

Welcome to the Future

Martin Kruse



Agenda

10.20 Strategic foresight and how to use it

What is foresight and futures studies and how can it help us plan for the future?

The future of transport and logistics

The futures of business and organisations

The future of demography and sustainability

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members of REGLAB*

Dialog: Vad betyder detta för svenska regioner?

12.15 Lunch

13.15 Strategic foresight and how to use it...forts.

14.25 Kaffe

Copenhagen Institute for Futures Studies

- Founded in 1970 by Thorkil Kristensen
- Member based non-profit Cross disciplinary thinktank
- Private, neutral and independent
- Analysis, inspiration and international strategic advisors
- DK, Norway, Europe and South America



NO FOREIGN DISSEM
DECLASSIFIED
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CIA Ltr. NLK-77-1035
BY my m NARS DATE 5-23-78
TOP SECRET

Transitionscenario

1. Diplomatic Gestures

2. Show of Force

Turning point

End State

3. Breaking Off of Diplomatic Relations

Embargo or Blockade

5. Evacuation

6. War

4.
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The baseline future

By 1940 every street in London will be buried under nine feet of horse manure.- Times of London 1894



USA, 1950”America 2000 - this is your future!”

3D Color TV
Wall-Panel

Slide-back Roof

Personal Helicopter &
Roof Landing Area

Moving Stairway

House-control
Panel



Glass Walls

Dust-free
Floors

Menu Selector &
Microwave Stove

Giant-size
Fruit

Ultrasonic
Laundry

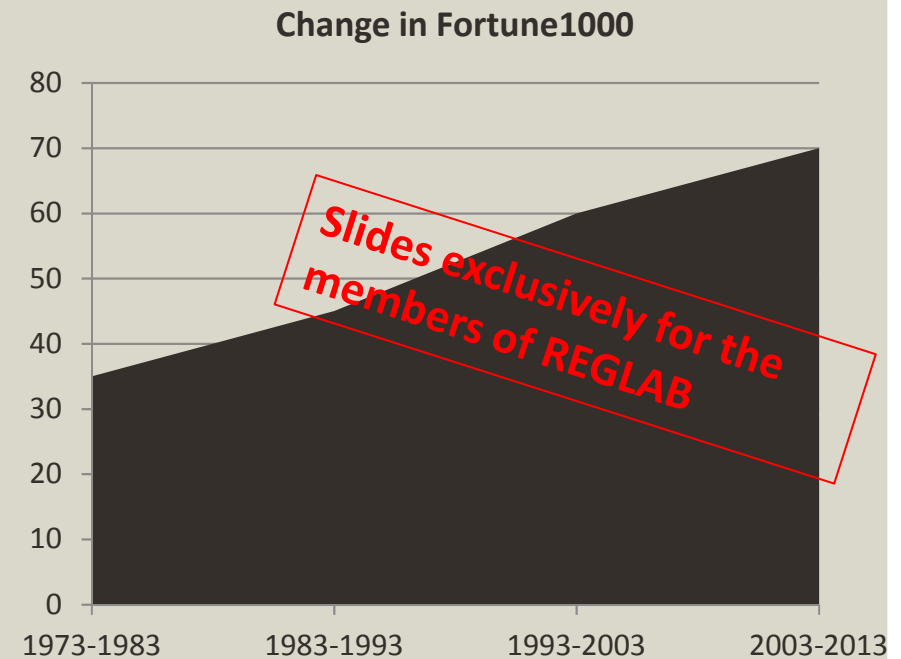
Electrical
Heat Unit

Phono-vision
Receiver



Accelerating pace of change

2000	2012
1. Nokia	1. Samsung
2. Motorola	2. Nokia
3. Ericsson	3. Apple
4. Siemens	4. ZTE
5. Panasonic	5. LG Electronics



Kilde: Nathan Furr, Big Business ... The End is Near: Why 70% of the Fortune 1000 Will Be Replaced in a Few Years. Forbes. 21 April 2011
www.tlnt.com/2010/07/28/so-long-and-farewell-lon-youre-simply-part-of-the-ceo-trend/



2005

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2005

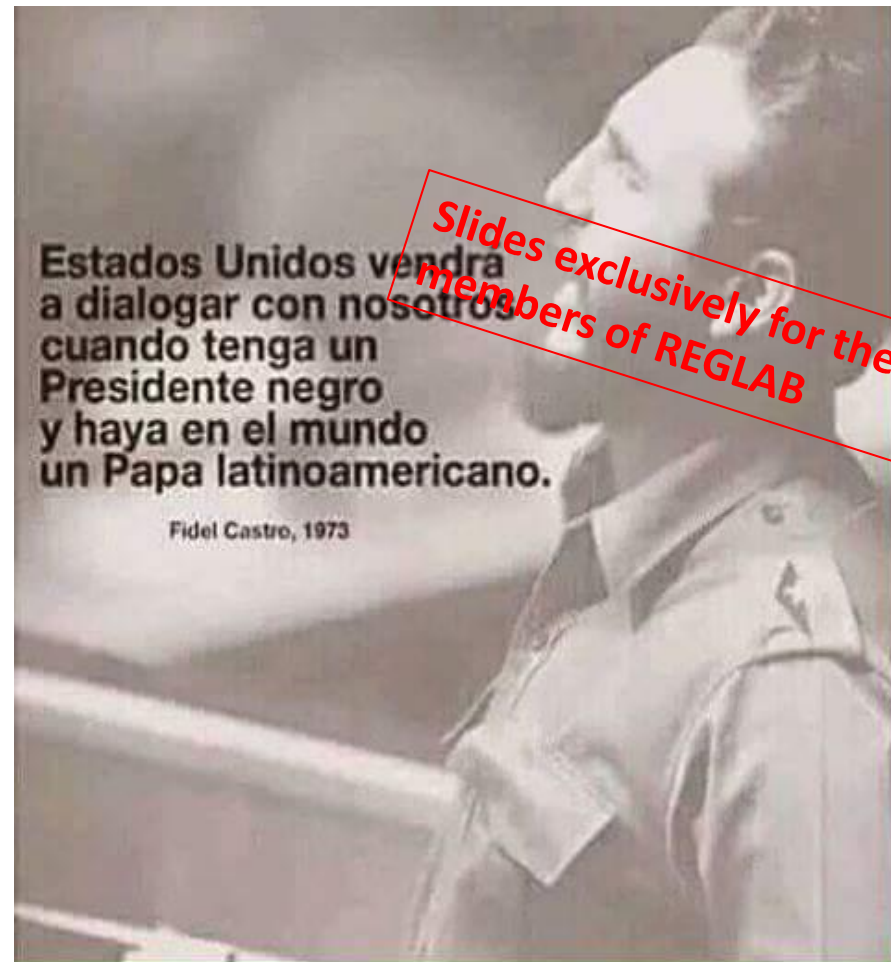
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2013



That'll be the day...

The United States is in dialogue with us when they have a black president and the world has a Latin American pope."



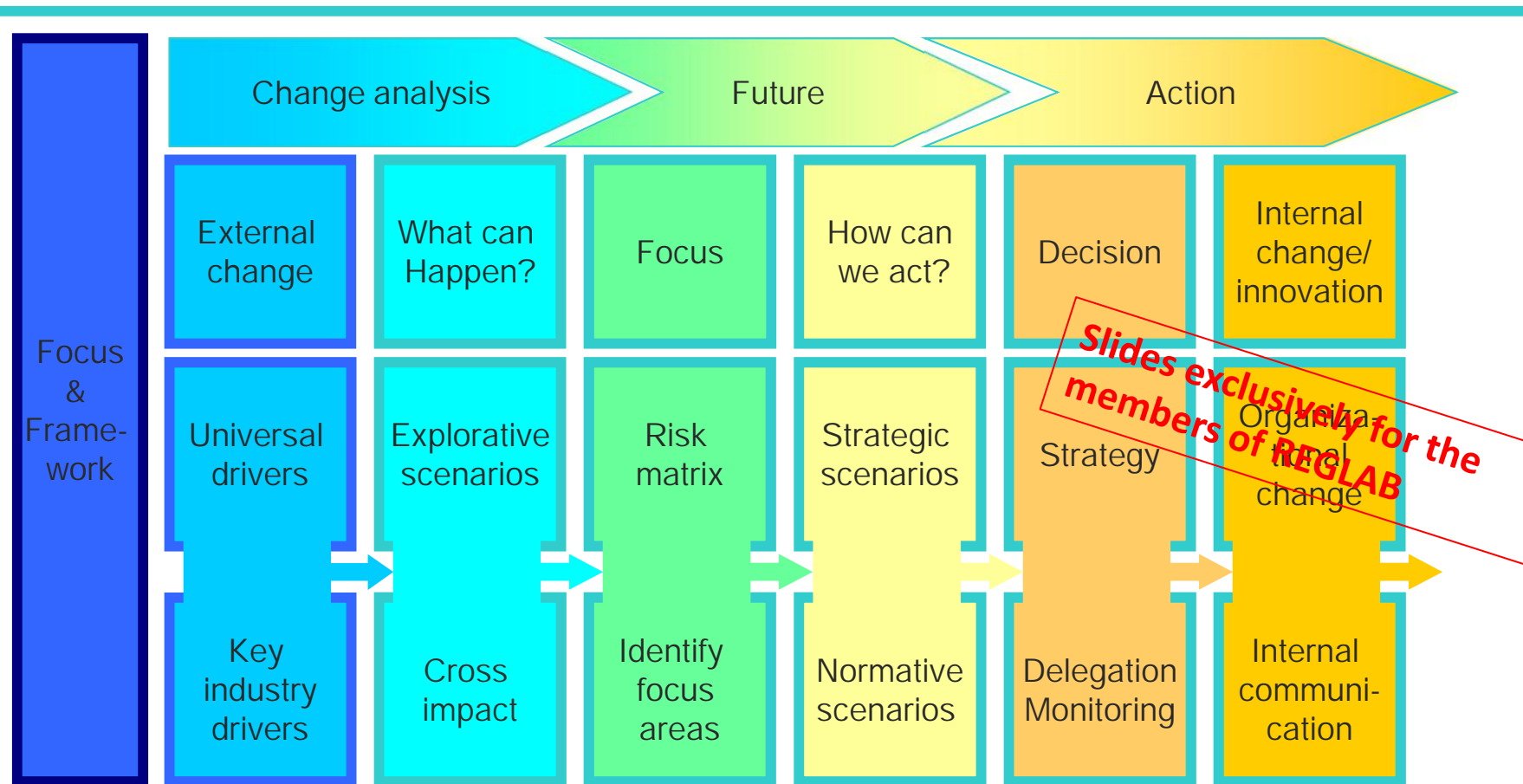


"If the rate of change
on the outside
exceeds the rate
of change on the
inside, the end
is near."

