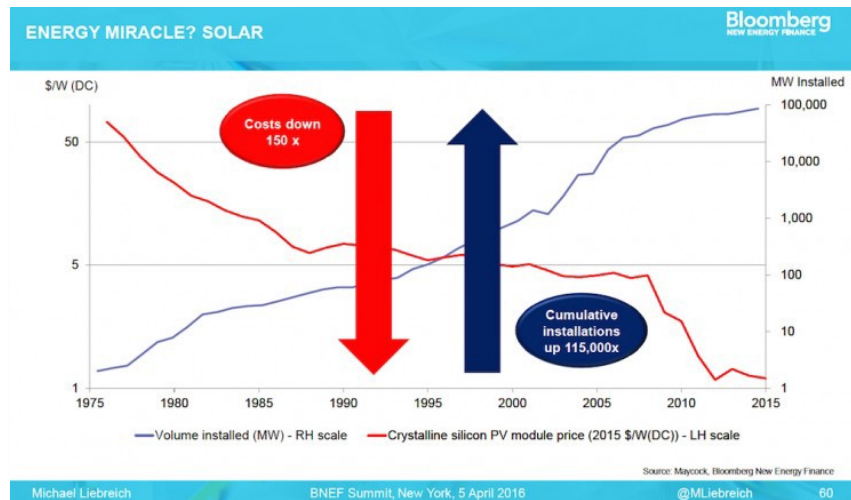


Grønn innovasjon på digital trampoline

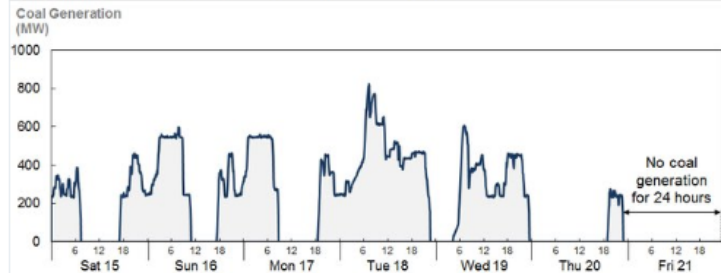
Håkon Haugli,
Abelia, NHOs forening for kunnskaps- og teknologibedrifter.
11. mai 2017

#DetSkjer



Great Britain goes without Coal Generation for 24 hours

Friday 21st April 2017 was the first 24-hour period since the 1880s where Great Britain went without coal-fired power stations.



nationalgrid | nationalgrid.com/uk/

NG Control Room
@NGControlRoom

[Follow](#)

National Grid can confirm that for the past 24 hours, it has supplied GB's electricity demand without the need for **#coal** generation.

