



DEMOS
HELSINKI

Cleantech
takes over
consumer
markets

TERVEYS
2050

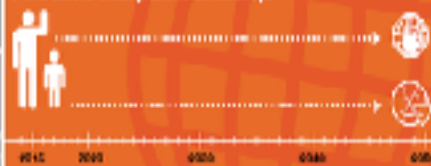
THE FUTURE AS TOLD
THROUGH THE GARDEN
AND THE STREETS

THE FUTURE AS TOLD
THROUGH THE GARDEN
AND THE STREETS

REPORT FOR THE HYPERCITY COMPETITION

Scenarios for
Sustainable Lifestyles
2050:

From Global Champions to Local Loops



Demos Helsinki - Nuorisaliiketoiminta

Design for Government
- kokeiluilla ihmislähtöisiä ohjelmia

Why foresight?

Planning in the age of complexity

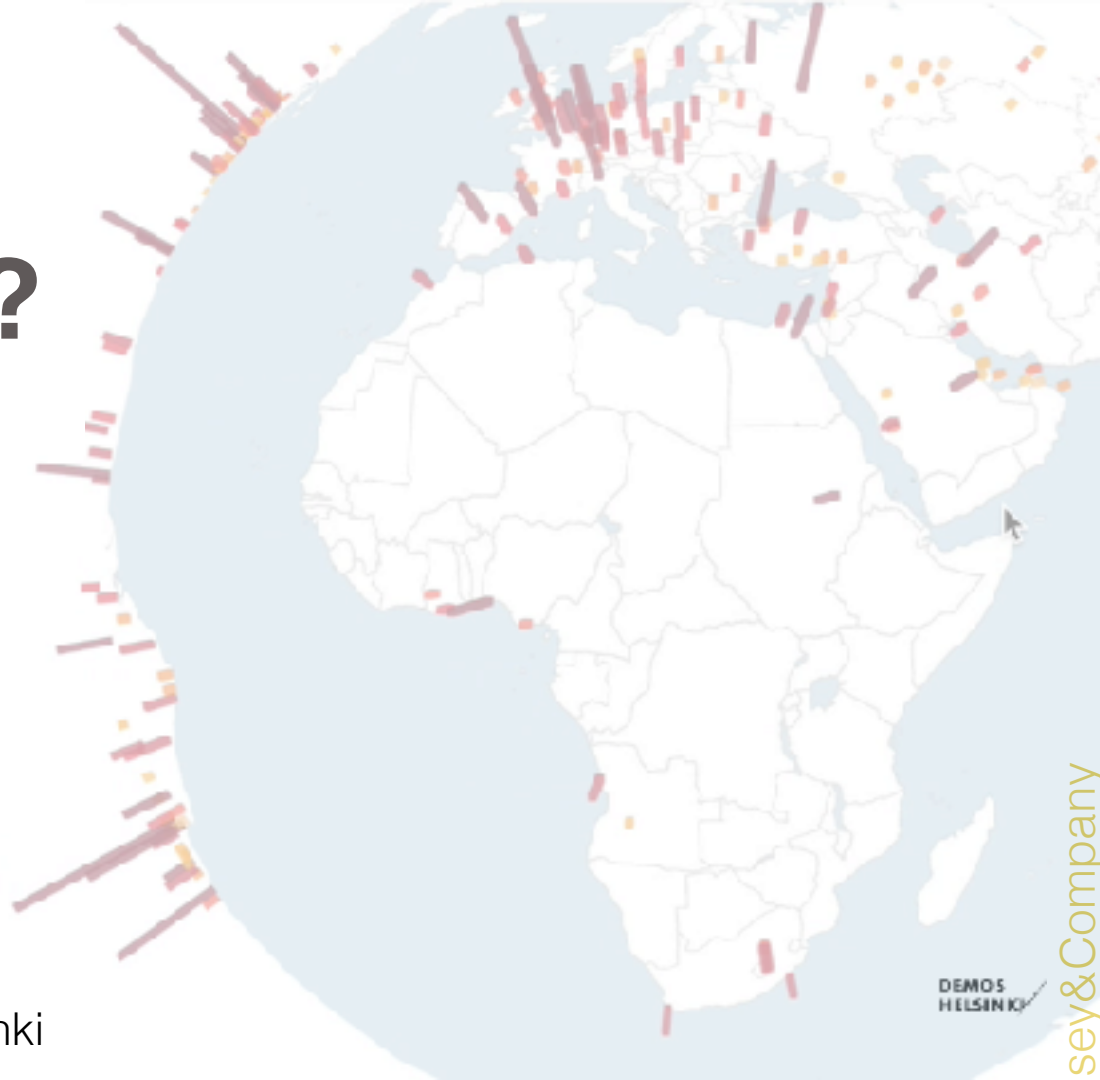
Roope Mokka
Founder
Demos Helsinki



@mokka



@demoshelsinki

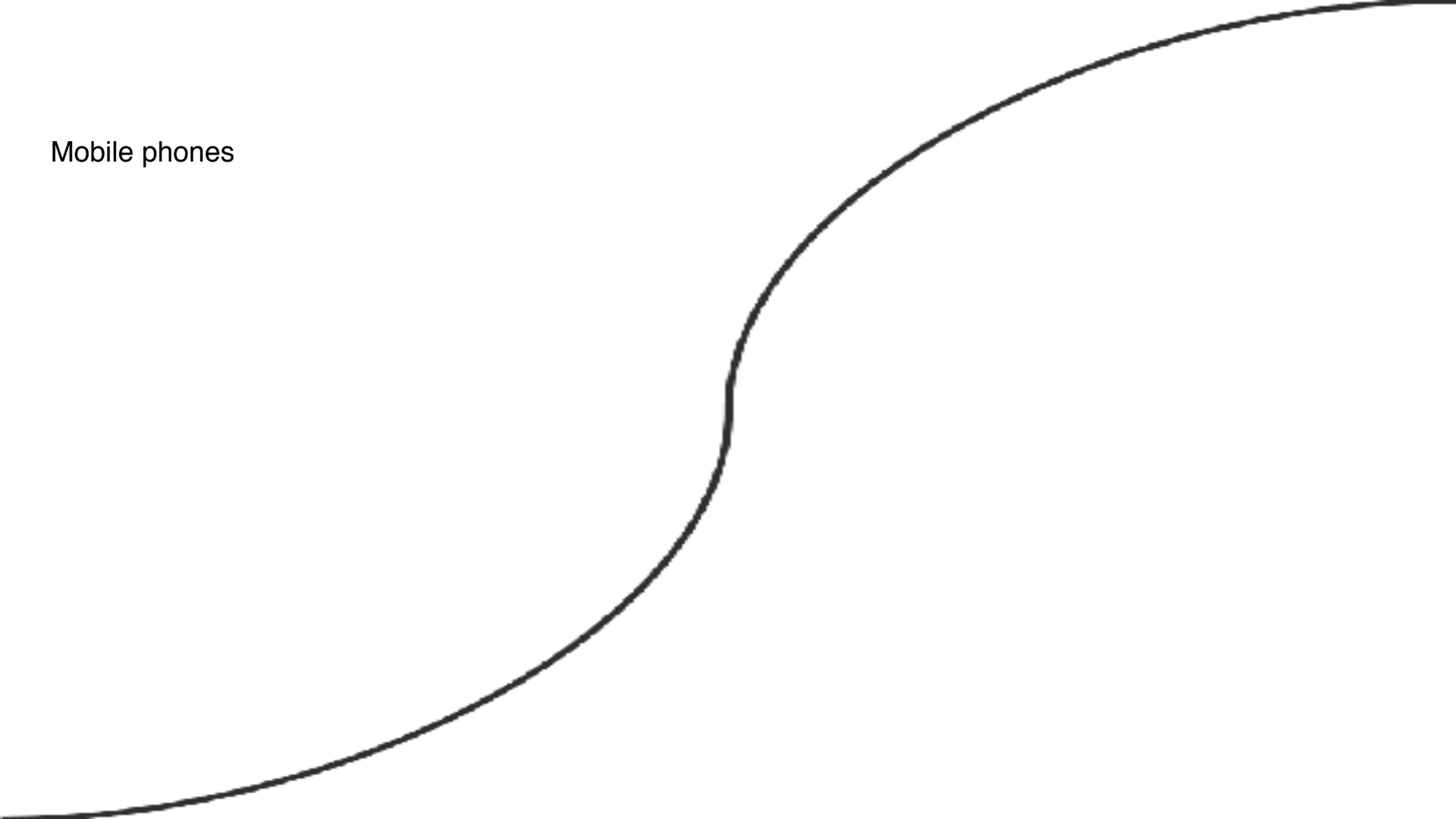




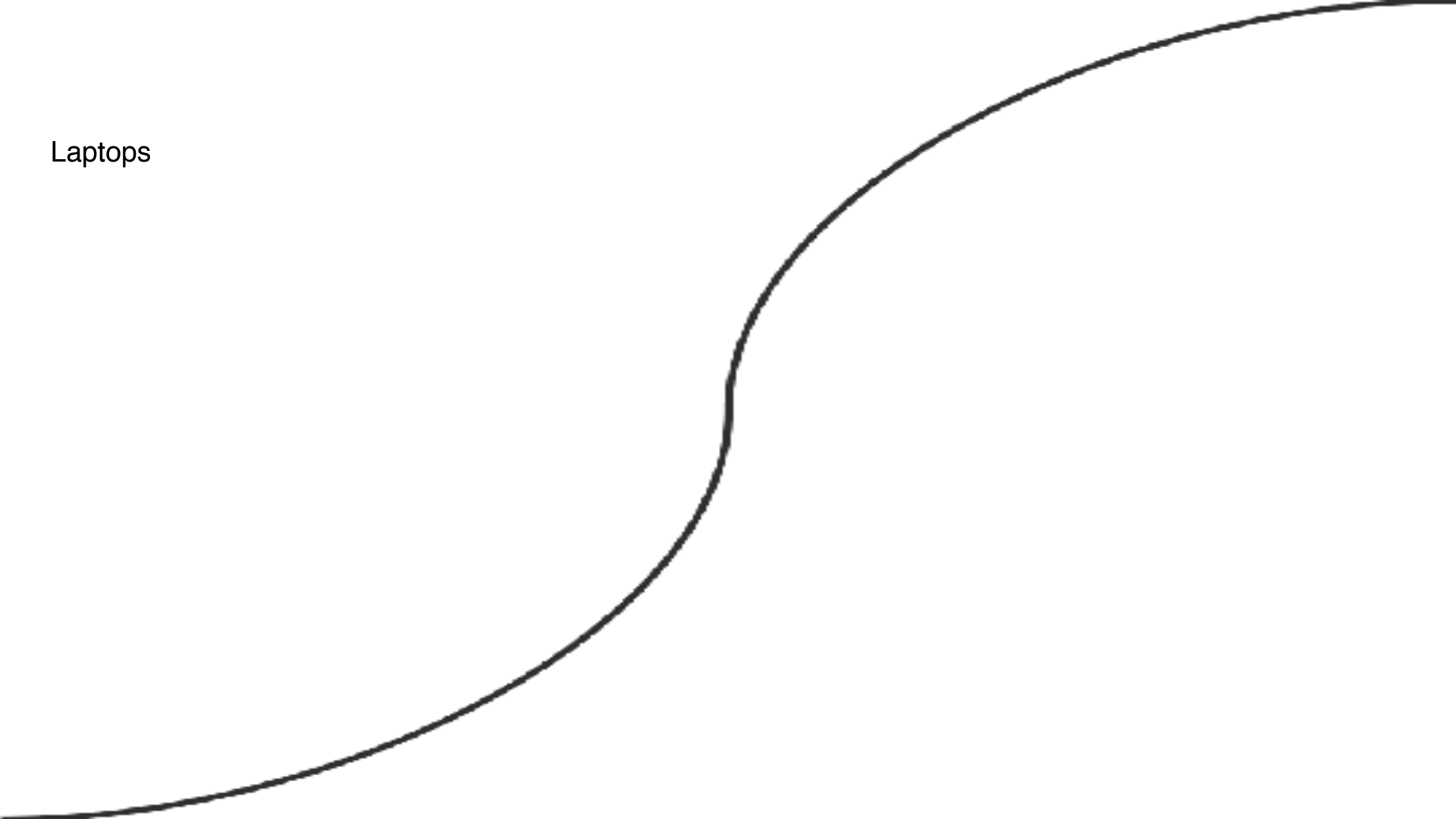
**Short term changes
are overestimated.**