Jack Welch



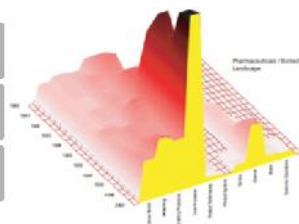
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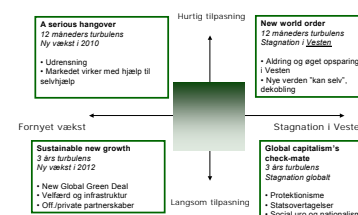
Copenhagen Institute for Futures Studies
Institutet for Fremtidsforskning

Presentation today

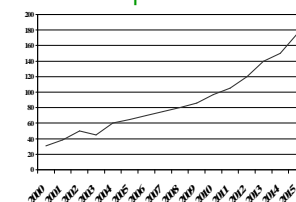
About CIFS	<ul style="list-style-type: none"> Organization Board of Directors Member organization Financial information
CIFS's proposal	<ul style="list-style-type: none"> Scenario development Strategy testing Scenario communication Unfolding scenarios Training courses
Pricing and estimated person-hours	<ul style="list-style-type: none"> Training courses Scenario monitoring pricing/cost issues Estimated man-hours per year



Fire scenarier mod 2014



Revenue flow from new products

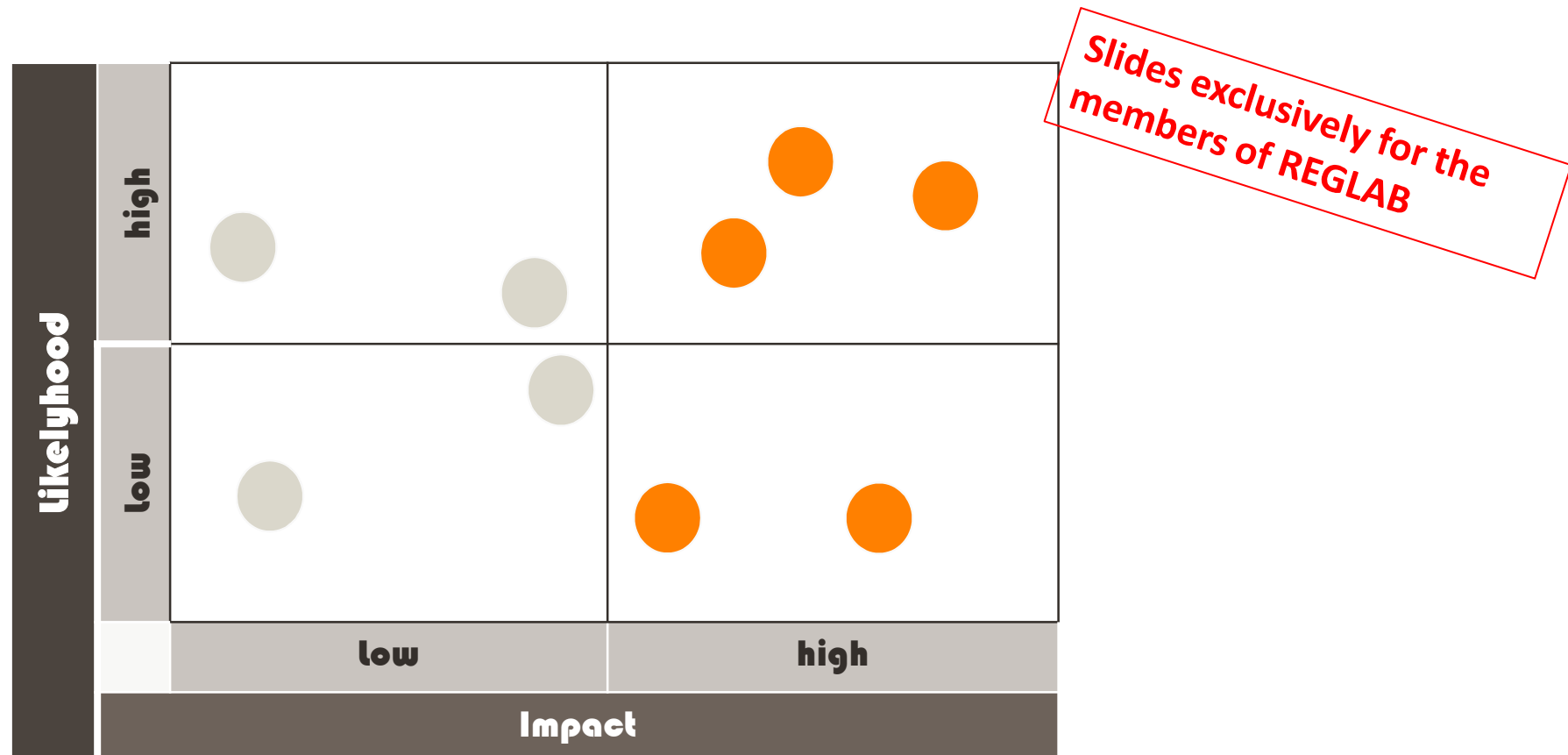




Riskmatrix

- From trends to scenarios

Extraction to scenarios

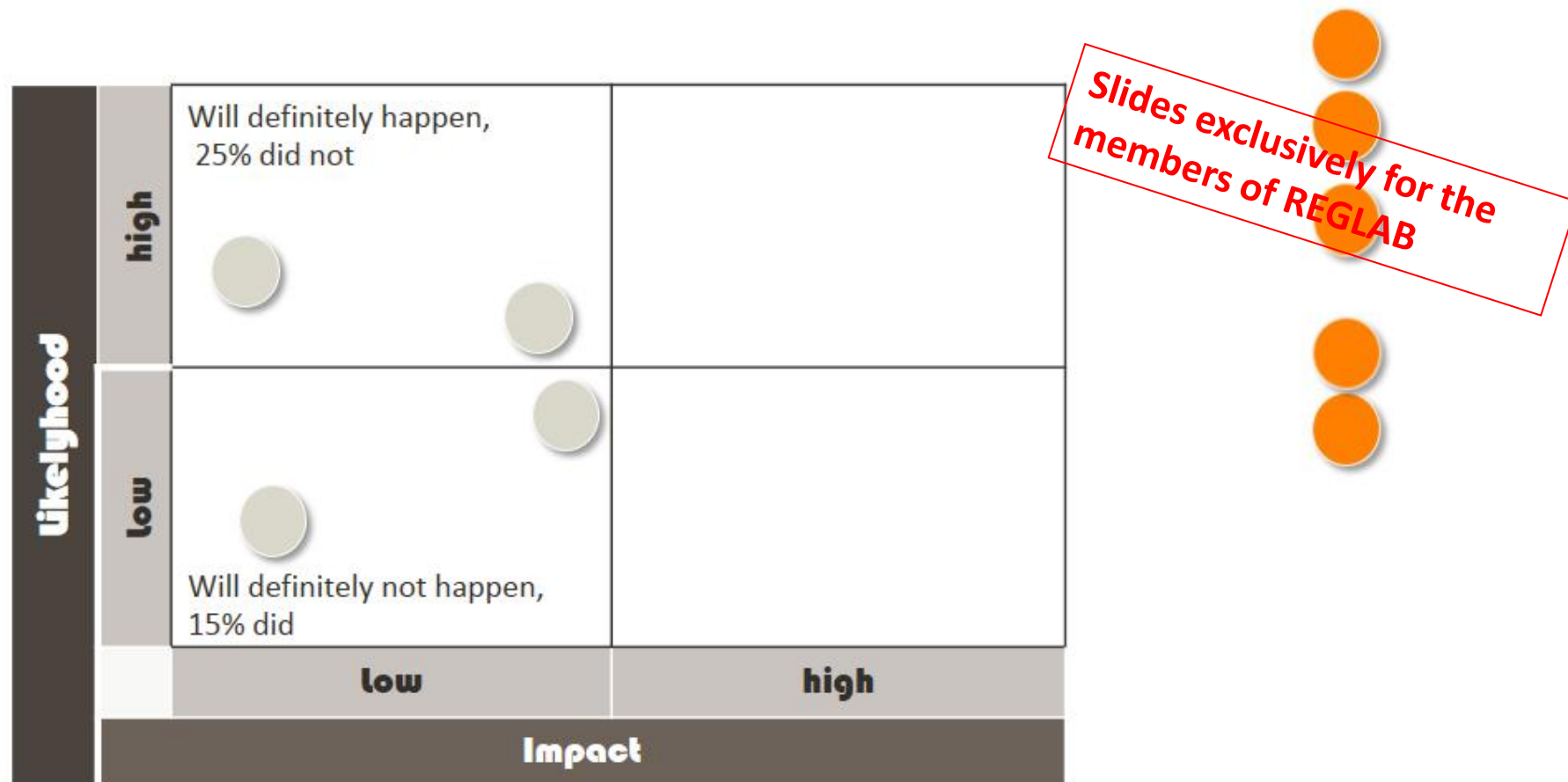




Riskmatrix

- From trends to scenarios

Extraction to scenarios





Scenarios "Realistic" stories about the future

Scenarios are normally

- NOT predictive
- Different from the present
- Possible (internal konsistant)
- Argumentative
- "Probable"
- Longer time horizont

We will likely witness a growing number of middle-income countries becoming competitors, but also markets if we understand working under their different political and cultural circumstances. By 2005, we can expect China, and perhaps India, to among these countries.