12:11 AM - 22 Apr 2017

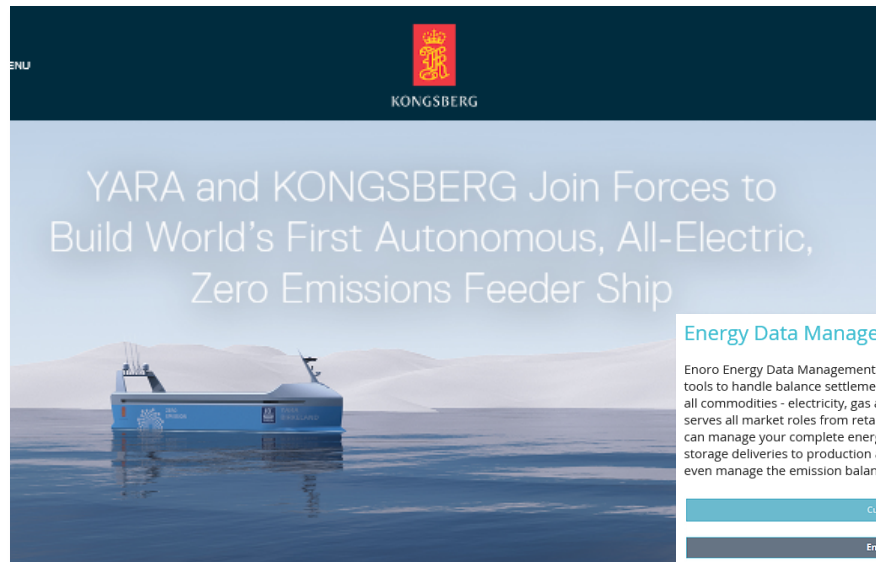
1,940 1,775



Kees van der Leun @Sustainable2050

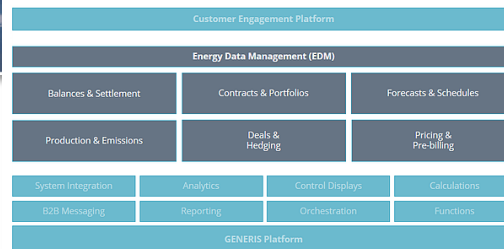
On Friday, wind produced 10% of Europe's electricity. Ireland 58%, Denmark 49%, Portugal 39%, Spain 32%, Sweden 14%, Lithuania 13%, Ger 12%

Taktskifte i norsk næringsliv



Energy Data Management

Enoro Energy Data Management (EDM) provides your organization with effective tools to handle balance settlement, forecasting and pricing. Enoro EDM supports all commodities - electricity, gas as well as district heating and cooling. Enoro EDM serves all market roles from retailer to balance responsible. With Enoro EDM you can manage your complete energy supply chain from fuel procurement and storage deliveries to production and consumption of the energy product, and even manage the emission balances.



Architecture of Enoro Energy Data Management solution

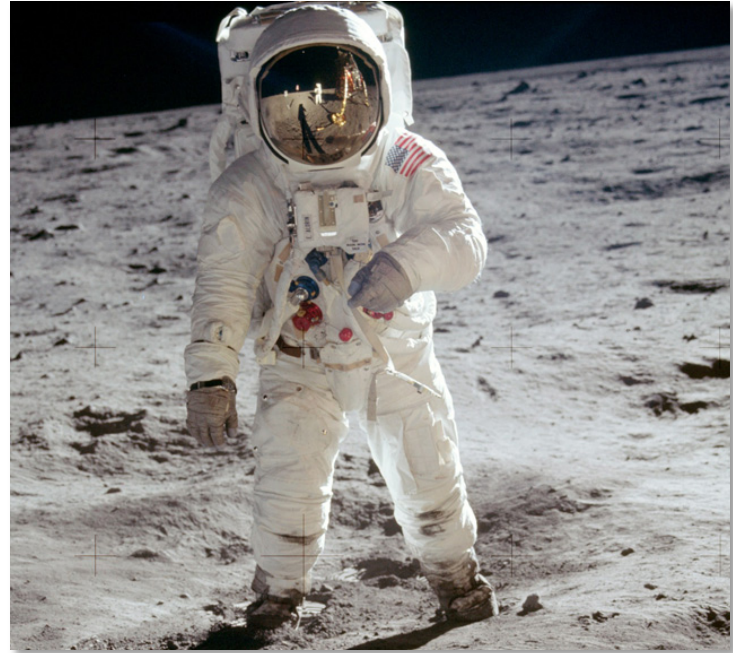


Digital printing is forecasted to grow to \$300bn by 2024. The music industry, by comparison, is only a \$15bn business. But printing is fragmented and lacks a marketplace that connects excess print capacity with creators. That's why we created Gelato.