**Long term changes
are underestimated.**

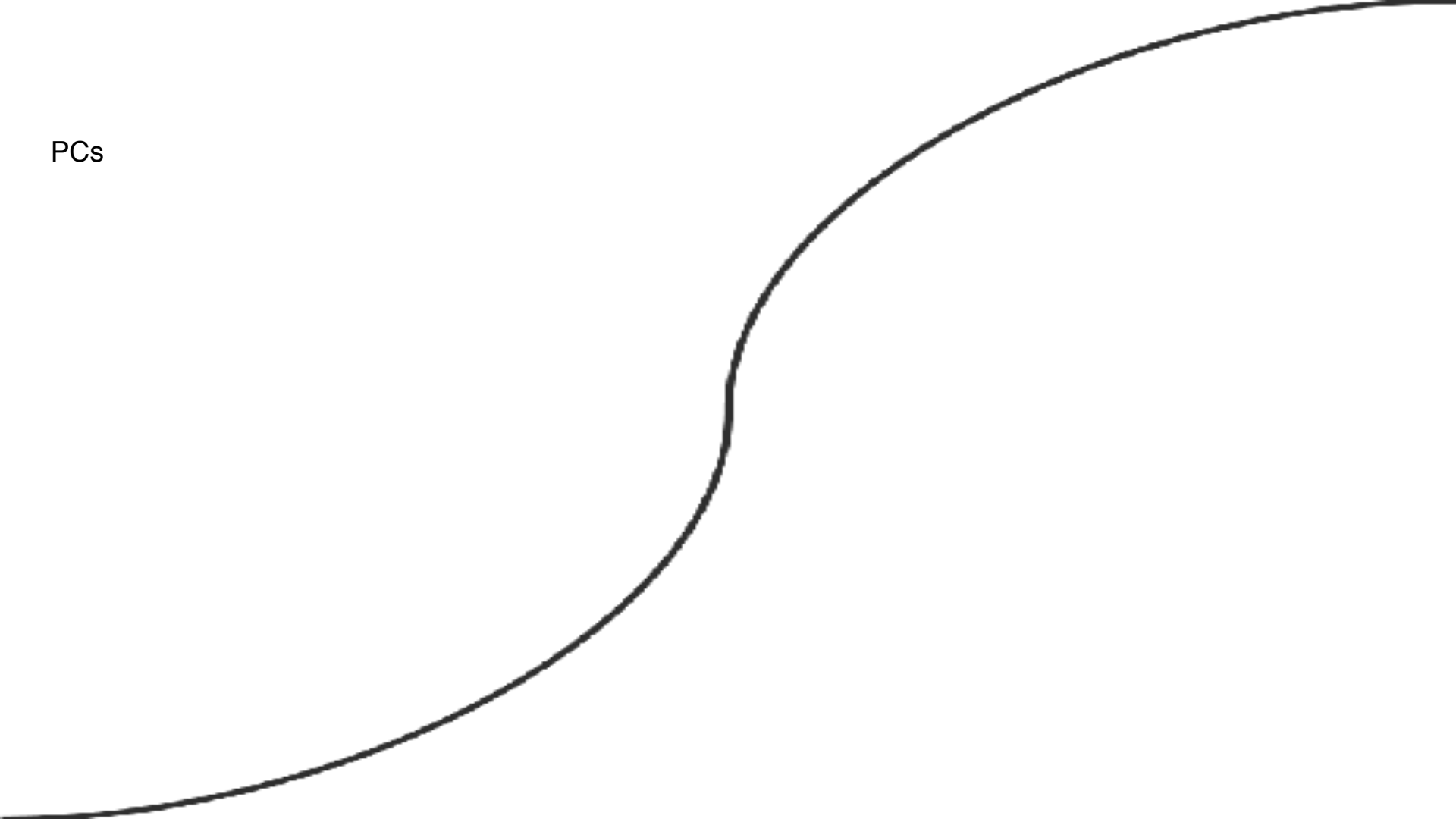
Mobile phones



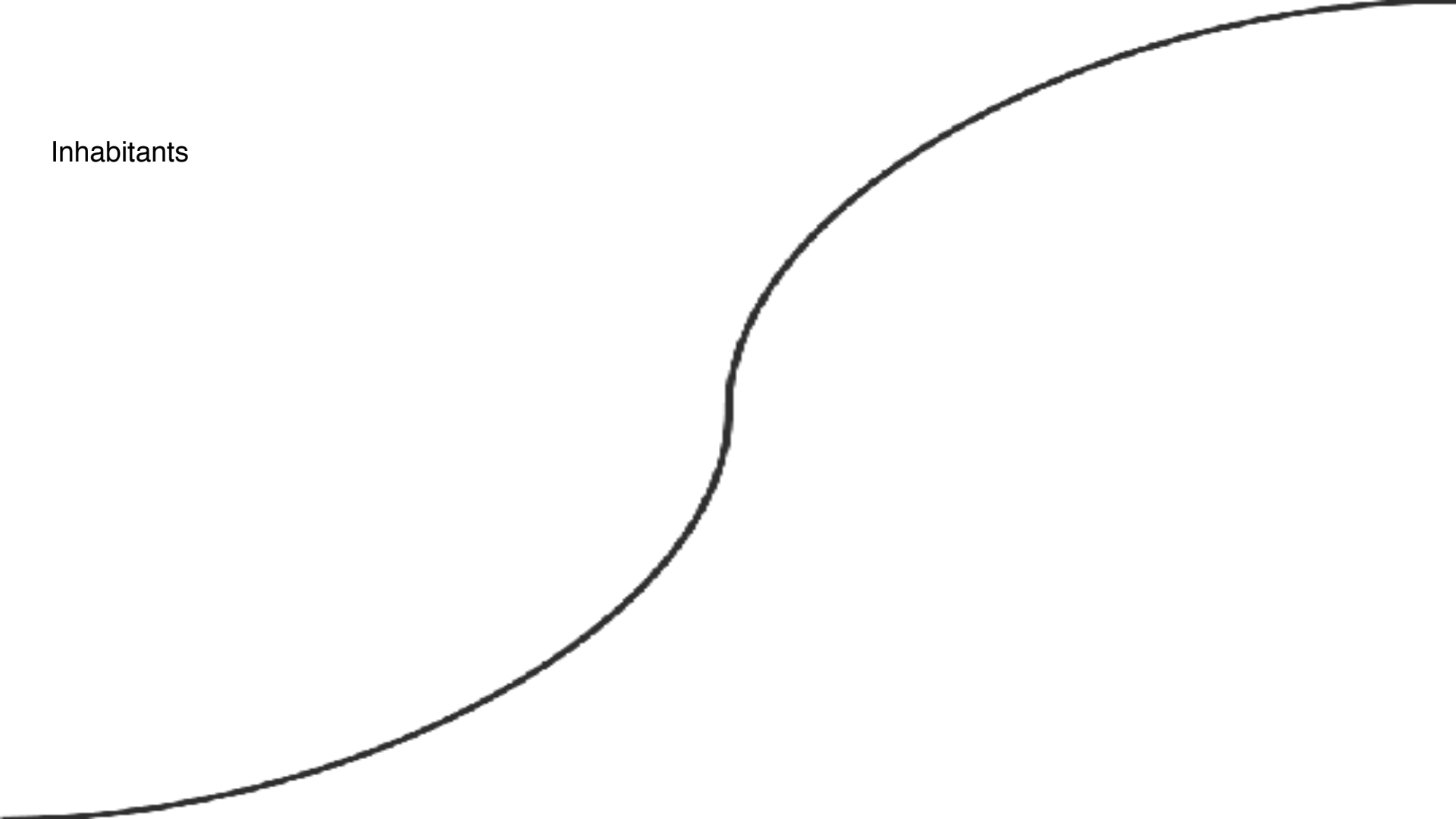
Laptops