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Source: Copenhagen Institute for Futures Studies "Towards the year 2005", 1980

The emotional journey

Feeling of Success
Superhero with a
new vision

Free from
prejudices



Feeling of Success

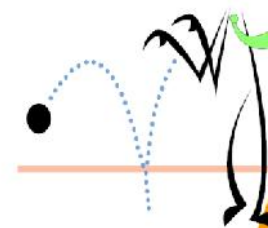
Information
overload



Desorientation



Some ideas will
be disregarded



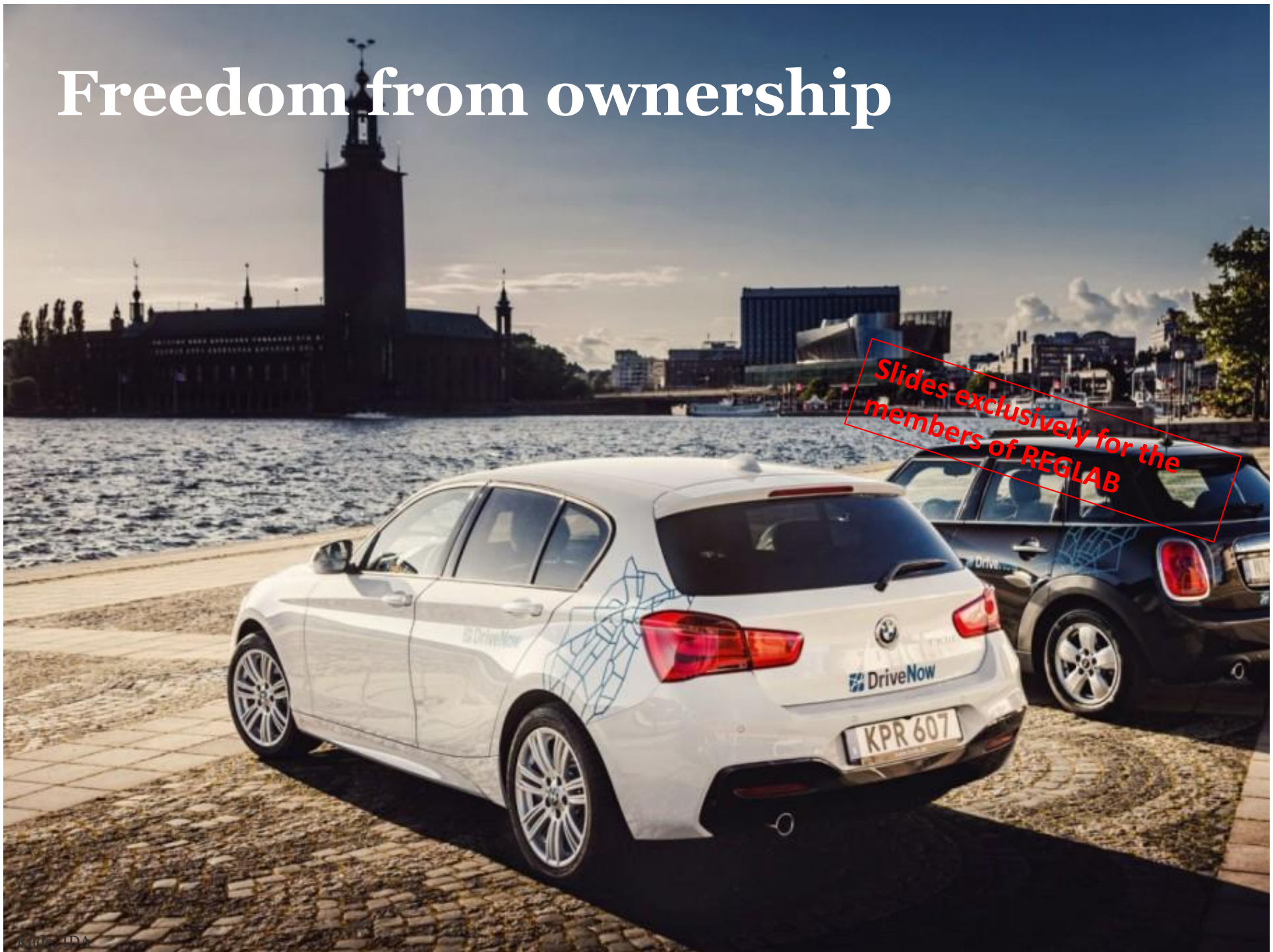


Future of Transport & logistics

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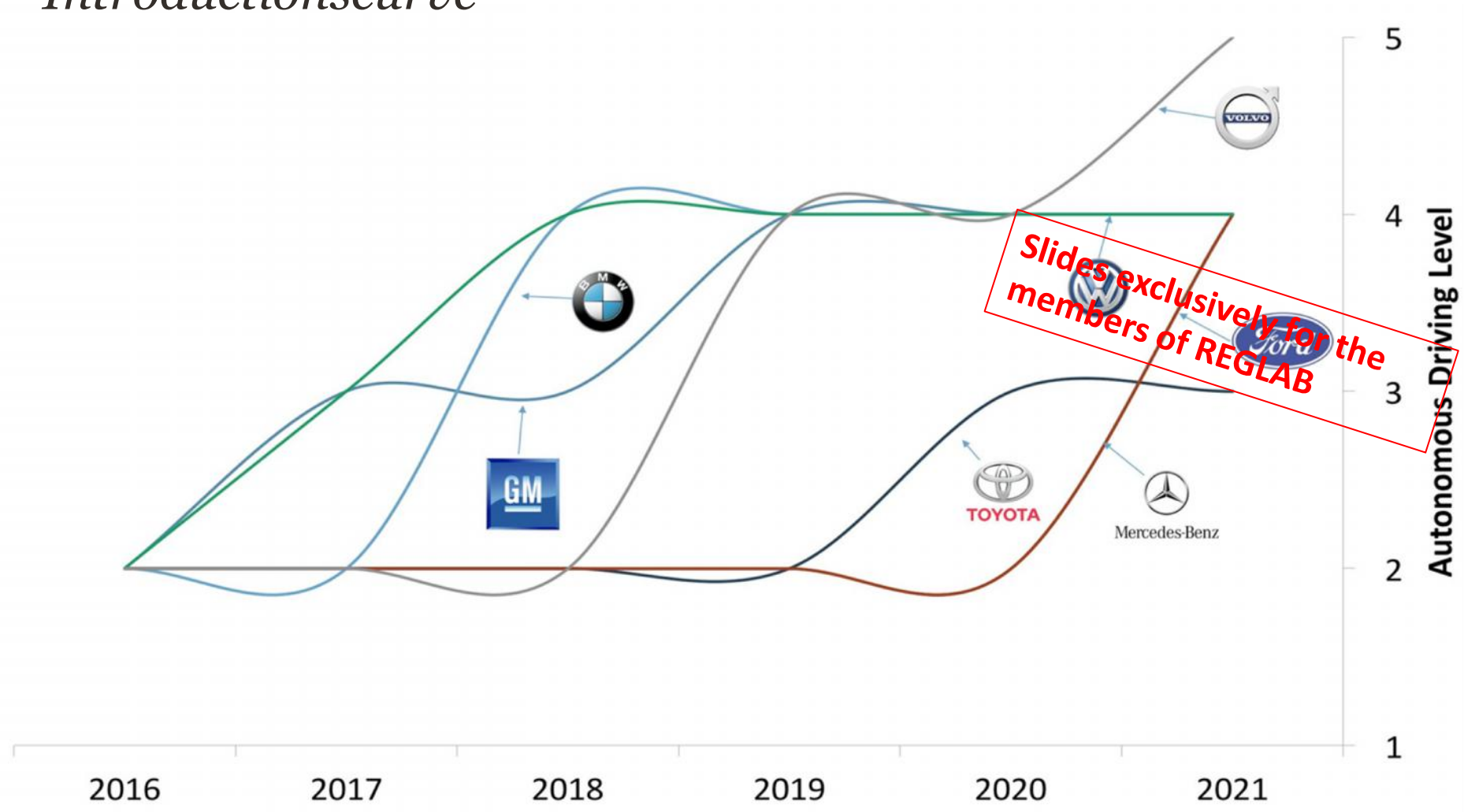
Freedom from ownership

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Self driving cars

Introductionscurve



Note: Lines smoothed for visibility
Source: Citi GPS, 2016

Autonomous car





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New distribution and logistics solutions





?