"That's one small step
for man, one giant leap
for mankind"

Neil Armstrong, 20. juli 1969



Datakraft og sammenkobling



Paul Ledak

7.9k Views

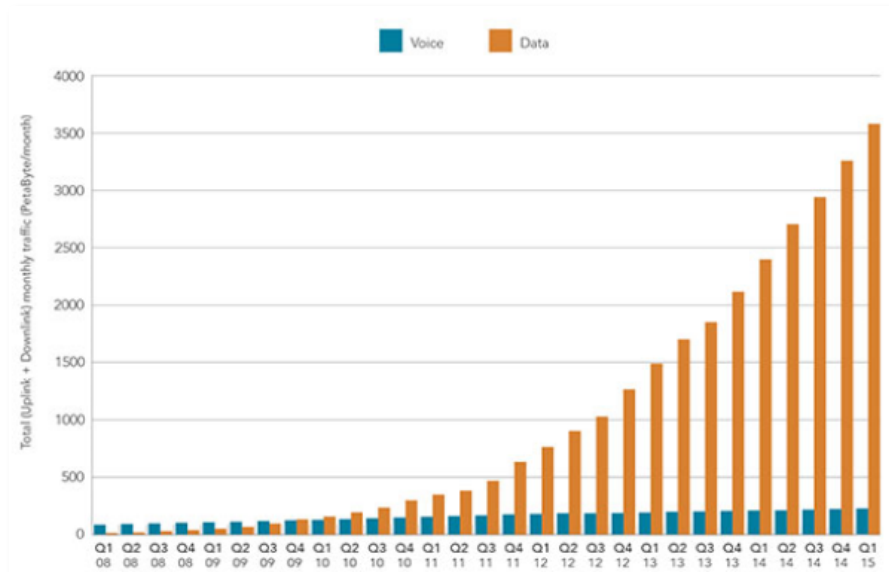
The Apollo Guidance Computer (AGC) was built of 4100 ICs, each of which was a 3 input RTL NOR gate for a total of approx 12,300 transistors. It ran at 43 KHz and could complete an instruction in 24 ms. for a total performance of about 41.6 Instructions per Second.

The iPhone 6 uses an Apple designed 64 bit Cortex A8 ARM architecture composed of approximately 1.6 billion transistors. It operates at 1.4 GHZ and can process instructions at a rate of approximately 1.2 instructions every cycle in each of its 2 cores. This results in an instruction processing performance rate of approximately $1.4b * 1.2 * 2 = 3.36$ billion Instructions per Second. When comparing this to the Apollo computer, there is additional power consideration due to the fact that the A8 is a 64 bit processor and the AGC is 16 bit. This does not mean that it has an additional factor of 4 in performance, however, when 64 bit calculations are required, the A8 can complete these as 1 instruction and the AGC would have to perform many instructions to achieve the same result. Conservatively I would give this architectural feature and additional 50% performance advantage to the iPhone.

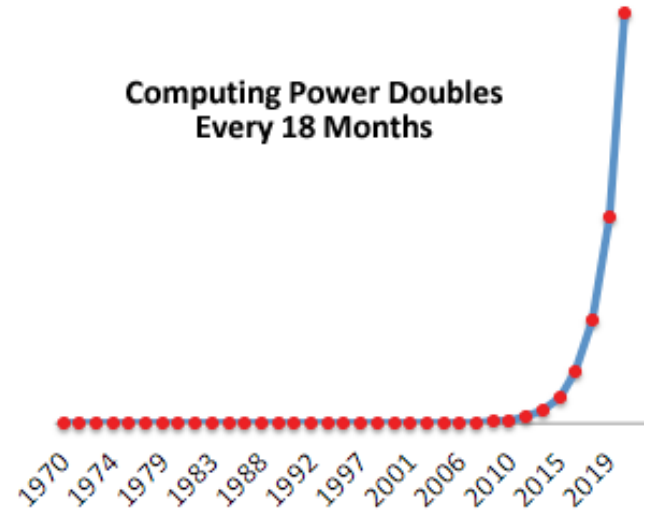
Therefore in comparison...