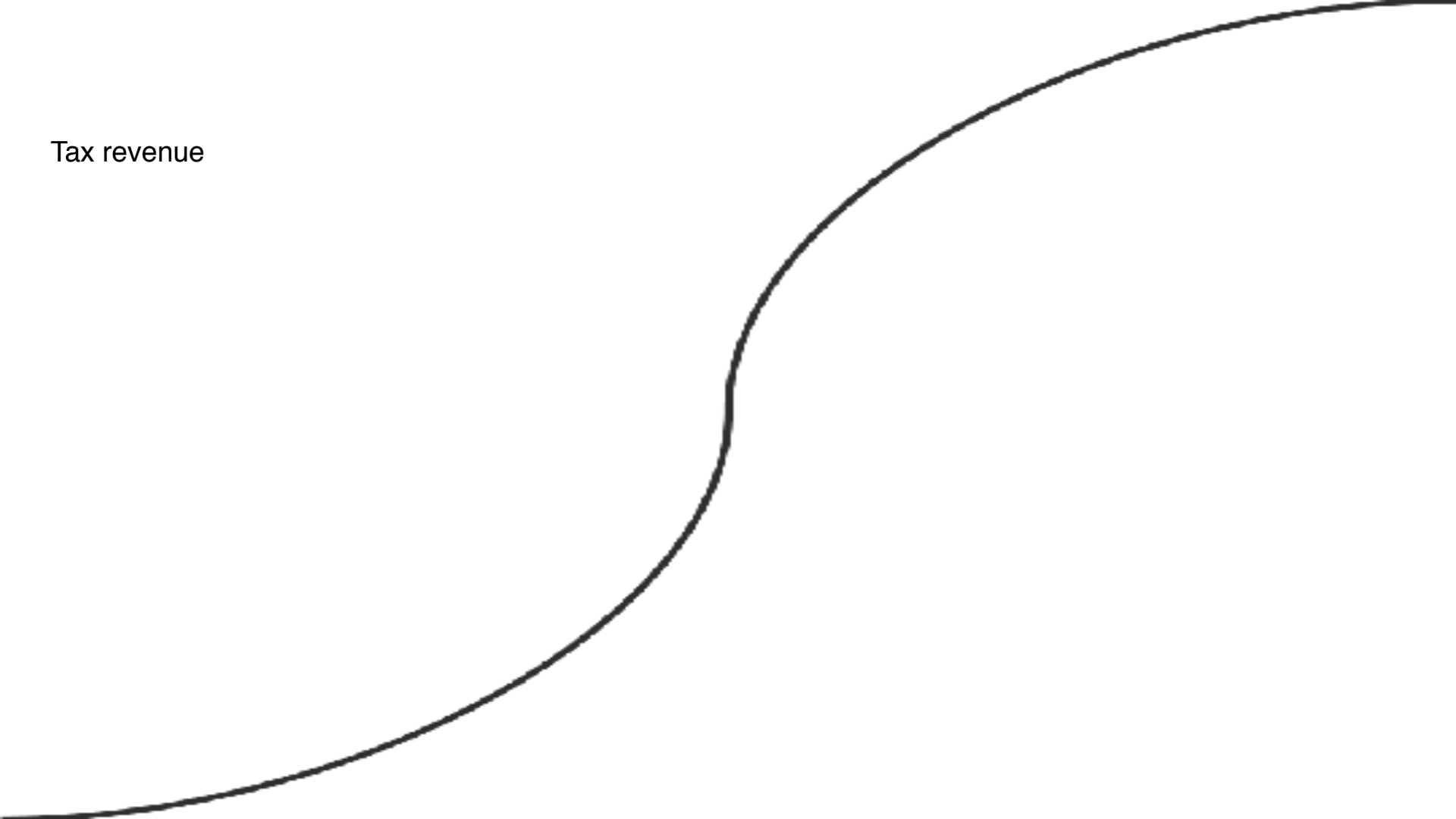
PCs



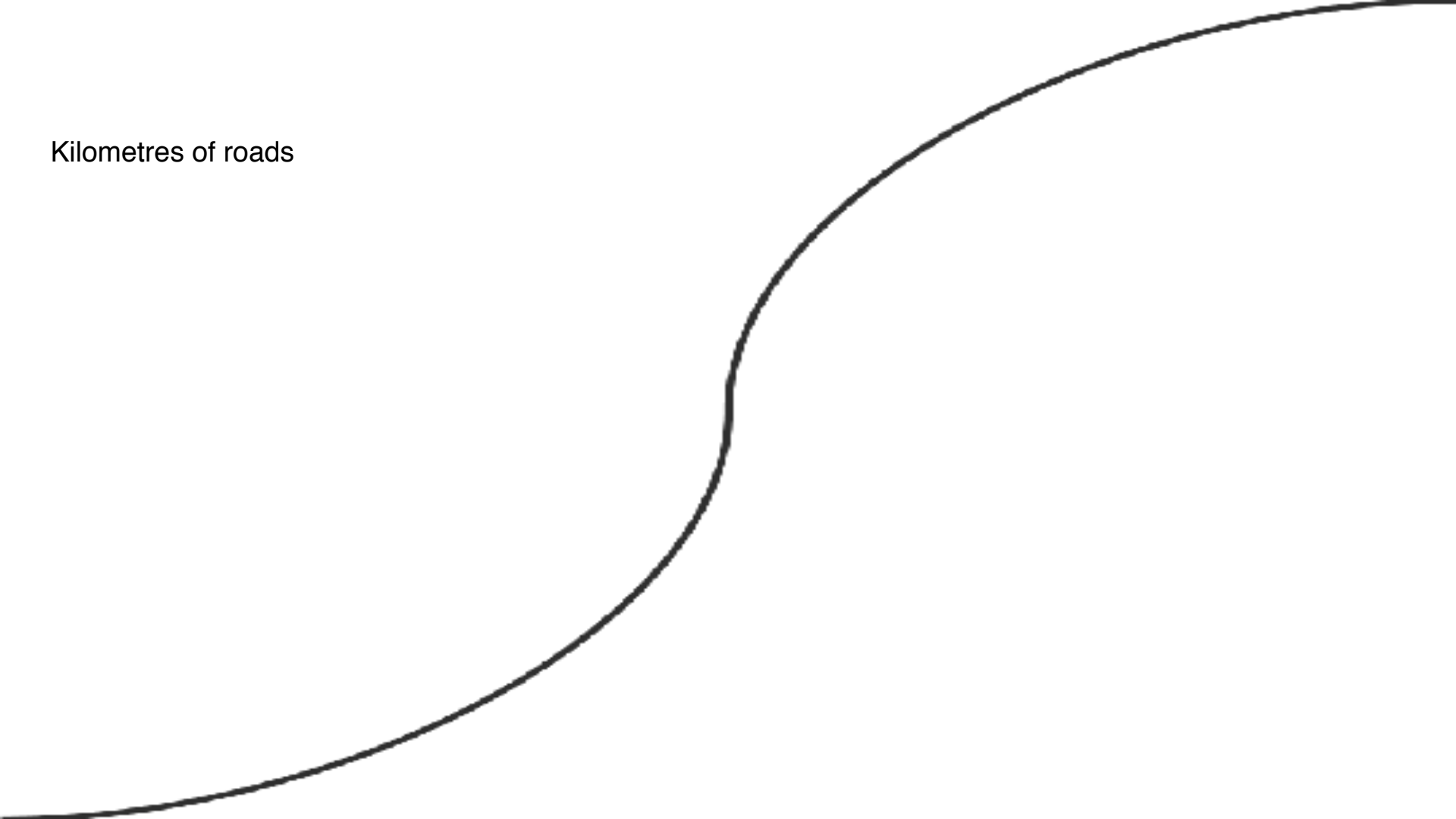
Inhabitants



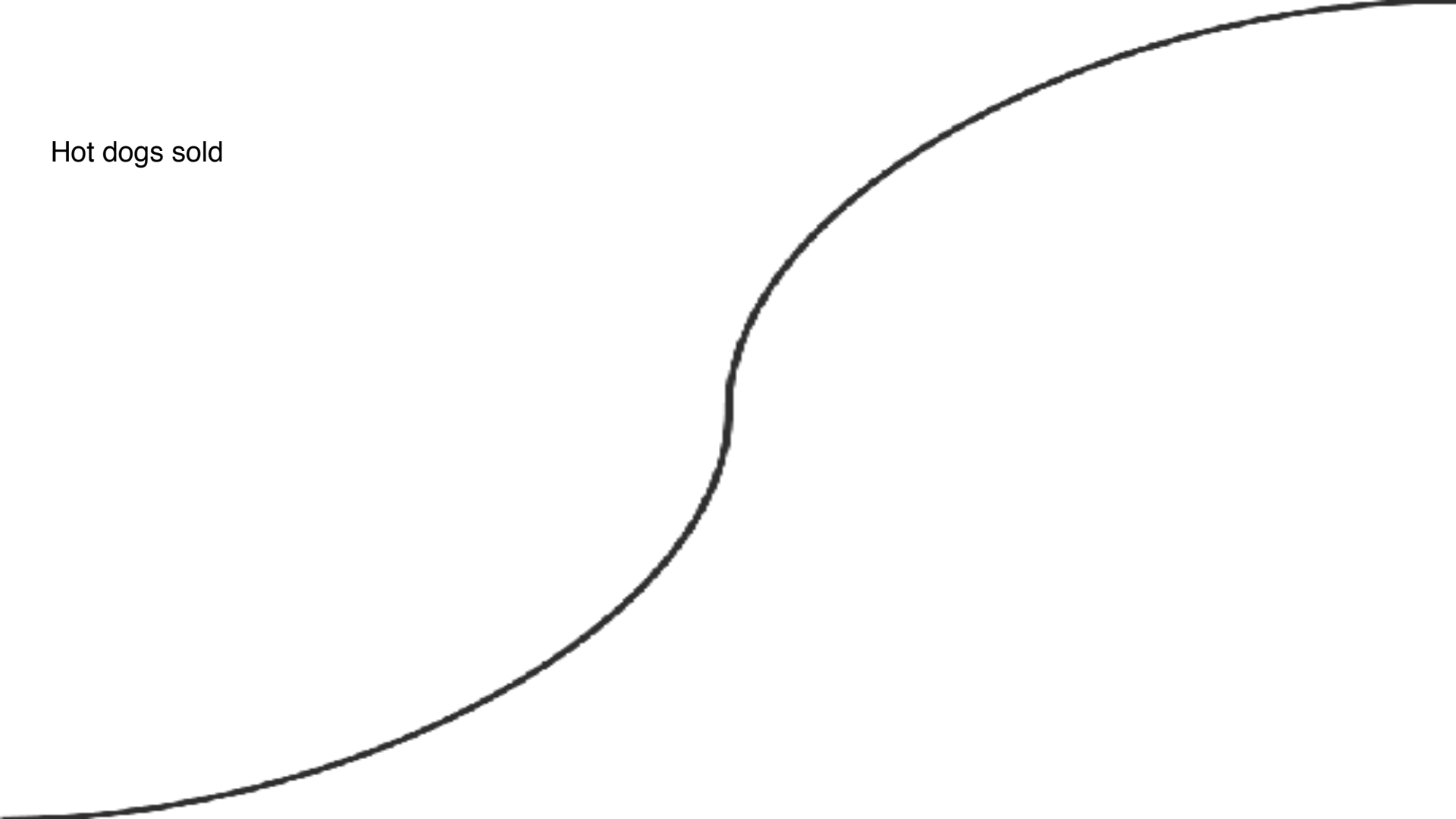
Tax revenue



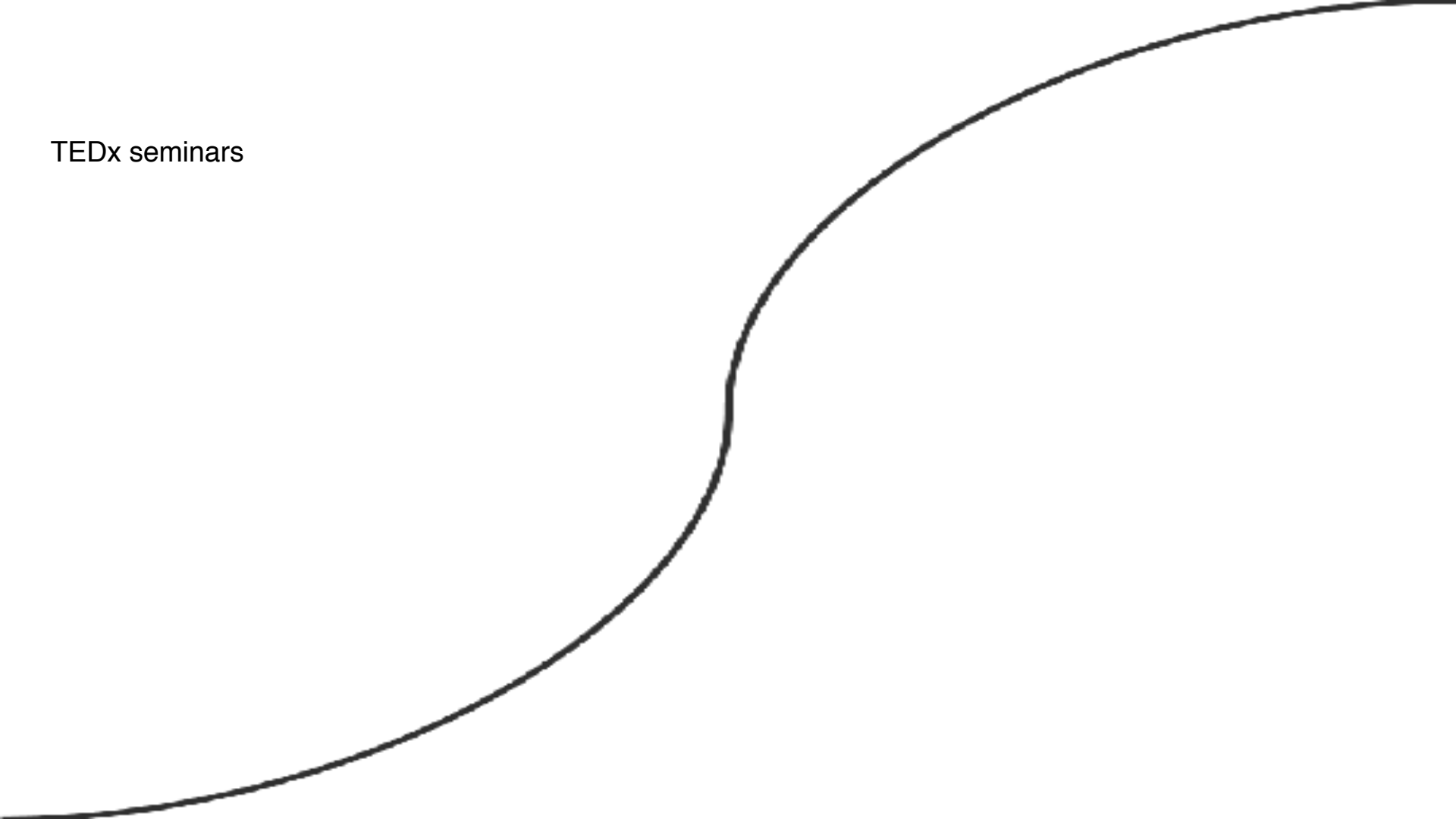
