine kui rakendatud meetmed mõjuvad erinevale soole erinevalt.
- **Kliimaneutraalsus** on seisund, kus üks piirkond ei paiska õhku vähem ega rohkem kasvuhoonegaase kui ökosüsteem parasjagu siduda jõuab. Aga ka siin võib tekkida kliimapimedus!
- Inglise k. ***neutrality*** on neutraliteet, erapooletus, sekkumatus, seega……
- Et kontrollida **kliimat**, peame aga kontrollima pea kõiki planetaarseid, sh. geoloogilisi protsesse … edu vulkaanide taltsutamisel!

Mis on rohekokkulepe, -areng, -poliitika, majandus jms?

The EU Green Deal – a roadmap to sustainable economies

Vaat selline on see plaaaaaan……

- Climate change and environmental degradation are an existential threat to Europe and the world. To overcome these challenges, the European Green Deal will ***transform the EU into a modern, resource-efficient and competitive economy***, ensuring:
- no net emissions of greenhouse gases by 2050
- economic growth ***decoupled*** from resource use
- no person and no place left behind
- The European Green Deal is also our lifeline out of the COVID-19 pandemic. **One third of the 1.8 trillion euro** investments from the NextGenerationEU Recovery Plan, and the EU's seven-year budget will finance the European Green Deal.

'Running amok' is generally used to describe wild or unruly – but ultimately harmless – behaviour. But the origin of this phrase has more sinister origins, as this answer shows...

historyextra.com/period/georgian/why-we-say-phrase-run-running-amok/

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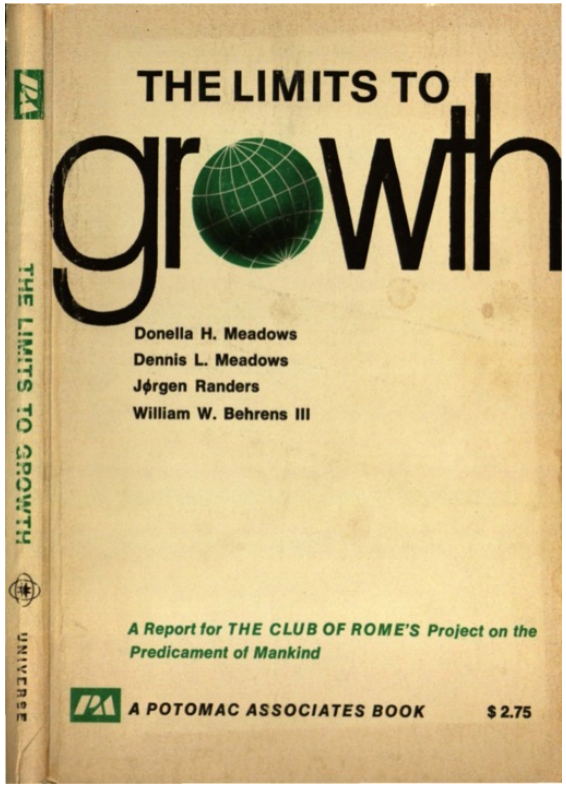
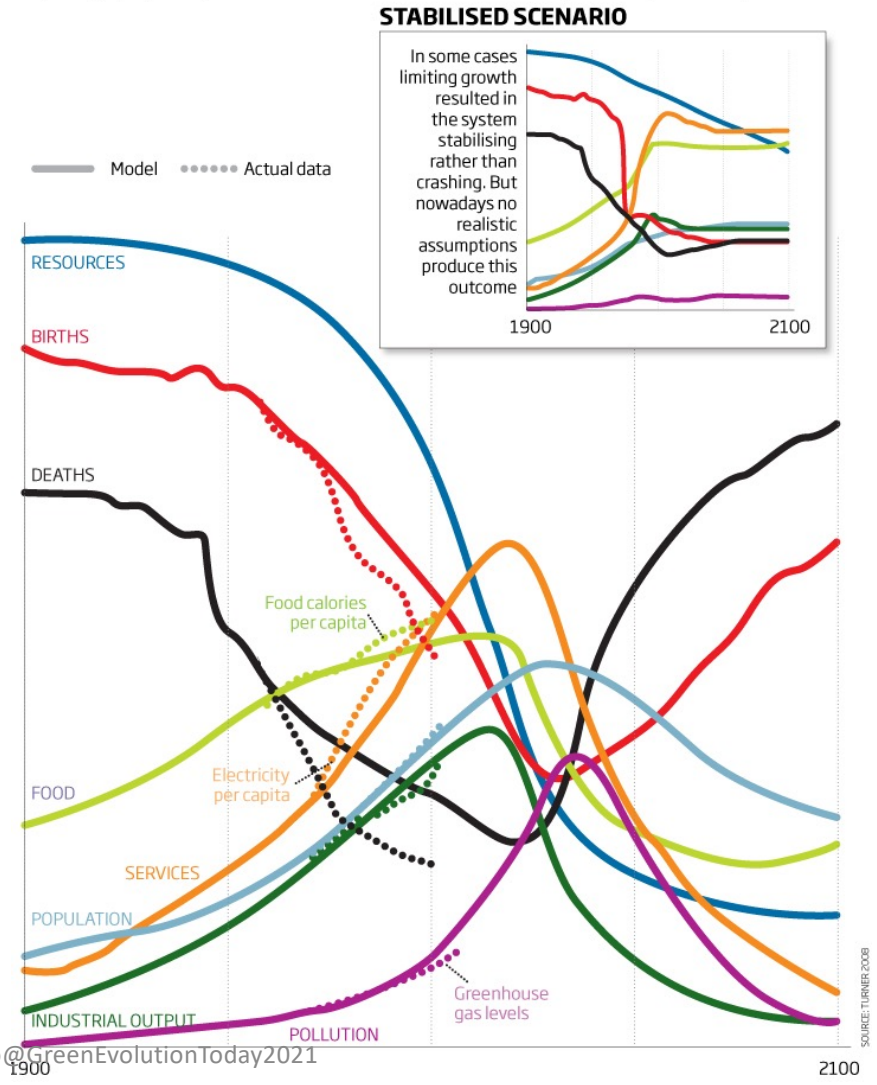


Boom and bust

©NewScientist

In most runs of the World3 computer model, rapid growth is followed by sharp decline. So far the standard run (main graphic) corresponds well with measurements of real-world equivalents (dotted lines)