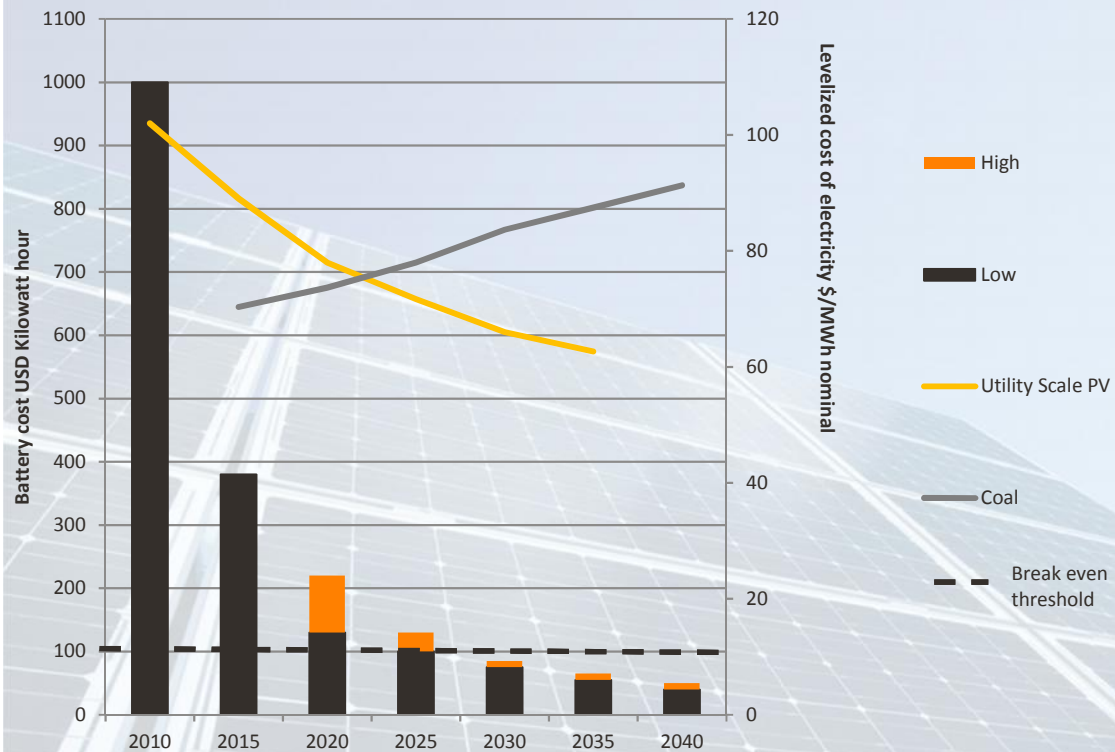
- Salary during transport?
- Virtual meeting becomes accustomed, working more from home.
- MIT Research 300.000 robot taxis in Singapore could replace all types of personal transport incl. 800.000 personal vehicles
- Parkingspots
- How will the centre of town look like if most purchases are done online?

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Renewables towards price parity

Cost of lithium- ion battery packs for cars (l) and
average electricity cost Europe, US & China (r)



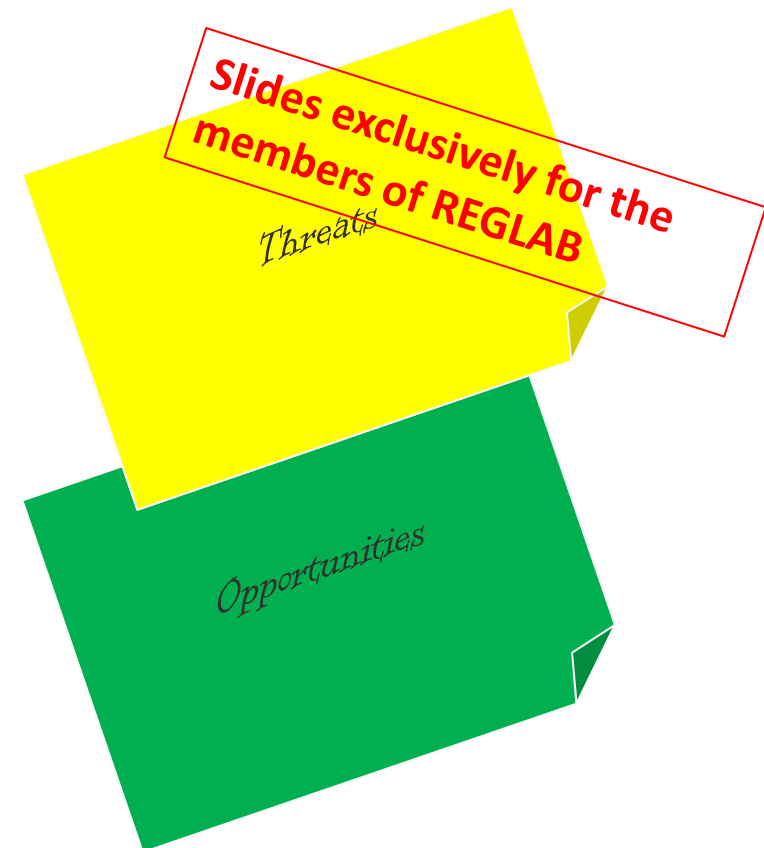
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This is the future but not in 2025



Brainstorm and discussion

- *1 min post it by yourself: What did you hear?*
- *5 min (Group) Join the group what was heard? (only new post its)*
- *10 minutes what questions arise/ what dilemmas? What could this mean to your region?*



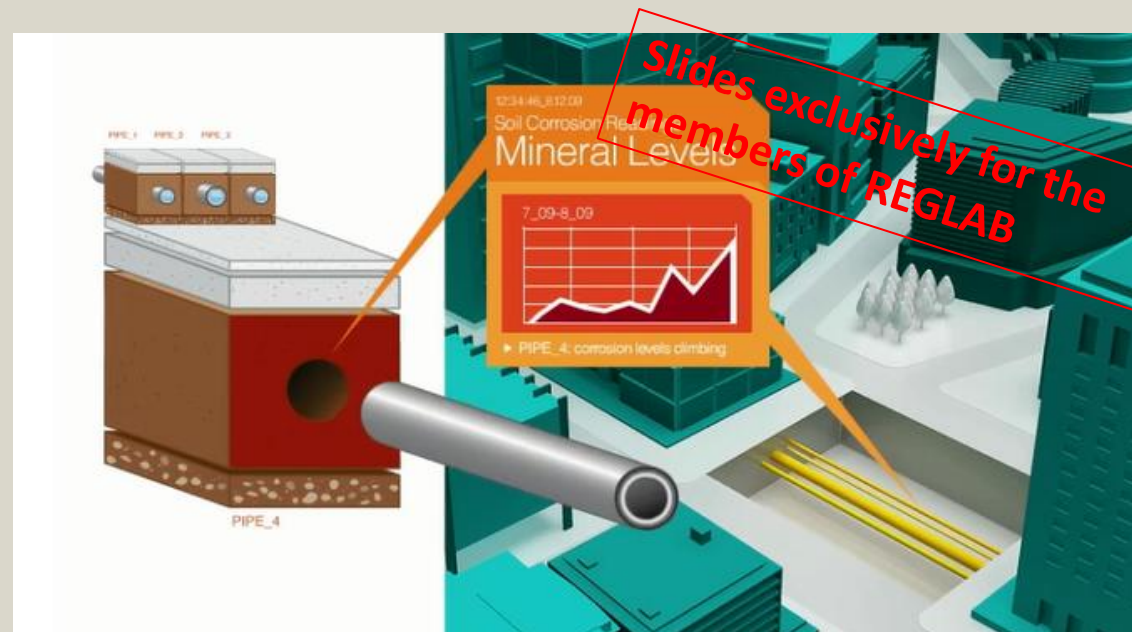


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Future of Business and organisations

Product 2 service IoT

- Run for the bottom
- Intelligent real-time monitoring
- Optimisation
- Early warning
- Predictive analytics



Selfservice and Smartsumption

- Store 2025
- 2 nd most typical job in the US
- No people
- Hyper specific customerdata
- Personalised marketing
- -Just for you