- # of transistors - iPhone has 130,000 times more than Apollo
- clock frequency - iPhone is 32,600 times faster than Apollo
- instructions per second - iPhone is 80,800,000 times faster than Apollo
- overall performance - iPhone is 120,000,000 times faster than Apollo

or 1 iPhone 6 could theoretically guide 120 million Apollo rockets at the same time

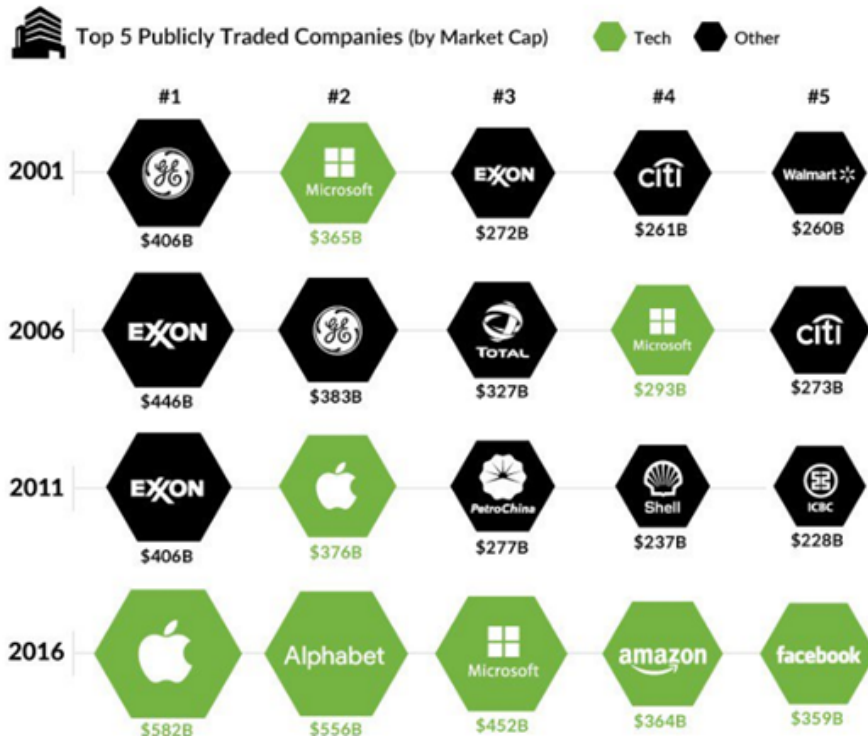


I kun 30 eksponensielle
skritt kommer du 26
ganger rundt jorda



THE LARGEST COMPANIES BY MARKET CAP

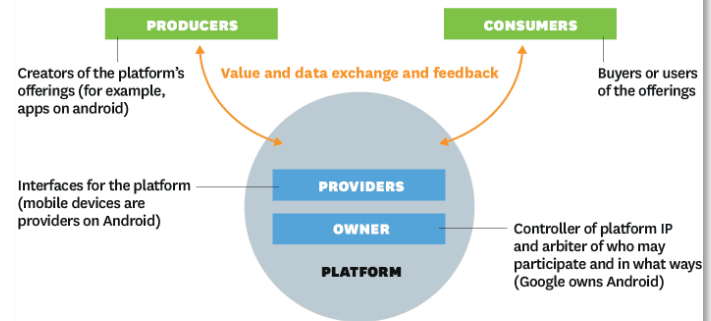
The oil barons have been replaced by the whiz kids of Silicon Valley



Fra samleband til nettverk og plattformer

The Players in a Platform Ecosystem

A platform provides the infrastructure and rules for a marketplace that brings together producers and consumers. The players in the ecosystem fill four main roles but may shift rapidly from one role to another. Understanding the relationships both within and outside the ecosystem is central to platform strategy.