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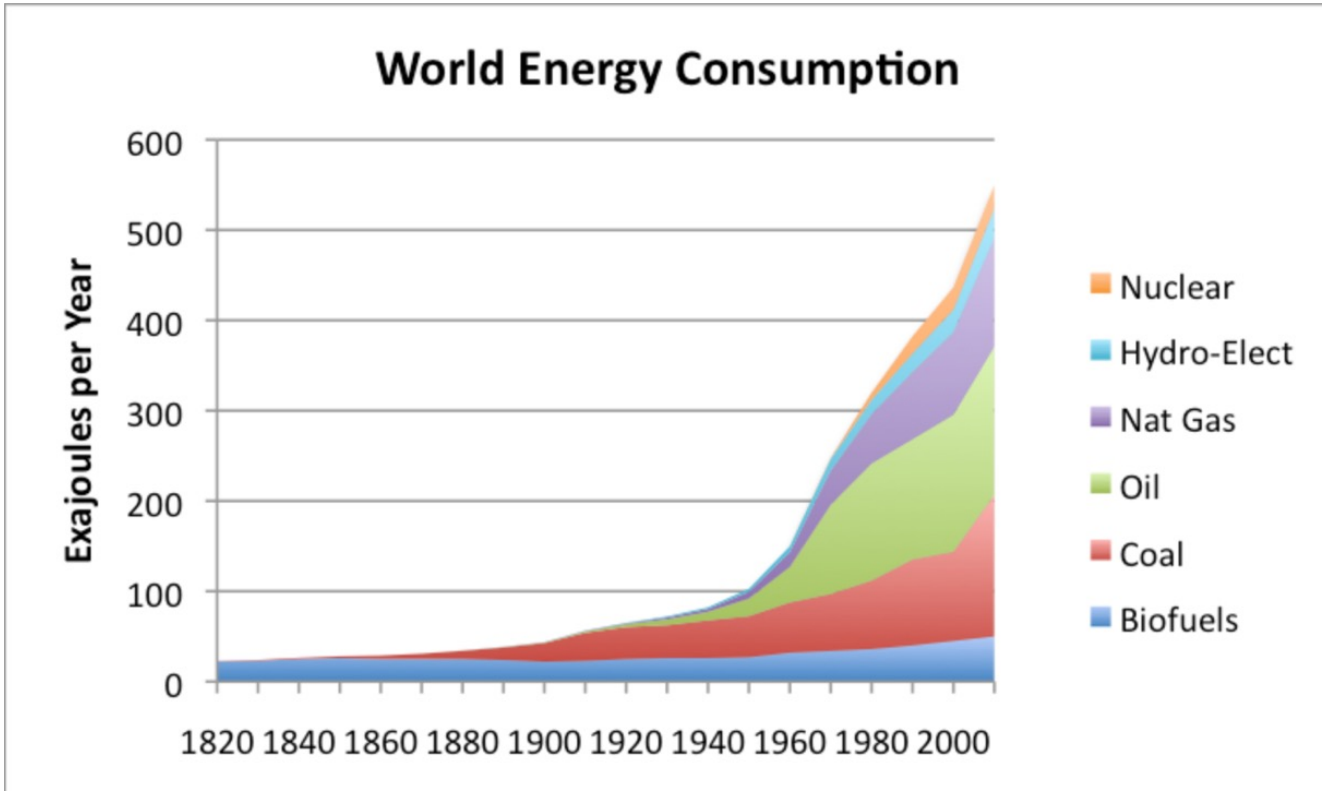
TÖÖSTUSTOODANG
TOIT
TEENUSED
ELANIKE ARV

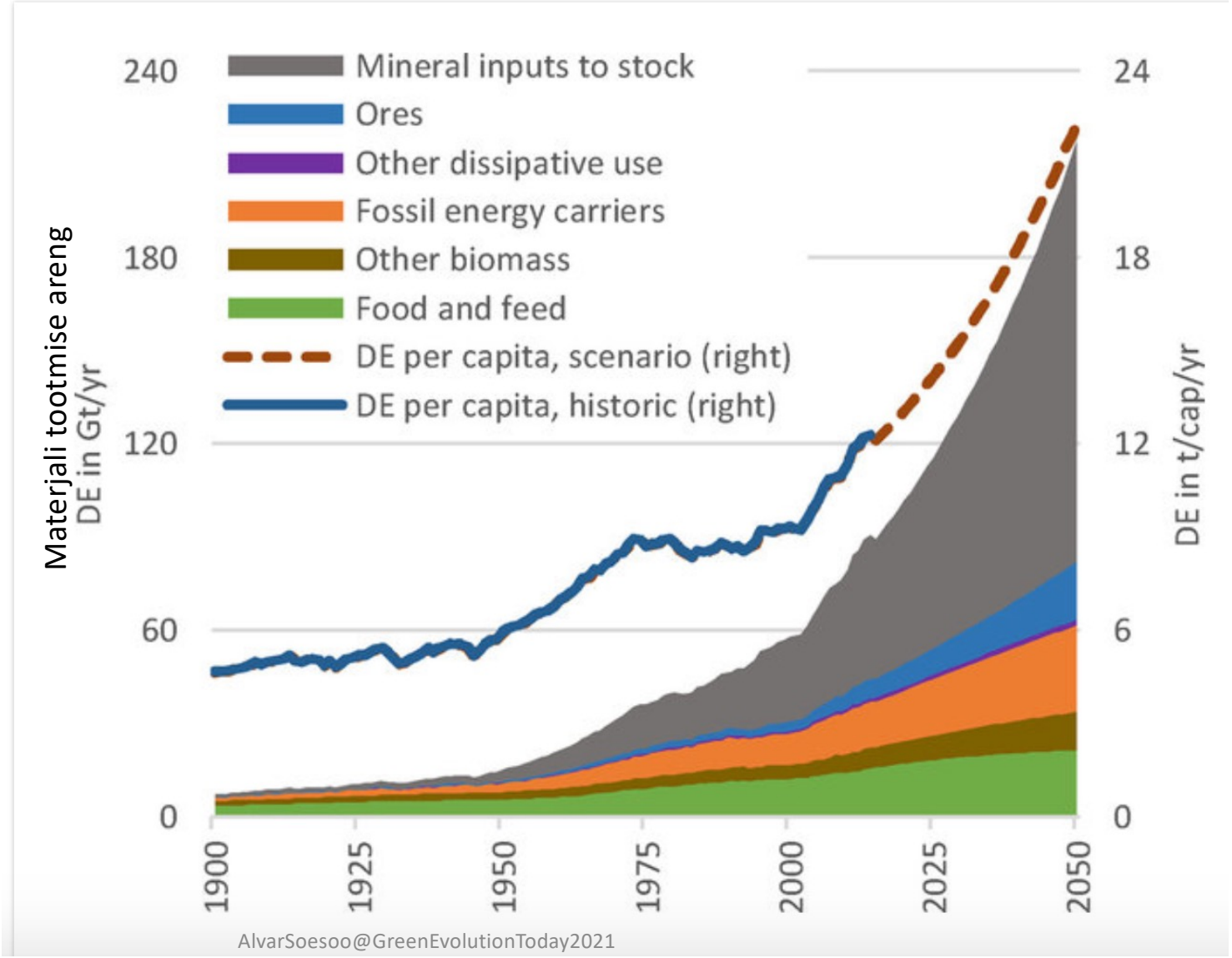
- Global Industrial output per capita reaches a peak around 2008, followed by a rapid decline
- Global Food per capita reaches a peak around 2020, followed by a rapid decline
- Global Services per capita reaches a peak around 2020, followed by a rapid decline
- Global population reaches a peak in 2030, followed by a rapid decline