Kilometres of roads



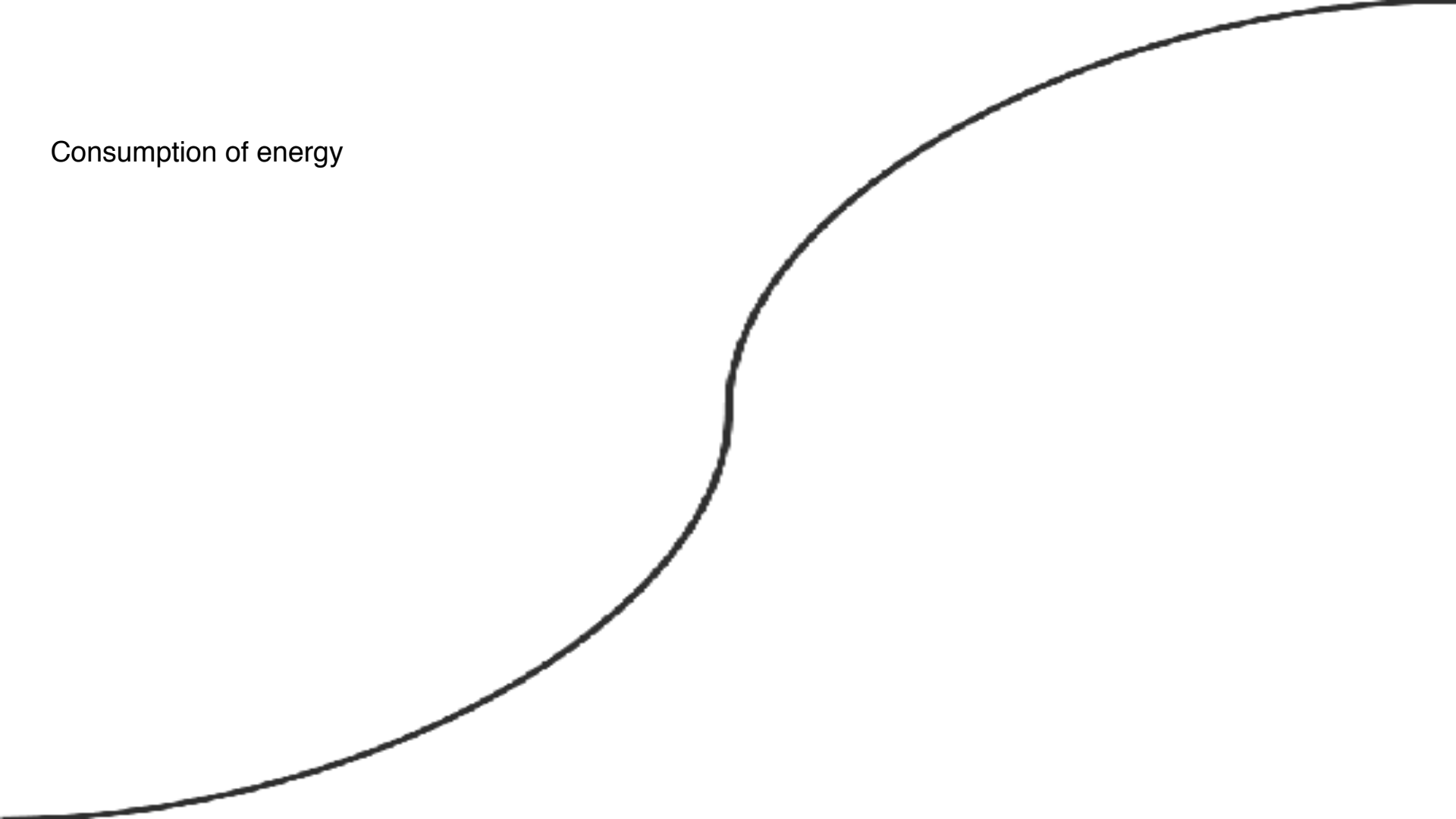
Hot dogs sold



TEDx seminars



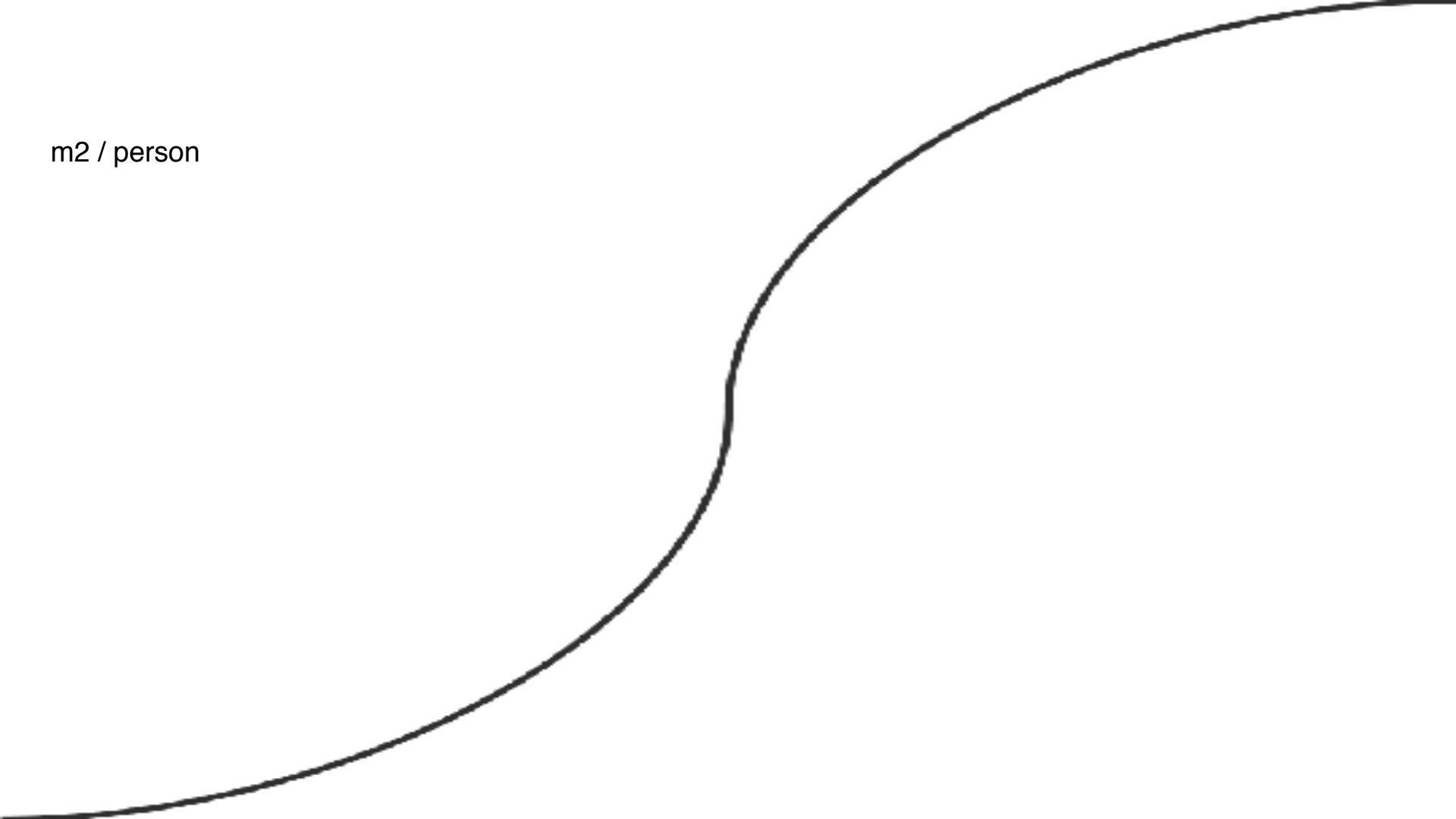
Consumption of energy