SOURCE: MARSHALL W. VAN ALSTYNE, GEOFFREY G. PARKER, AND SANGEET PAUL CHOUDARY
FROM "PIPELINES, PLATFORMS, AND THE NEW RULES OF STRATEGY," APRIL 2016

© HBR.ORG

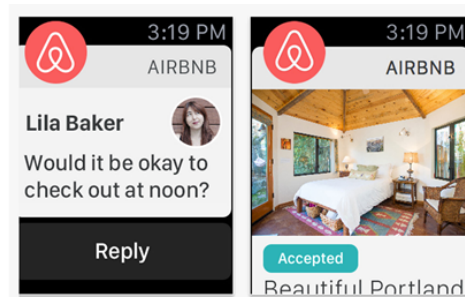
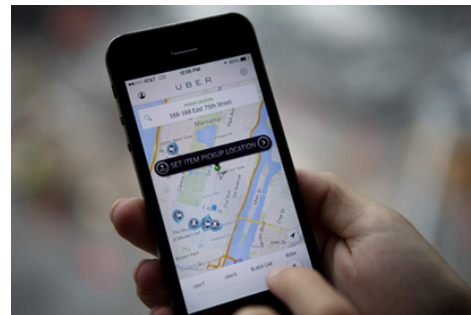
Digitaliseringsbølge 1

Konsumentrettede
informasjonstjenester:
"avmaterialisering" av musikk,
litteratur, media, banktjenester.



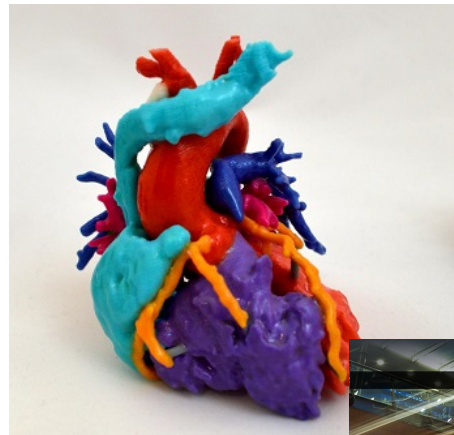
Digitaliseringsbølge 2

- Lavteknologiske tjenestenæringer = lavthengende frukt
- «Software eats the world»
- Delingsøkonomi: On-demand innen transport, hotell, rengjøring...



Digitaliseringsbølge 3

- Kunstig intelligens, 3D-printing, robotisering. «Industri 4.0»
- Mulighet for etablerte industrier og industrielle B2B-tjenester.
- Treffer samfunnssektorer der det offentlige har viktig rolle: Transport, energi og helse.



Tesla hopes cars will drive themselves cross-country by 2018

You could ask your EV to travel from coast to coast, if you're willing to wait.

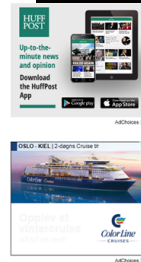
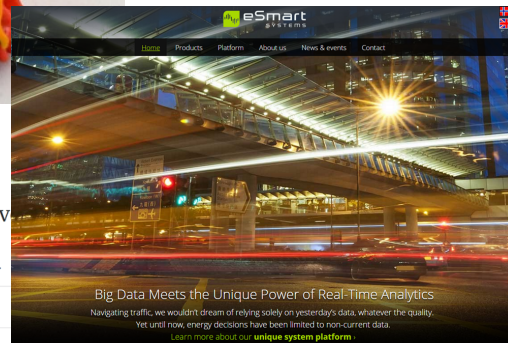
Jon Filipek @jonfilipek 14h ago in Transportation