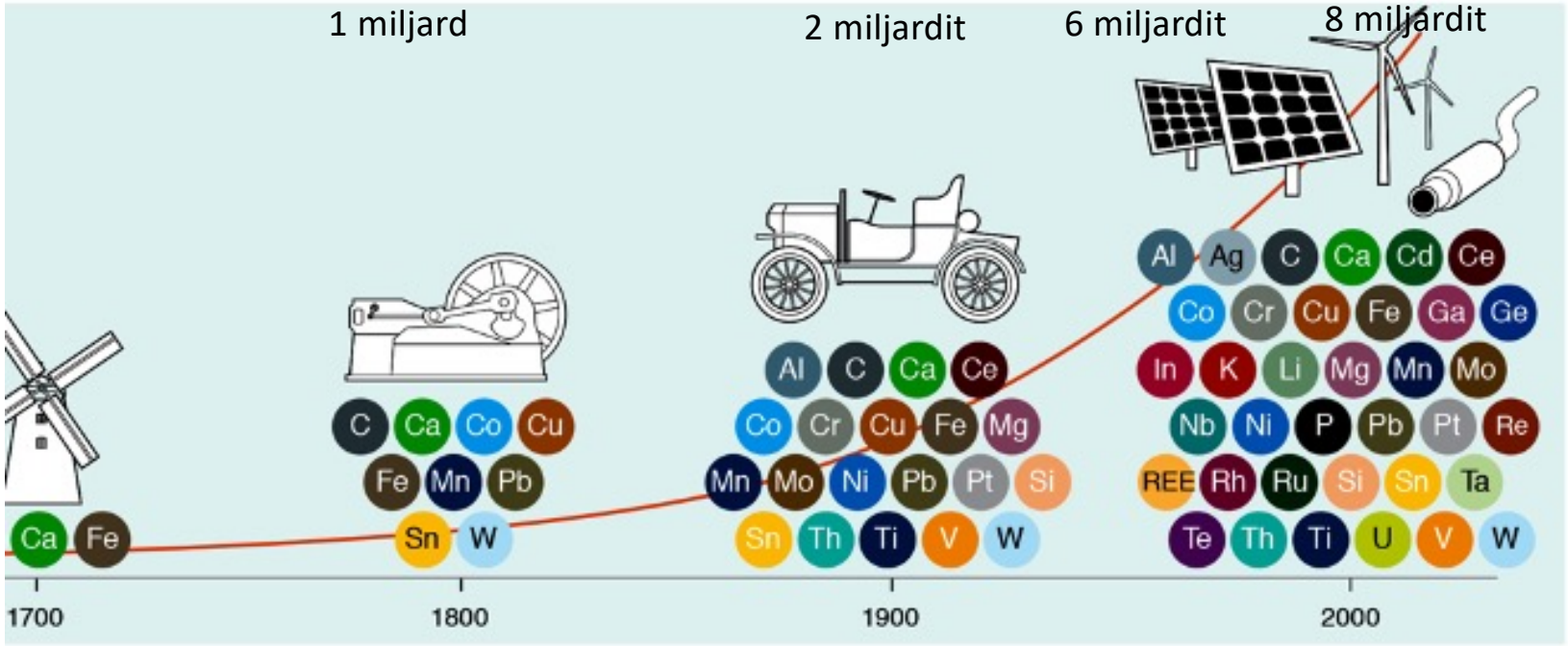
Ressursside kasutamise trend

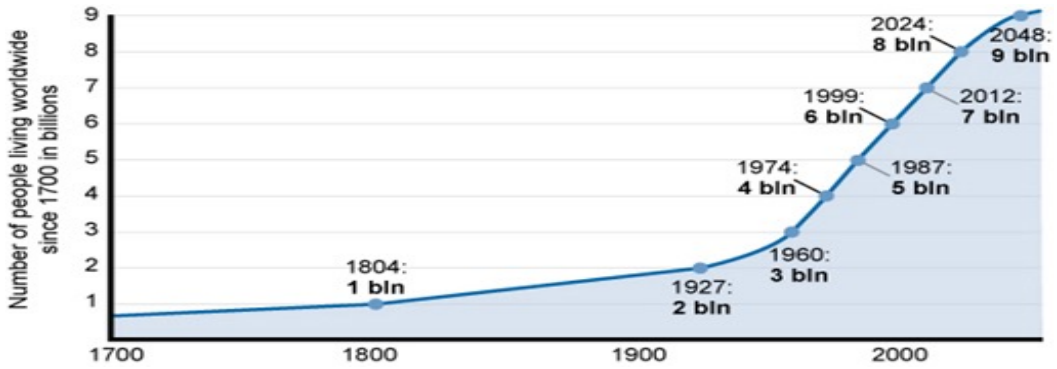


Mineraalne aines
Maagid

Fossiilne energia
Biomass
Toit
Toodang/in kohta
Toodang reaalne




1 miljard
2 miljardit
6 miljardit
8 miljardit
Ca Fe
C Ca Co Cu Fe Mn Pb Sn W
Al C Ca Ce Co Cr Cu Fe Mg Mn Mo Ni Pb Pt Si Sn Th Ti V W
Al Ag C Ca Cd Ce Co Cr Cu Fe Ga Ge In K Li Mg Mn Mo Nb Ni P Pb Pt Re REE Rh Ru Si Sn Ta Te Th Ti U V W
1700
1800
1900
2000


Number of people living worldwide since 1700 in billions
1 2 3 4 5 6 7 8 9
1804: 1 bln
1927: 2 bln
1960: 3 bln
1974: 4 bln
1987: 5 bln
1999: 6 bln
2012: 7 bln
2024: 8 bln
2048: 9 bln
1700
1800
1900
2000