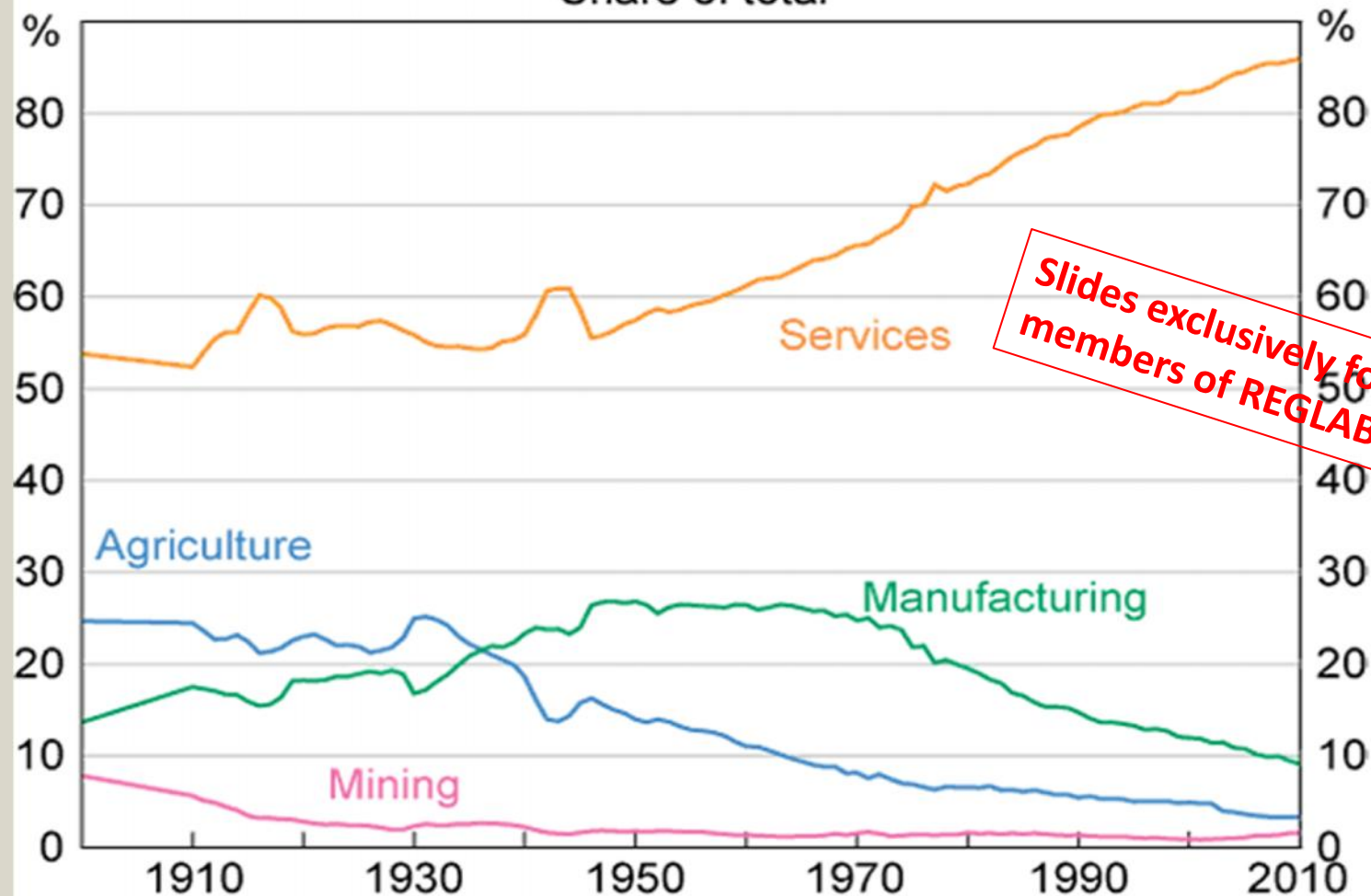


*"Software substitution, whether it's for drivers or waiters or nurses ... it's progressing. ...
20 years from now, labor demand for lots of skill sets will be substantially lower. I don't think people have that in their mental model." Bill Gates*



Employment by Industry*

Share of total



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* Data are interpolated between 1900 and 1910
Sources: ABS; RBA; Withers, Endres and Perry (1985)



Leadership in the Gig Economy



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The
office



Co-
working



Public
places



Working
from home

Risk: The perfect storm

- Structural unemployment
- Polarization
- Allocation policy
- More hostility to immigrants
- Populism
- Two-stage EU, possibly breakup
- FDI
- Uncertain markets
- Destabilization

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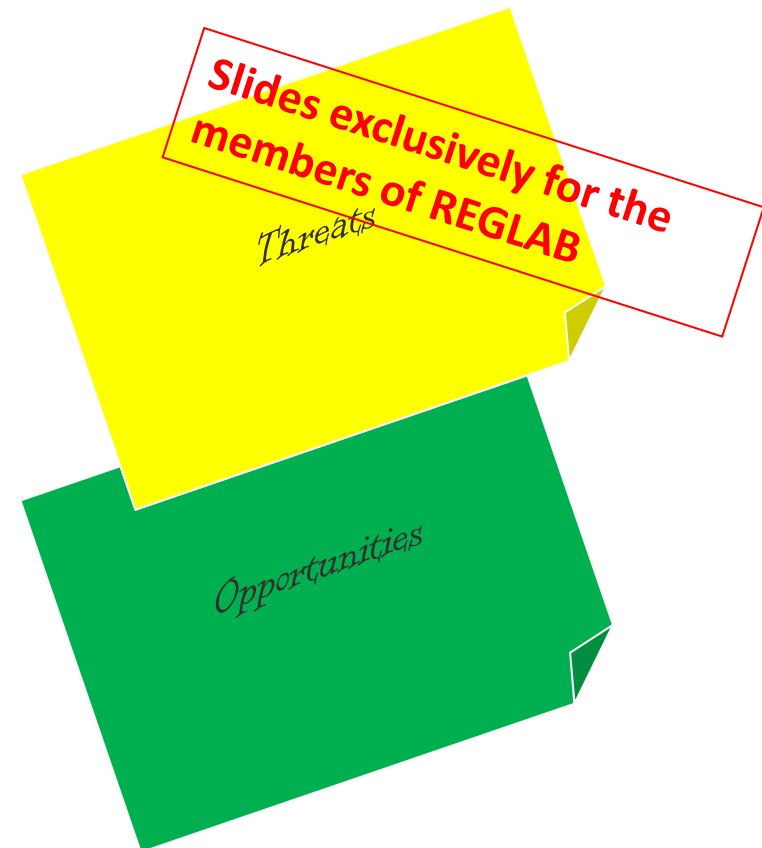
Necessary answers

- Further education and focus on entrepreneurship
- Structural reforms
- Cultivate resilience
- Competence boost
- Great mismatch
- Resist the desire to protect yesterday's winners
- Prepare the labour market for new business models



Brainstorm and discussion

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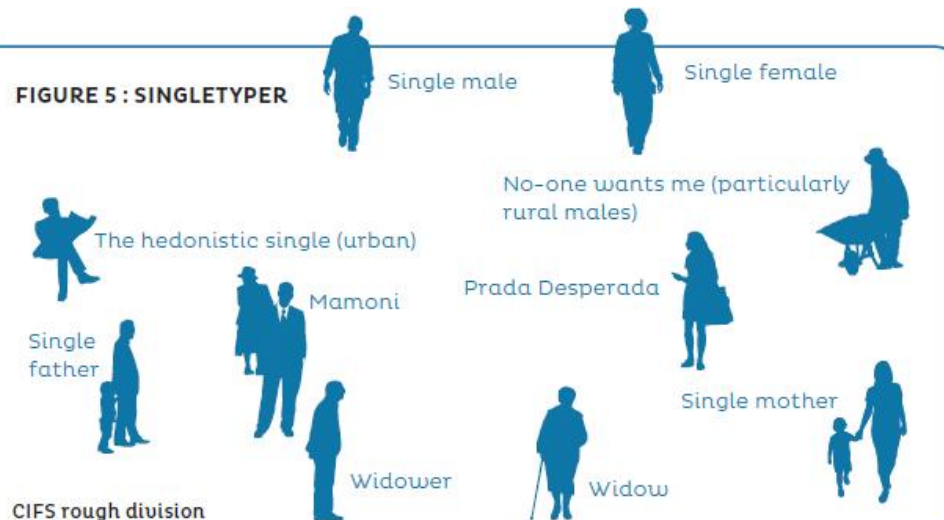
Demography

The image is a composite graphic. The left side features a vertical strip of four black and white close-up photographs of people's faces, showing diverse ages and ethnicities. The right side is a vibrant green field of low-lying vegetation. A transparent glass globe with a grid pattern is positioned in the center, overlapping the green field. A diagonal line divides the image from the bottom-left to the top-right. The word 'Demography' is written in white serif font across the top, and 'Sustainability' is written in white serif font across the bottom.

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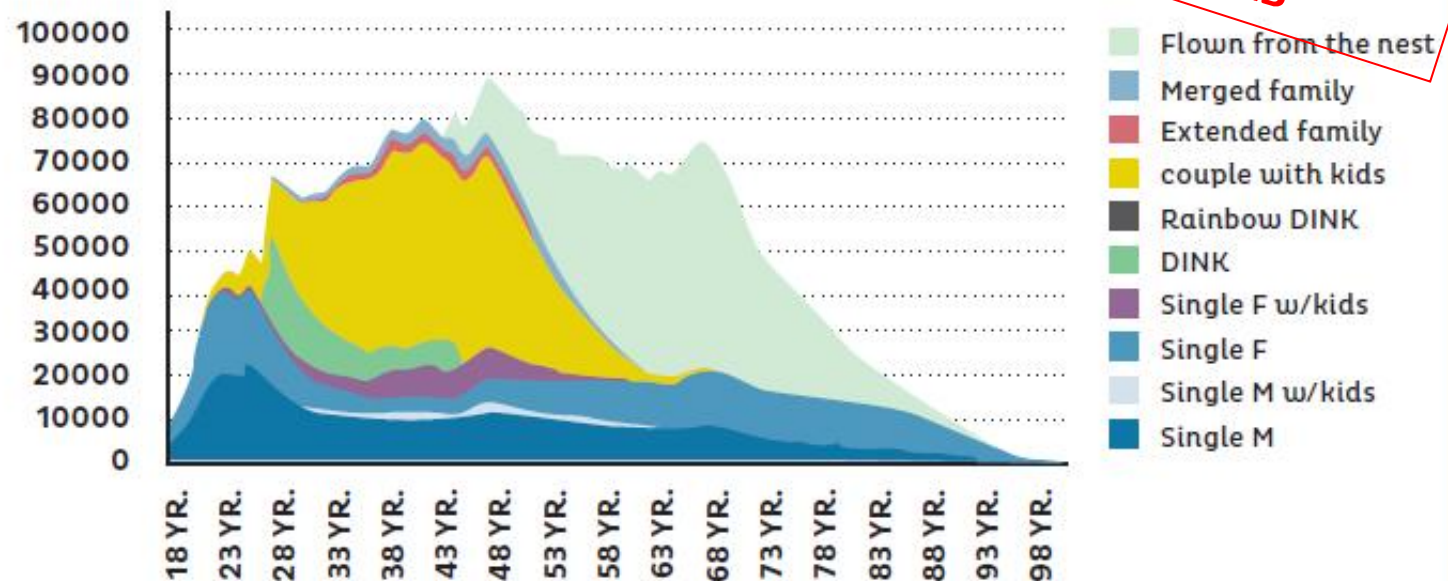
Sustainability

FIGURE 5 : SINGLETYPER



- Increase in Singles
- Singles moving out of cities
- Young singles move together
- Mini urbanisation
- Fall in nuclear families