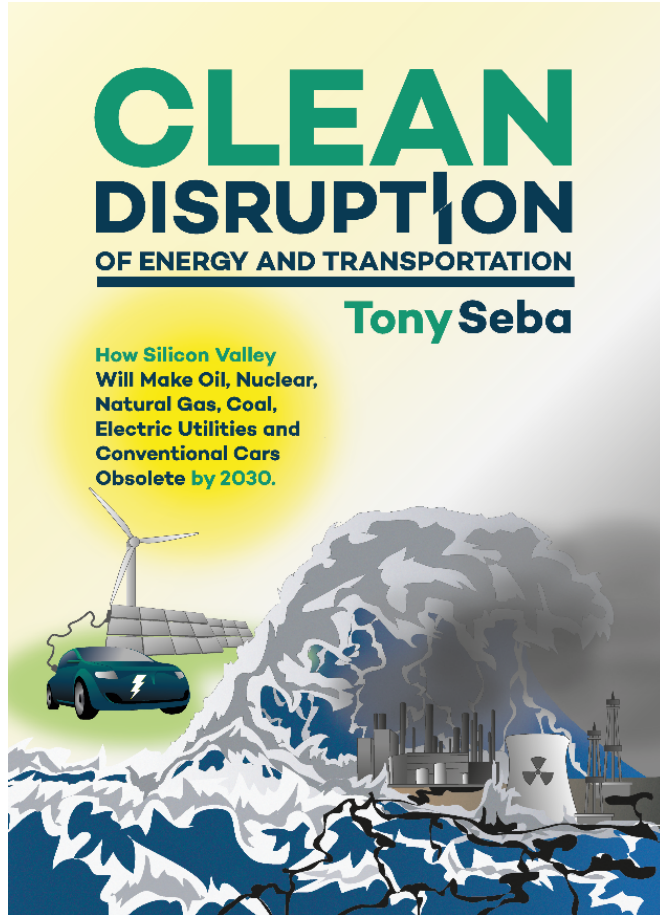
Comments

769 Shares



Tesla only just introduced the ability to summon your car from its parking spot, but it already has much, much larger ambitions. Company chief Elon Musk is predicting that the Model S' just-introduced Summon feature will





Tony Seba

@tonyseba



Car manufacturers investing in Diesel engines are like Kodak improving the efficiency of analog films @ARDde bit.ly/2eBMH8n #EV

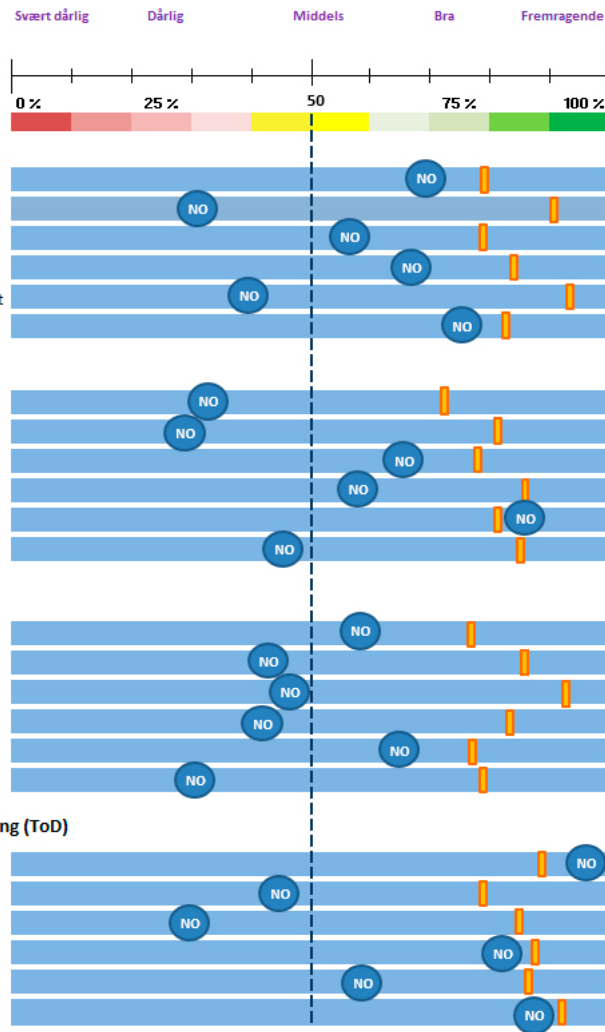
Så hva med Norge?

- Digitalisering utligner to viktige konkurranseulempes.
- På samfunns- og bedriftsnivå: «Den norske modellen».
- Sterke teknologimiljøer og stort potensial for teknologioverføring olje- og gasssektoren til nye næringer.
- Utprøvd oppskrift på samspillet mellom forskningsmiljøer, næringsliv og det offentlige.