Praegune realiteet…

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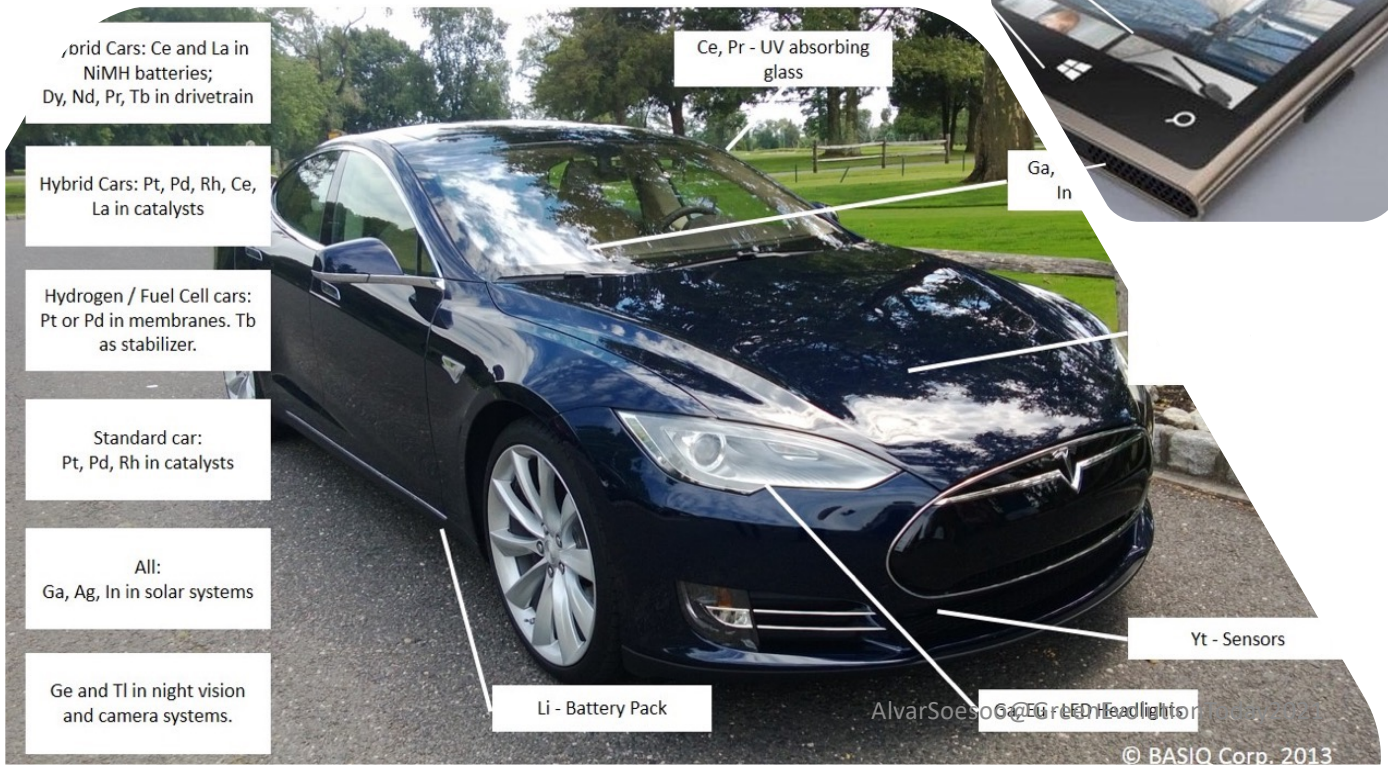
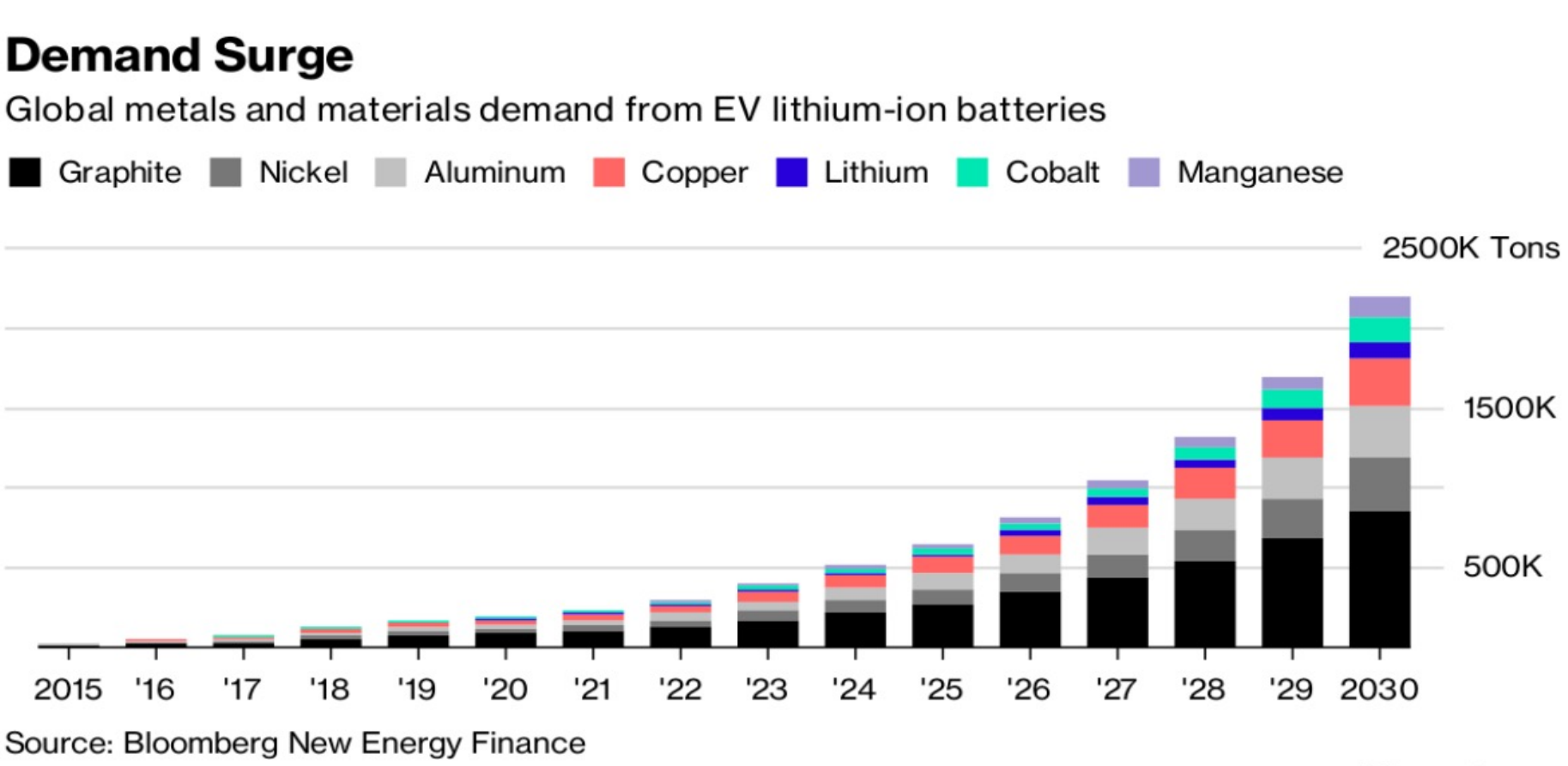