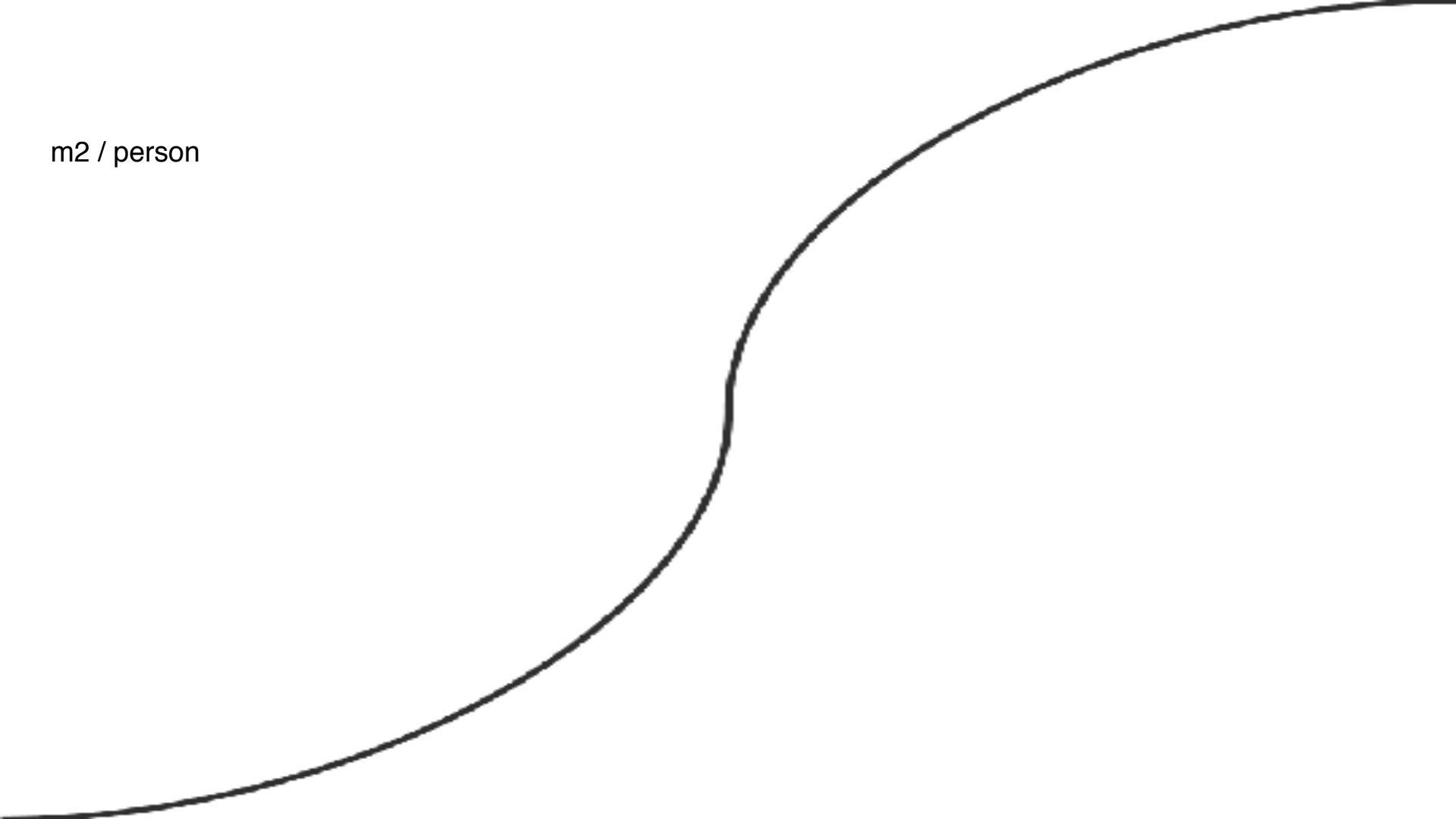
Airmiles

A hand-drawn, dark grey S-curve (sigmoid function) on a white background. The curve starts near the bottom left, rises steeply in the middle, and levels off towards the top right. The word "Airmiles" is written in a simple, black, sans-serif font in the upper left quadrant of the image.