Smart grønn vekst

Abelias omstillingsbarometer 2016:

- Gode på bredde-, svake på spisskompetanse.
- Enkelt å starte bedrift, men Norge scorer lavt på innovasjonsaktivitet, kapitaltilgang og motivasjon for entreprenørskap
- Gjennomsnittlig FOU – omfang og kvalitet.
- Sakker akterut på offentlig digitalisering, men bredbånd i verdensklasse og verdensmestre i privat bruk av teknologi.





Veikart: Tre råd til virksomheter

- **«Fordel tid og ressurser etter 70-20-10-regelen».**
70 prosent drift, 20 prosent utvikling og 10 prosent innovasjon
- **«Hvis jeg skulle startet min virksomhet i dag, hvordan ville min forretningsmodell sett ut?»**
Bærekraftig forretningsmodellering, tredelt bunnlinje.
- **«Innovasjon i mellomrommene»:**
Grønn innovasjon i samarbeid mellom og på tvers av sektorer, bransjer og fagfelt.

Veikart: Tre innovasjonspolitiske tiltak

- **Bygg robuste offentlig-private partnerskap**
som fremmer utprøving, eksperimentering og overføring av kunnskap i og på tvers av sektorer. Digitalisering og innovasjon innen transport, energi og helse krever samspill mellom det offentlige og næringslivet. Og et generaloppgjør med silotenkingen.
- **Grønne regler, grønne innkjøp:**
Det offentlige må etterspørre og ta i bruk ny kunnskap og teknologi.
- **Rydd i verktøykassene: Et helhetlig økosystem for innovasjon**
 - Digitale ferdigheter, innovasjon og bærekraft i utdanning
 - Næringsrettet og anvendt forskning
 - Kommersialisering av forskning
 - Tilgang på risikokapital
 - Innovasjonsselskaper og klynger («katapult»)
 - Industribygging – «Made in Norway»
 - Eksportstrategi

Politikk for grønn næringsutvikling og jobbvekst

- Mulighetene ligger i møtet mellom verdens behov, ny teknologi og Norges fortrinn: Mat fra havet, ren energi, grønn transport, smarte byer, bedre helse.
- Livslang læring – digitale ferdigheter for hele befolkningen og utdanning av spesialister.
- Norge som testlab for nye løsninger. Staten som krevende kunde. Støtte industrielle innovasjonssentre med pilot- og demoinfrastruktur.
- Kapital: Skattesystem som fremmer næringsutvikling. Reform av det statlige risikokapitalsystemet.



The screenshot shows a webpage from TU Ekstra. At the top, there's a navigation bar with 'TU', 'PÅHOLD', 'Ledige jobber', 'Konferanser', 'TU Ekstra', and a search bar. Below this is a blue banner with white text: 'Bidra til at dine ansatte alltid er oppdatert. Gi dine ansatte tilgang til TU Ekstra.' and a 'BESTILL' button. To the right of the banner is a circular graphic with the text 'En faktura og opptil 40% rabatt!'. Below the banner is a large image of a wind turbine between two high-voltage power lines. Under the image is a caption: 'Vindkraft og sol har fortrinn i det tyske strømmarkedet. I Norge er den grønne veksten lav, konkurranse til olje og kull er fortsatt i fokus.' Below the image is the article title: 'GRØNN VEKST - Norge har nesten ikke grønn vekst'. The article text starts with 'Dårligst i Norden, ifølge ny studie.' and continues with 'NTB | REDAKTØR | PUBLISERT: 2. JUNI 2018 - 15:28'. At the bottom, there's a social media bar with Facebook and Twitter icons. To the right of the social media bar is a small image of a building with the text 'Bærum kommune Østingsen - Våleren Sandvika' and 'Lengere enn Lofoten Sandvika'.

abelia



"Do or do not,
there is no try."

Takk for meg
@HakonHau