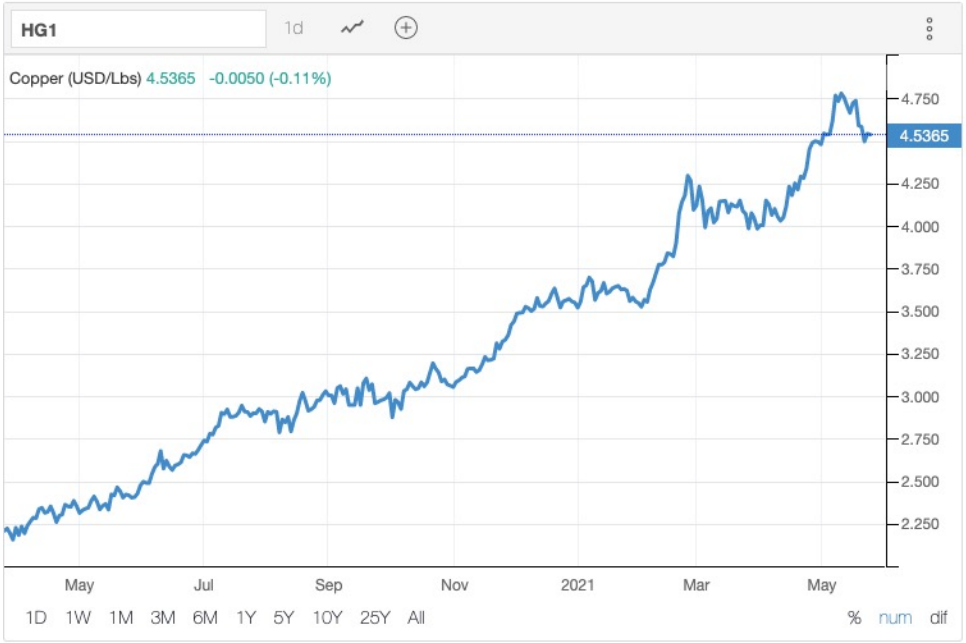
NÜÜD ME TEEME KÕIKE TEISTMOODI:

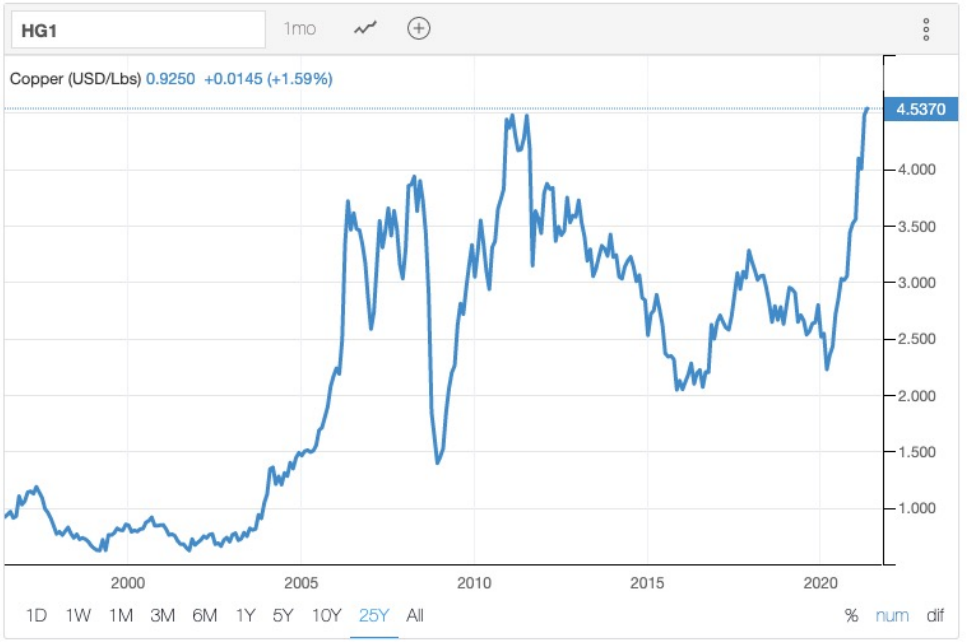
KUHU LÄHEVAD “UUED” RESSURSID?



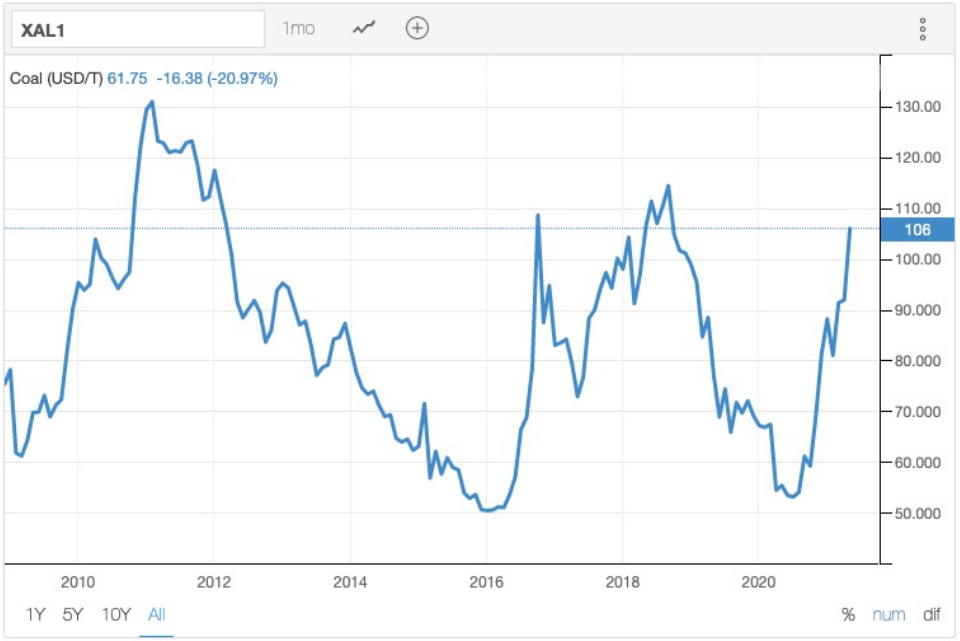
!!Akumetallid – tuleviku tehnoloogiad
ja roheline majandamine – 2030!!