FIGURE 3: DISTRIBUTION OF WAYS OF LIFE IN DENMARK IN 2014



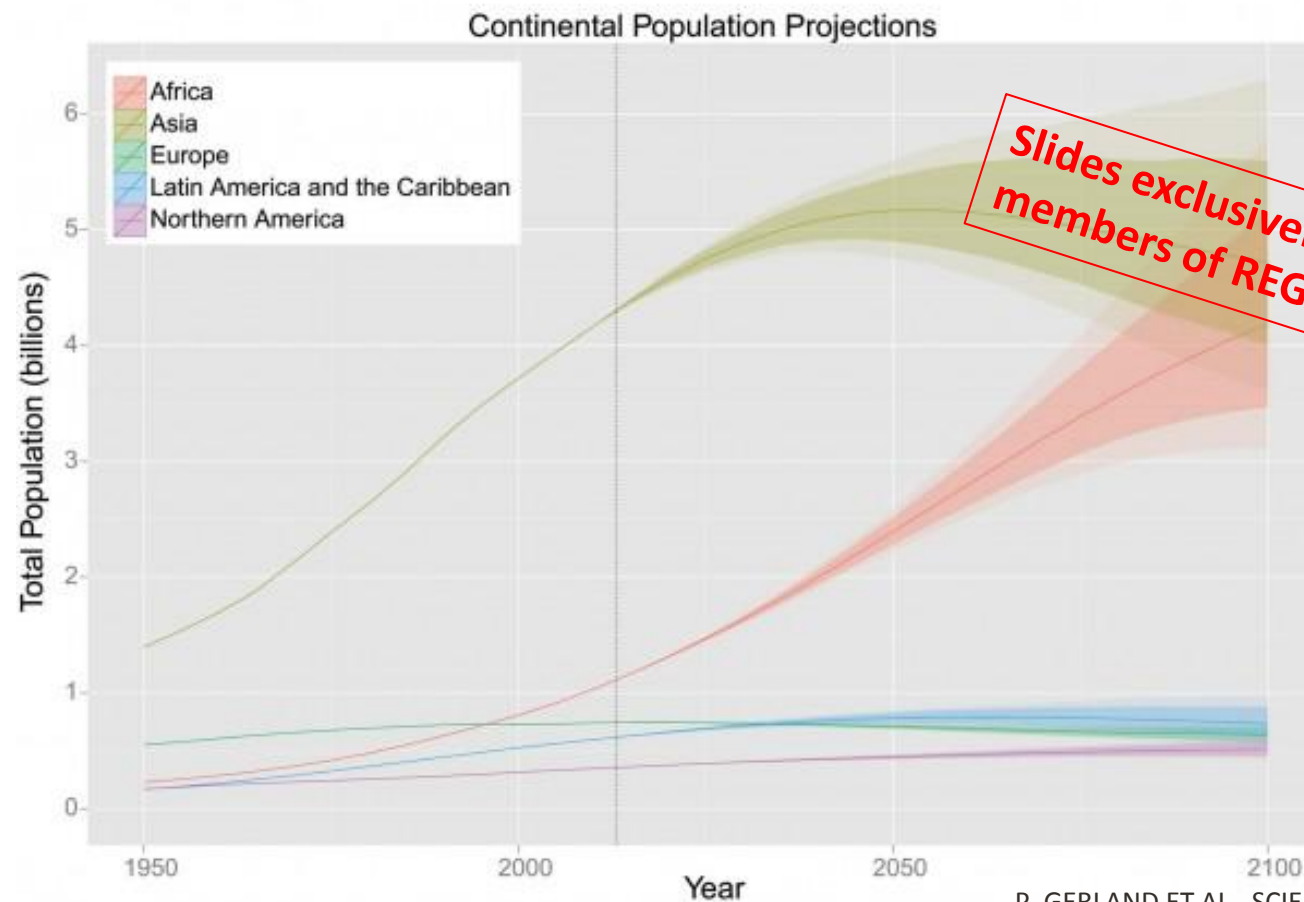
Statistics Denmark and CIFS calculations

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Population Growth

Fertility Rate & Life Expectancy



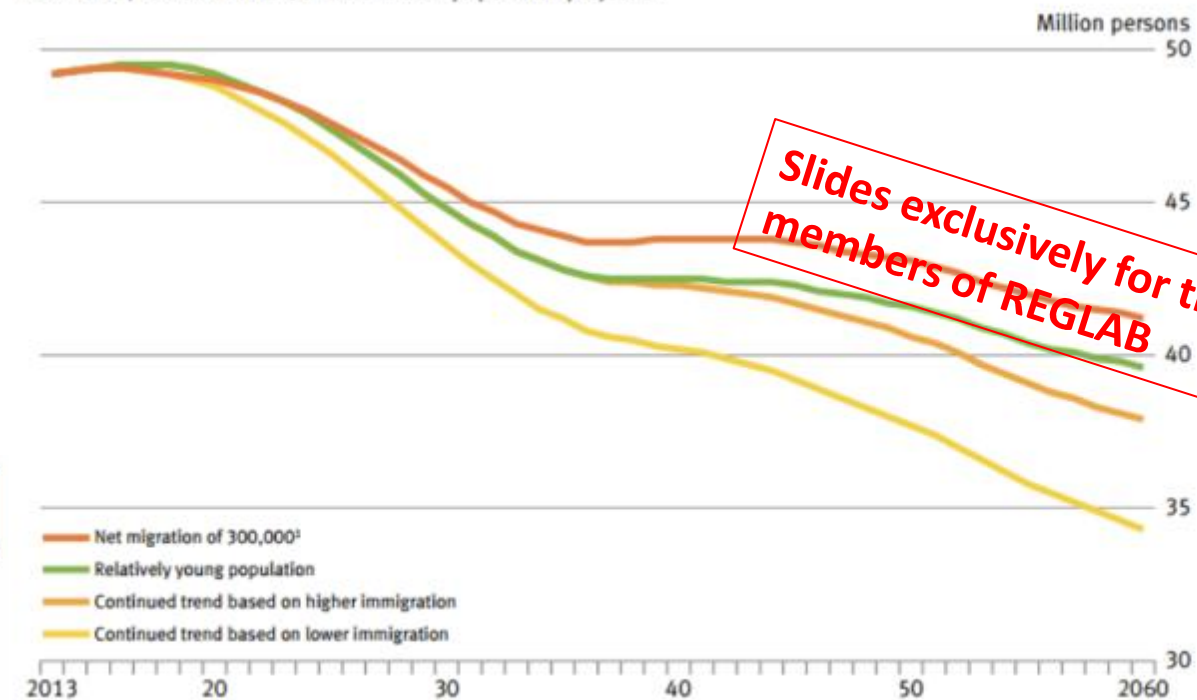
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The United Nations' population projections for each continent now include a range of numbers (darker shades are the most probable forecasts), rather than a single line.

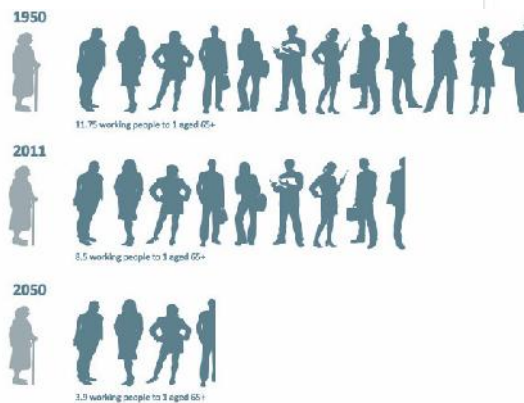
P. GERLAND ET AL., SCIENCE (ONLINE); 2014



Working-age population from 20 to 64 years
 From 2014, results of the 13th coordinated population projection



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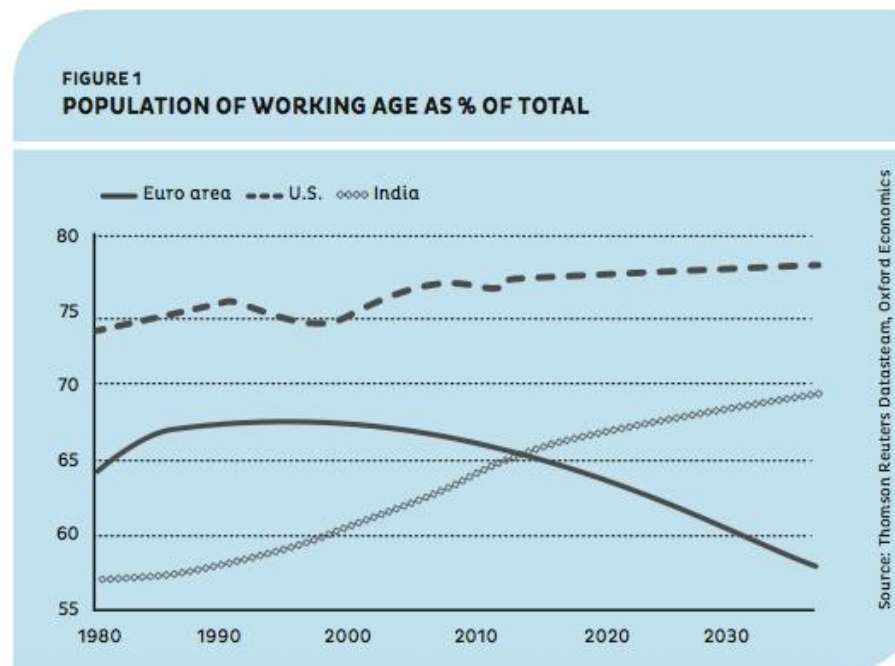
¹ Model calculation: fertility rate of 1.4 children per woman; life expectancy at birth in 2060: 84.8 years for boys/88.8 years for girls; net migration of 300,000 persons.

2015 - 15 - 0385

Can refugees and migrants solve Europe's aging problem?