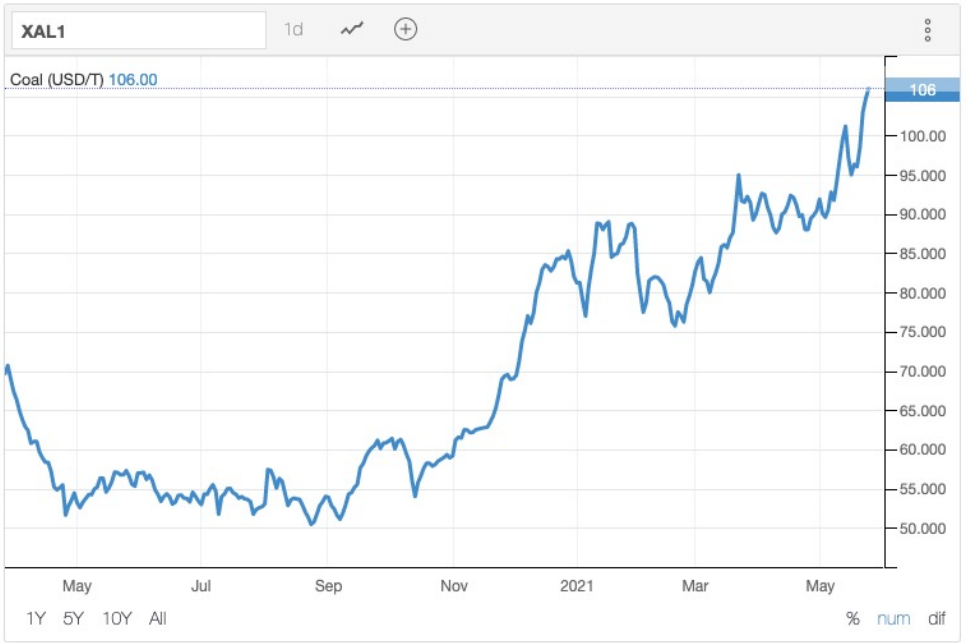
Vask


HG1
1d
Copper (USD/Lbs) 4.5365 -0.0050 (-0.11%)
4.750
4.5365
4.250
4.000
3.750
3.500
3.250
3.000
2.750
2.500
2.250
May
Jul
Sep
Nov
2021
Mar
May
1D 1W 1M 3M 6M 1Y 5Y 10Y 25Y All
% num dif


HG1
1mo
Copper (USD/Lbs) 0.9250 +0.0145 (+1.59%)
4.5370
4.000
3.500
3.000
2.500
2.000
1.500
1.000
2000
2005
2010
2015
2020
1D 1W 1M 3M 6M 1Y 5Y 10Y 25Y All
% num dif

Süsi

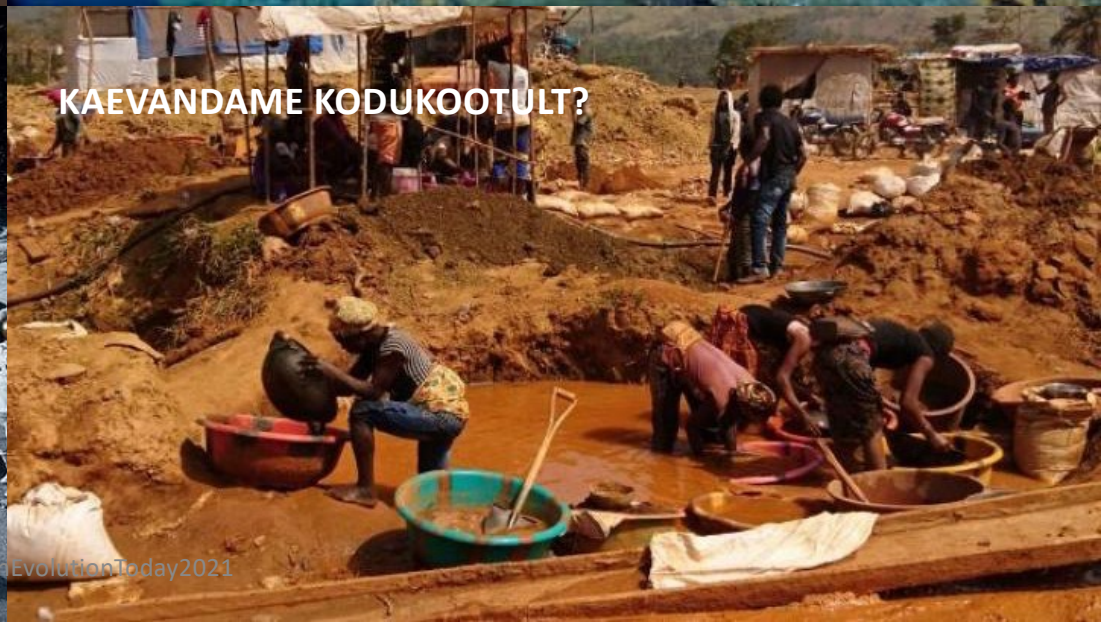

XAL1
1mo
Coal (USD/T) 61.75 -16.38 (-20.97%)
130.00
120.00
110.00
106
100.00
90.000
80.000
70.000
60.000
50.000
2010
2012
2014
2016
2018
2020
1Y 5Y 10Y All
% num dif


XAL1
1d
Coal (USD/T) 106.00
106
100.00
95.000
90.000
85.000
80.000
75.000
70.000
65.000
60.000
55.000
50.000
May
Jul
Sep
Nov
2021
Mar
May
1Y 5Y 10Y All
% num dif

Kust siis metalle ikkagi saada???

- ***Nii praeguse majandustegevuse kui ka rohelisema majandamise algusperioodil (mis võib kesta kümneid aastaid!) ei pääse märksa ulatuslikumast metallide kaevandamisest. Kas oleme valmis minema ookeanide alla ja kosmosesse?***

- ***Või on olemas veel mingeid võimalusi?***



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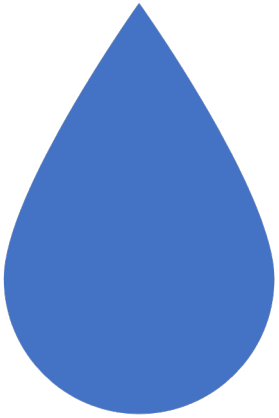
KÜSIMUSED JÄTKUVAD.....

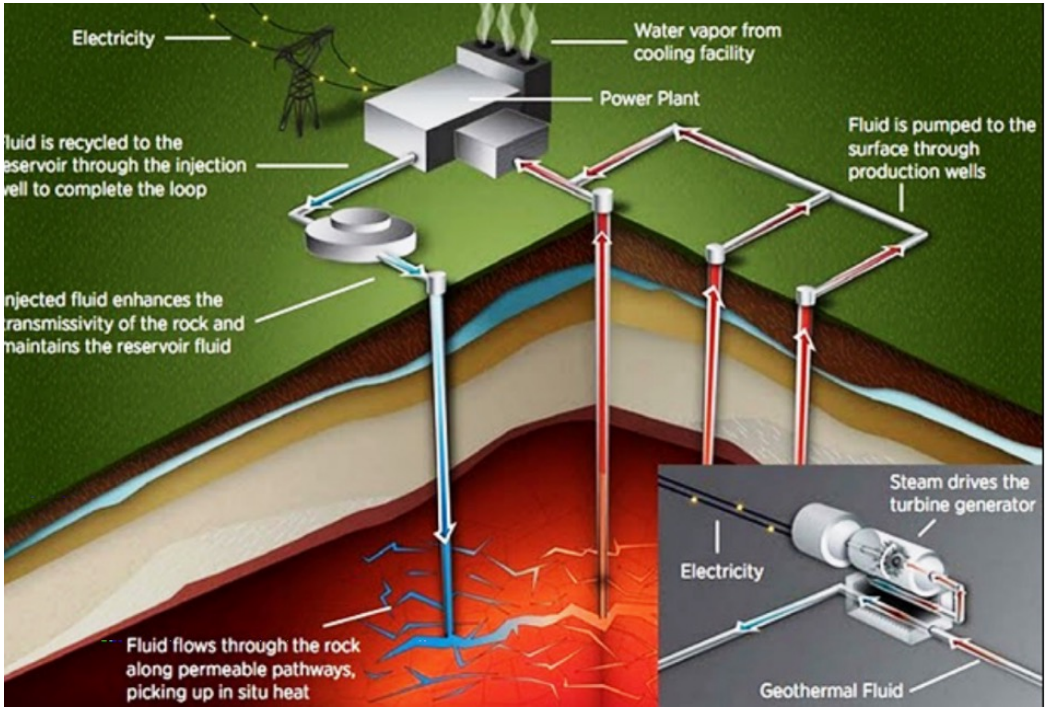
- ***Sellises koguses metalle pole keskkonda säästvalt võimalik PRAEGU kaevandada ega toota! Milline on väljapääs?***

- ***Kas olemasolevaid tehnoloogiaid saab asendada poliitilise tellimuse alusel uute kallimate tehnoloogiatega, kui varasem maailma ajalugu näitab vastupidist?***



AGA ENERGIATOOTMINE????

Tuul *versus* vesi *versus* päike!!



Tuumajaam *versus* geotermaal-energia!!

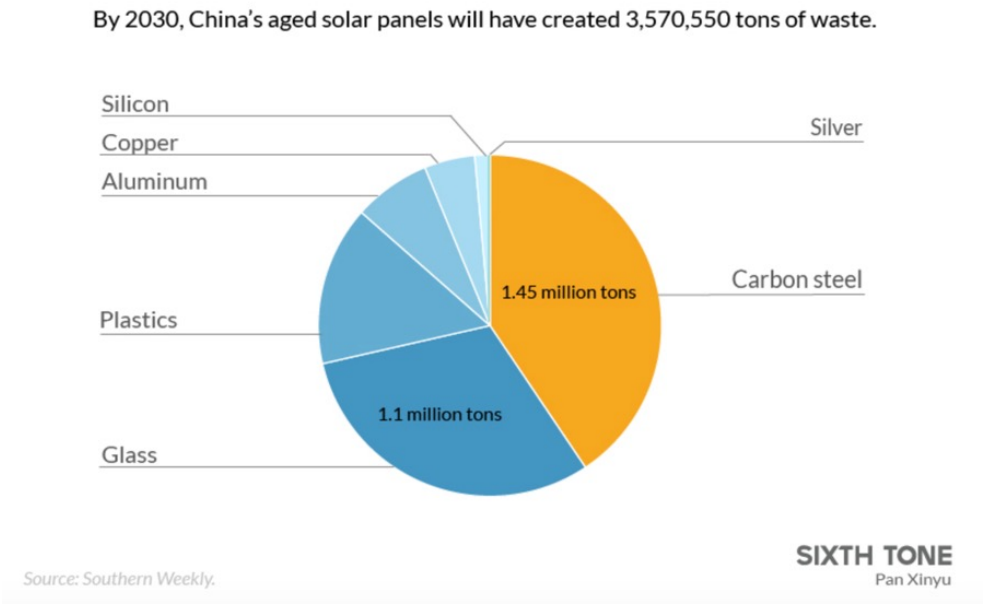
Roela rahvas protesteerib: ümber elamurajooni plaanitakse