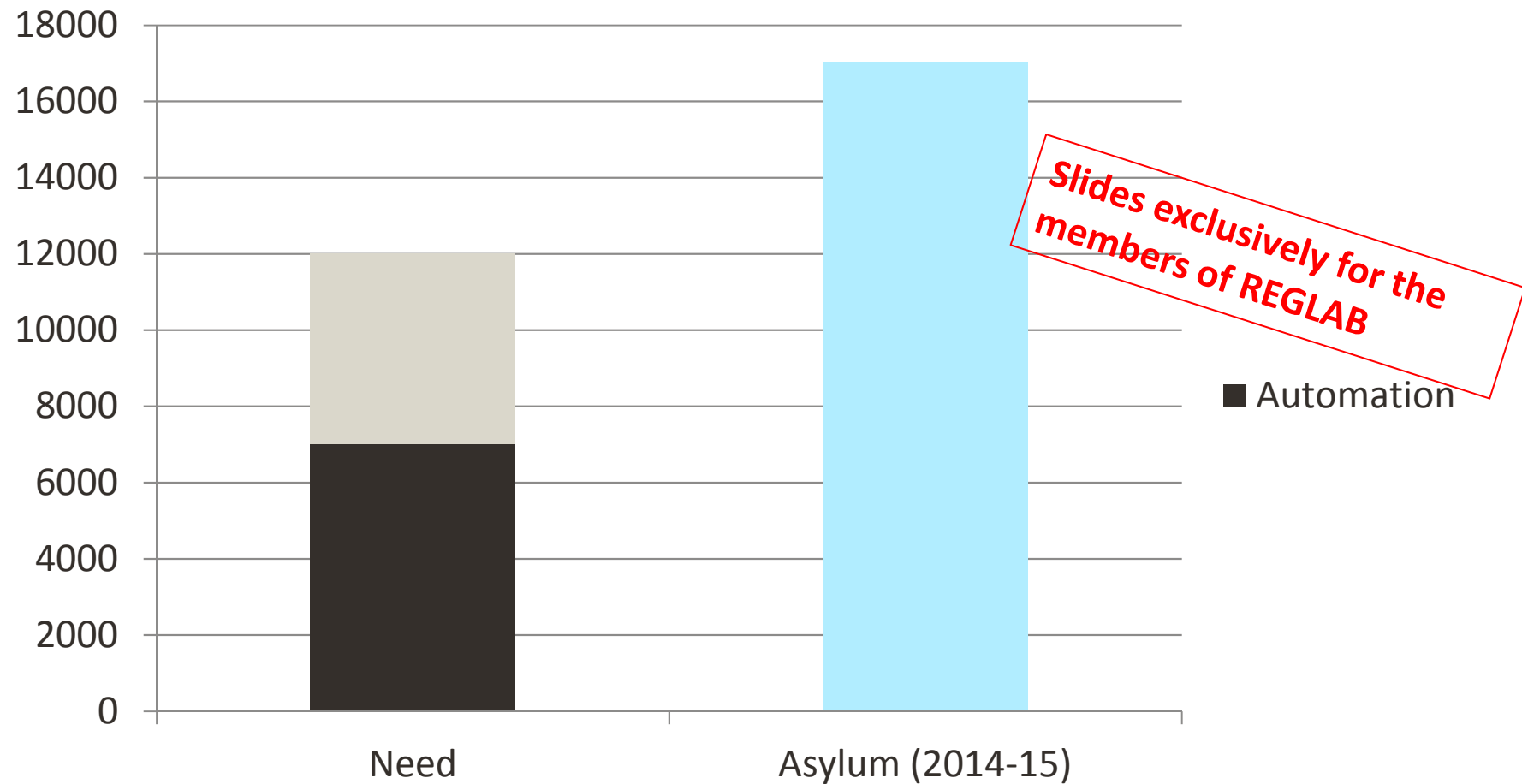
- Many great individual stories
- Unemployment among non-European immigrants is 20%
- In Sweden and Belgium the number is 33%
- Unemployment among second generation non-European immigrants is 50% higher than among non-immigrants

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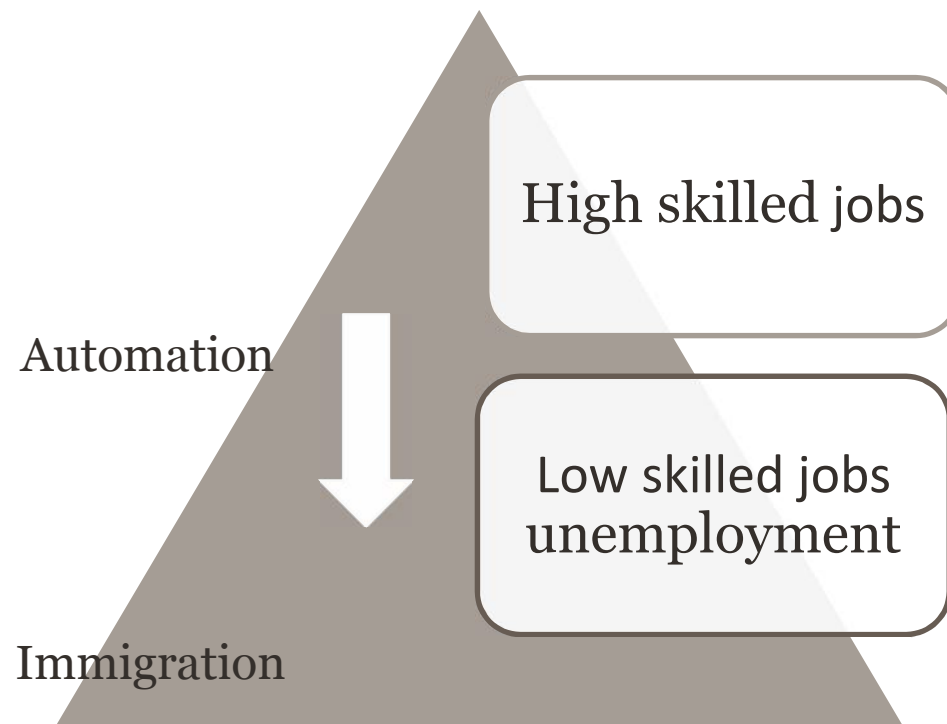
Need in the elderly sector 2020 (DK)



Source: Rambøll



The Challenge



The Lisbon dream

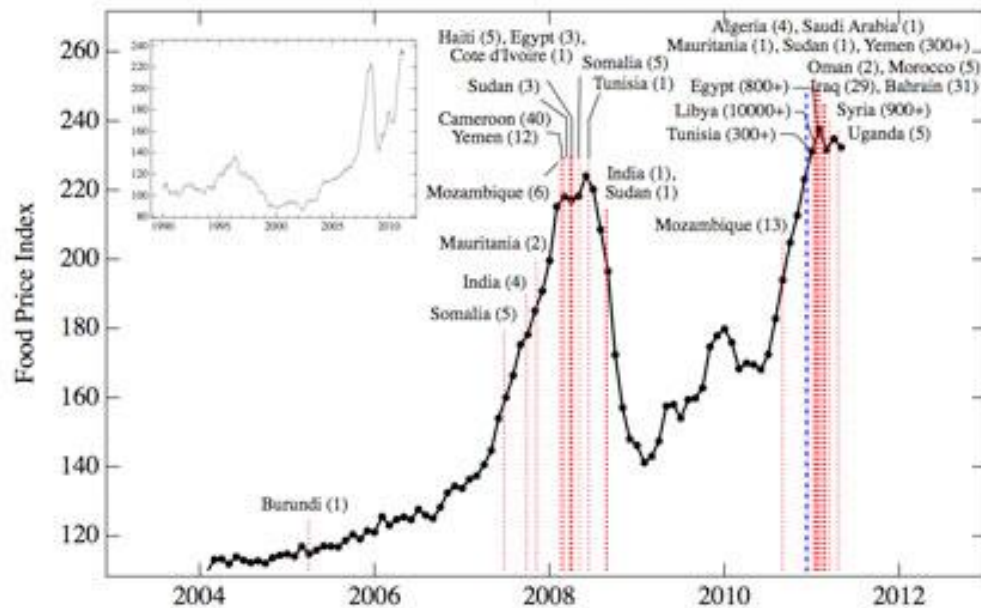




Parts of ASIA and MENA too hot for humans.

*"...and it shall come to pass, that when they shall be hungry, they shall fret themselves, and curse their King"
(The old Testament Isaiah 8)*

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Sustainability

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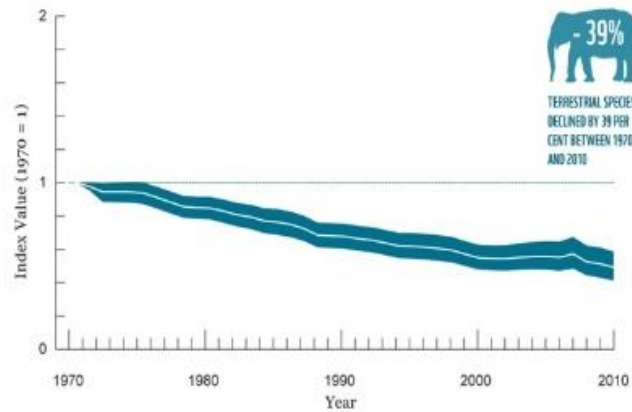


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LIVING PLANET INDEX

WWF 2014

The Global LPI shows a decline of 52% between 1970 and 2010. This suggests that, on average, vertebrate species populations are about half the size they were 40 years ago.



- 39%
TERRESTRIAL SPECIES
DECLINED BY 39 PER
CENT BETWEEN 1970
AND 2010



- 76%
THE LPI FRESHWATER
SPECIES SHOWS AN
AVERAGE DECLINE OF
76 PER CENT



- 39%
MARINE SPECIES
DECLINED 39 PER CENT
BETWEEN 1970 AND
2010

In other words, the number of mammals, birds, reptiles, amphibians and fish across the globe is, on average, about half the size it was 40 years ago.