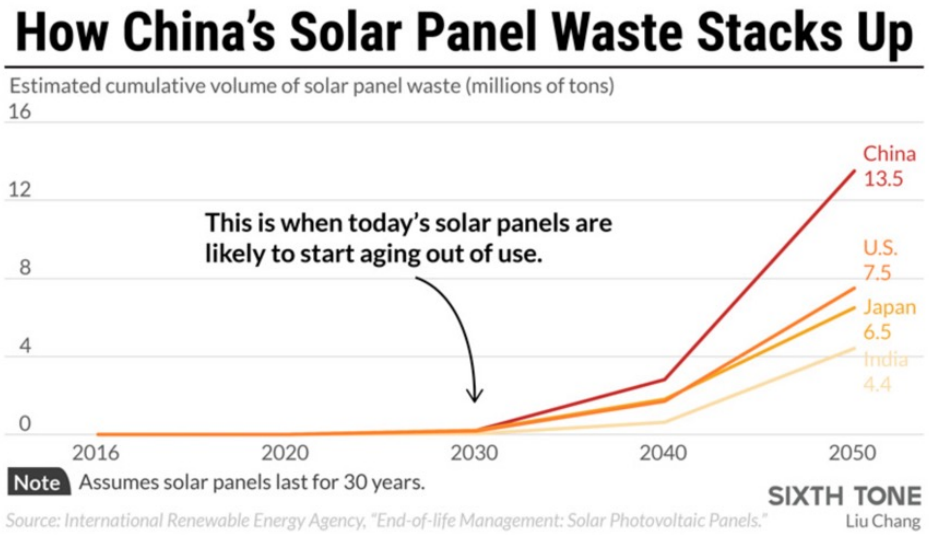
Rahva hääl ja kodusõda

Maaleht, mai 2021

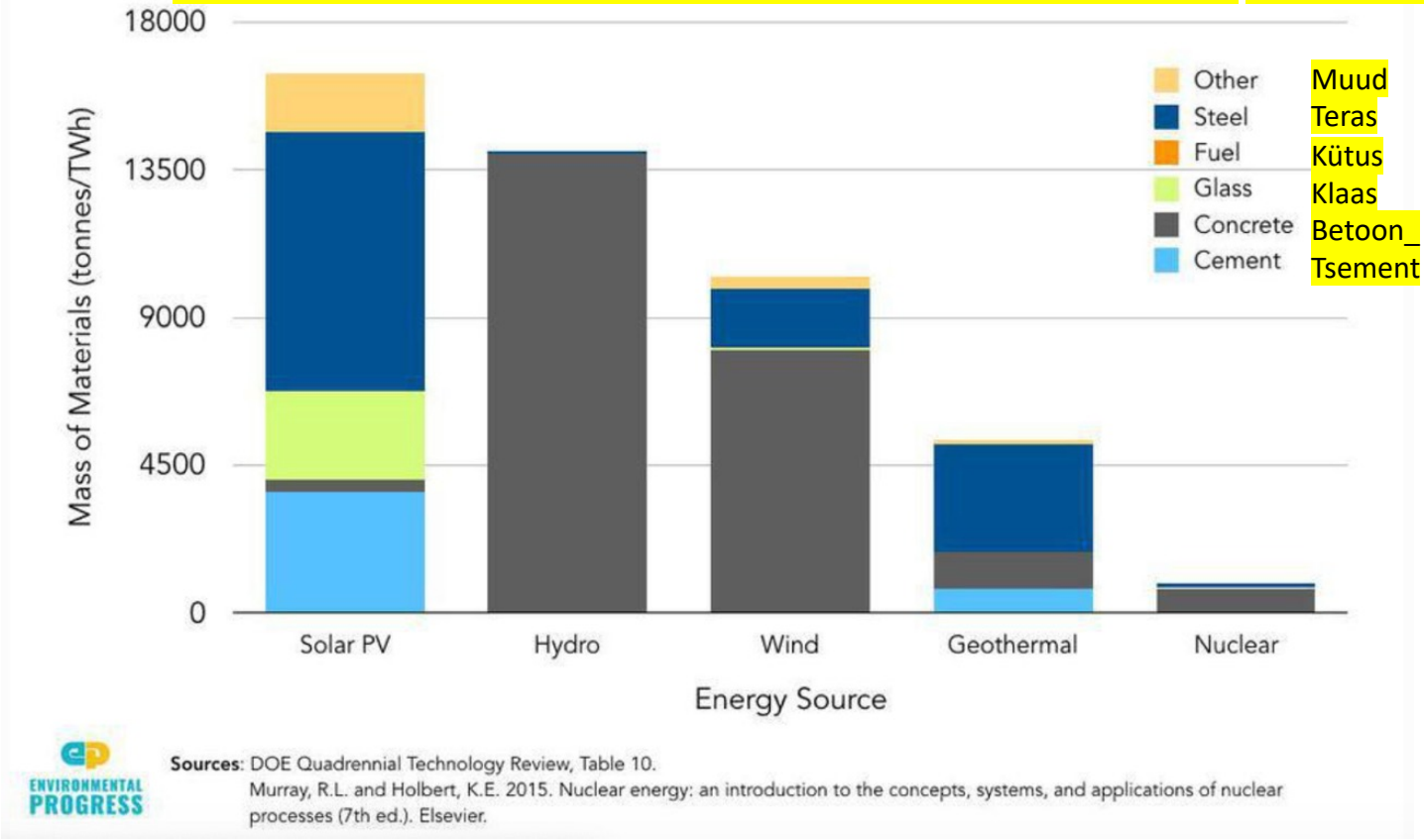
Päikesepaneelid on ka varsti prügi…

- Muidugi saabub osa metalle kenasti ringlusse tagasi. Eks ole tore ju!!!





Kui palju vajame maapõueressursse erinevate energiaallikate kasutamisel; arvestus tonnides TWh'I kohta



Mida kaasa võtta?

- **Globaalne tegevusmuster on muutuses viimase kümnendi jooksul, COVID oluliselt kiirendas ja viis arengu üle punkti, kust tagasiteed pole….**
- **Uued rohearengu suunad on aga vastuolulised, algamas amokijooks…**
- **Süsinikku eiravale transpordile ja energiatootmisele üleminek aeglane kuid võimalik, kuid praegune rohepoliitika ei tööta ega toeta seda üleminekut….**
- **Praeguse tehnoloogia alusel akude-baasil töötavale transpordile üle minna pole võimalik – ei ole lihtsalt metalle sellises koguses kaevandada**
- **Et tarbimist reaalselt piirata on vajalik totaalne muutus praeguses sotsiaal-majanduslikus kasumile ülesehitatud ühiskonnamudelis**

TÄNUD ÄRAKUULAMAST!

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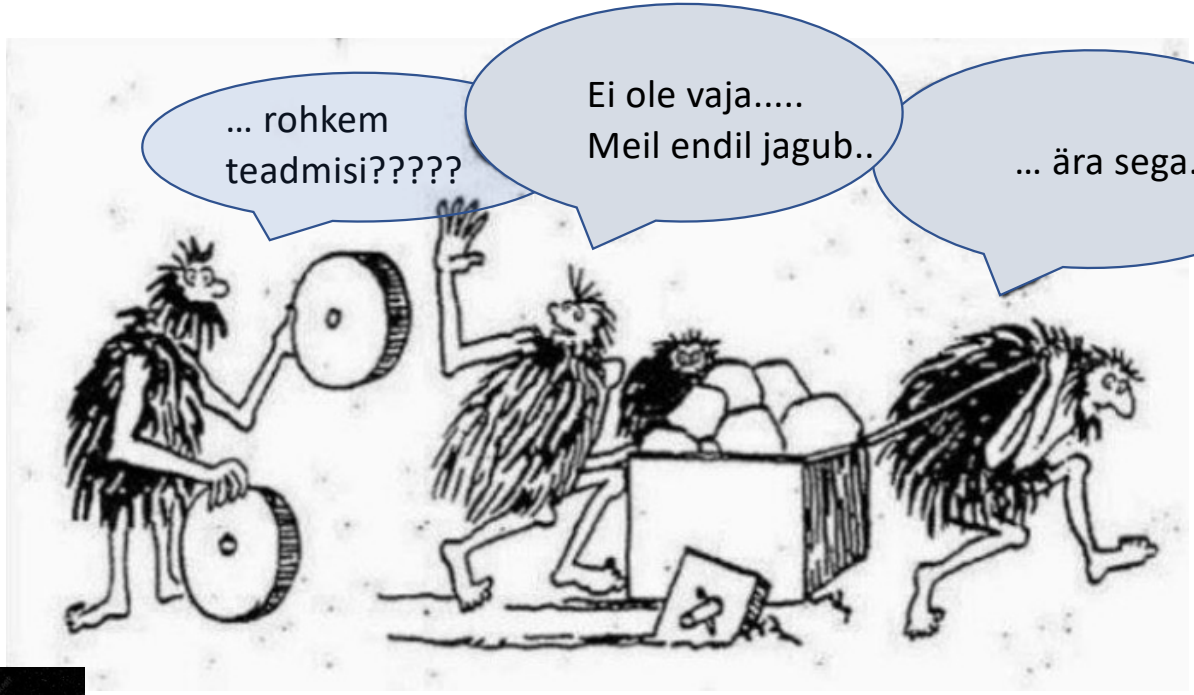
alvar.soesoo@gmail.com



… et ei areneks selline must stsenaarium ….?