Global Living Planet Index
Confidence limits

Change is coming

Solar Power Now Cheaper Than Coal In India, Says Energy Minister

January 22nd, 2016 by [Giles Parkinson](#)

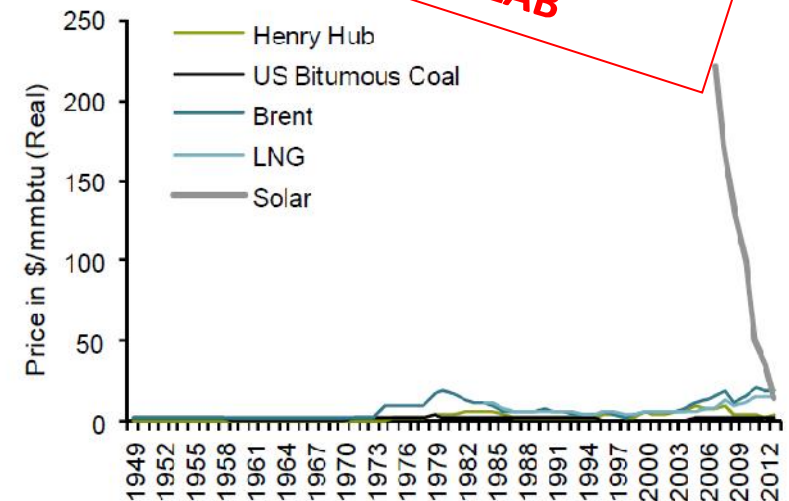
Originally published on [RenewEconomy](#).

The latest auction of solar energy capacity in India has achieved a new record low price of 4.34 rupees/kWh, prompting the country's energy minister Piyush Goyal to say that solar tariffs are now cheaper than coal-fired generation.

The results of a reverse auction tender of 420MW of solar capacity conducted by the Rajasthan government revealed this week that Finnish group Fortum Energy bid the lowest price of 4.34 rupees/kWh for a 70MW solar PV plant.

It is the lowest price obtained so far in India, which aims to install more than 100GW of solar by 2022, and was hailed by Goyal as a sign that solar power is now cheaper than coal power.

Welcome to the Terrorzone: \$/MMBtu by Energy Type

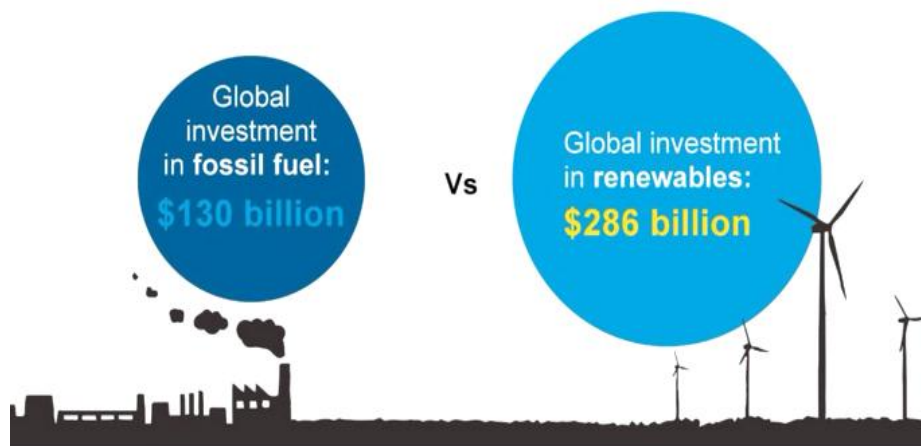


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"End" of fossil fuels

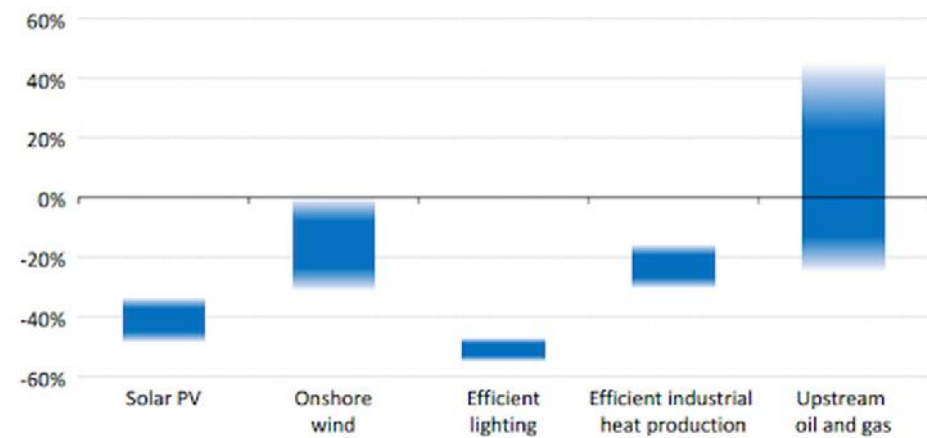
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Renewables attracted more than double the \$130 billion committed to new coal and gas generation.



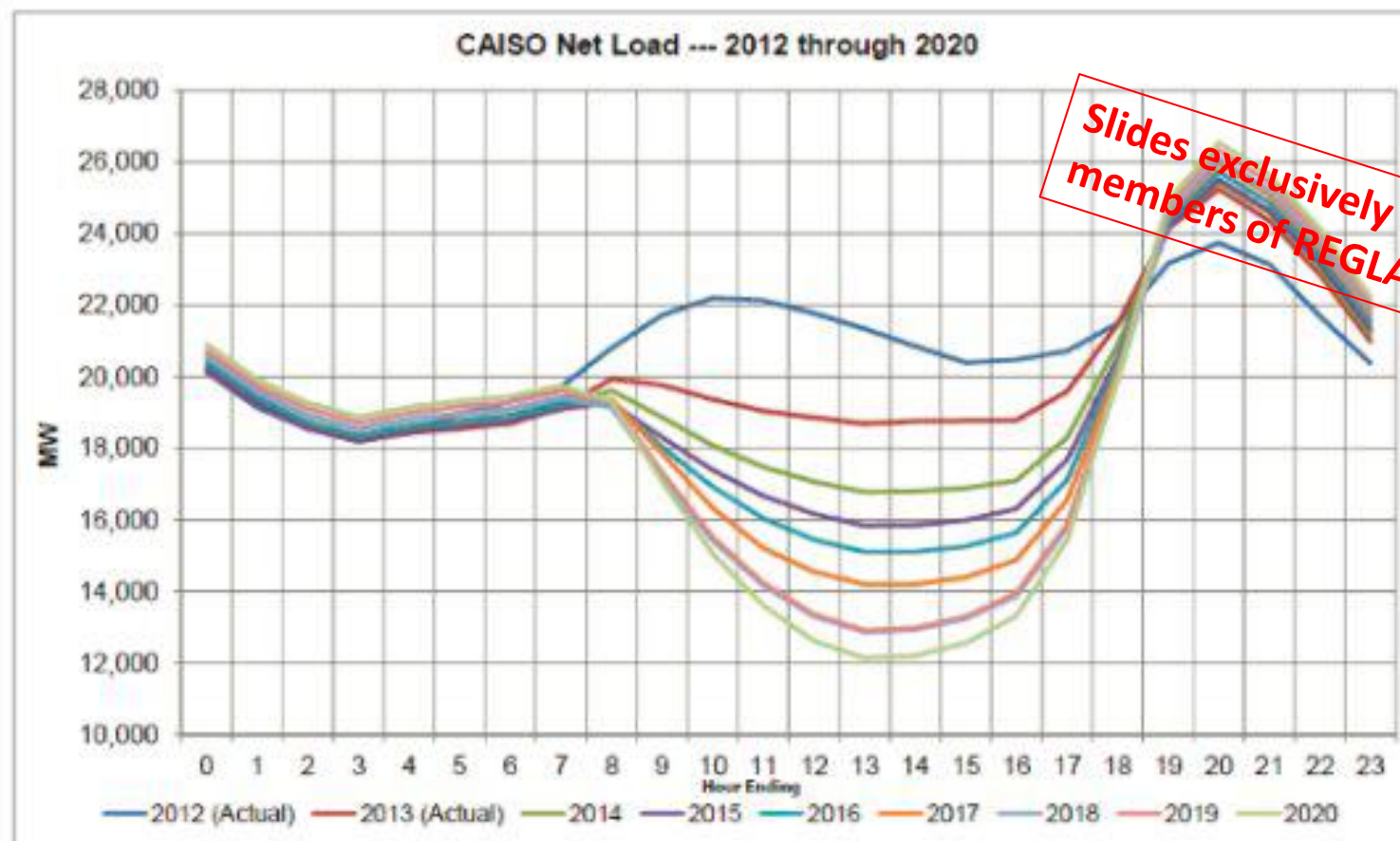
(Data source: Frankfurt School-UNEP Centre / BNEF Global Trends in Renewable Energy Investment 2016)

Costs in 2040 for different energy sources/technologies, relative to 2014



Utility forced into sun

CAISO 'Peaking' Duck Chart



Net Load = Load - Wind - Solar



Regulators might come to the aid

- Fossil-fuel firms and electricity utilities are substantially debt financed,
- Fossil fuel and other carbon-intensive companies make up **one-third of the \$2.6tn global leveraged loan market.**
- Financial stability issues if sudden revaluation of stranded assets.
- The EU financial system has significant direct exposure to fossil-fuel firms. the exposures of European financial institutions (including banks, pension funds and insurers) to fossil-fuel firms exceed **€1tn.**

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Dialog: Vad betyder detta för svenska regioner?

Discussion in plenum



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