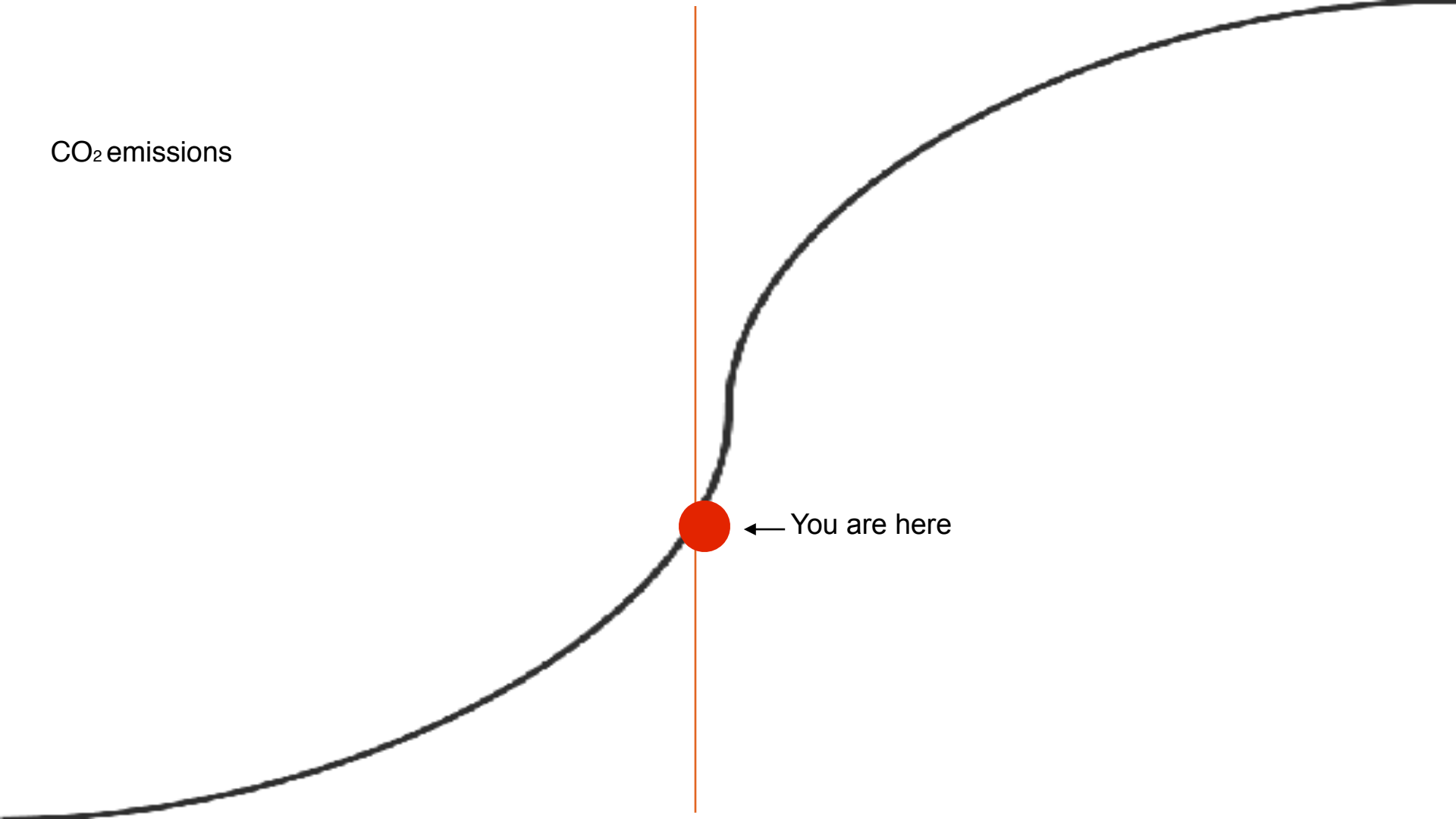
m2 / person



m2 / person



CO₂ emissions

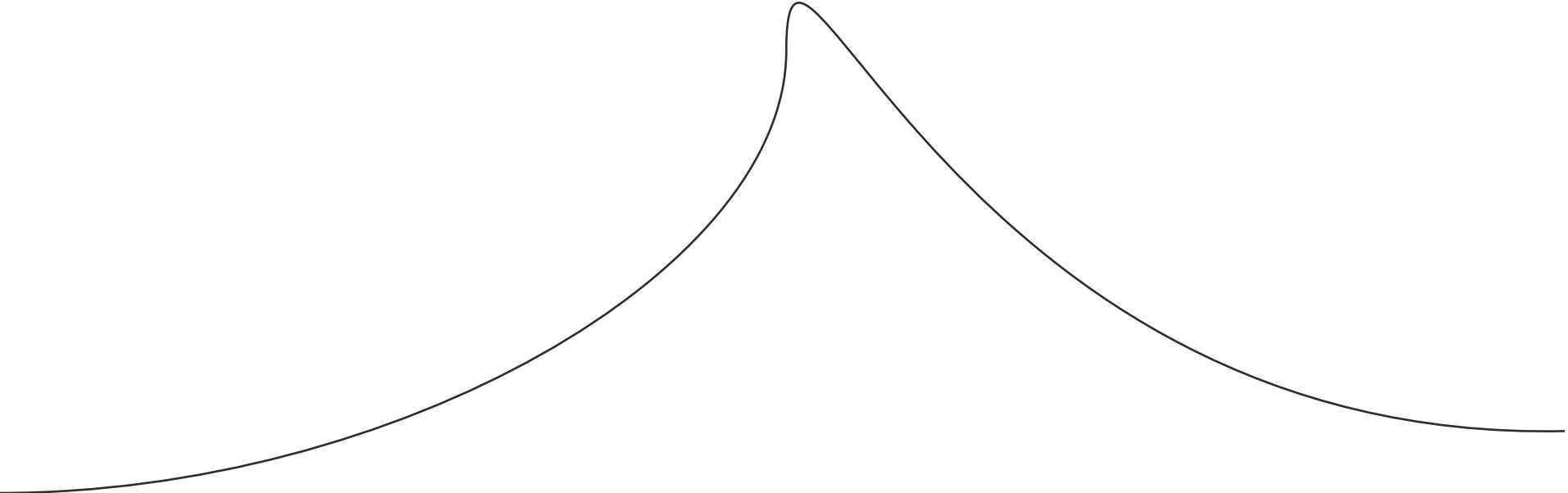


CO₂ emissions

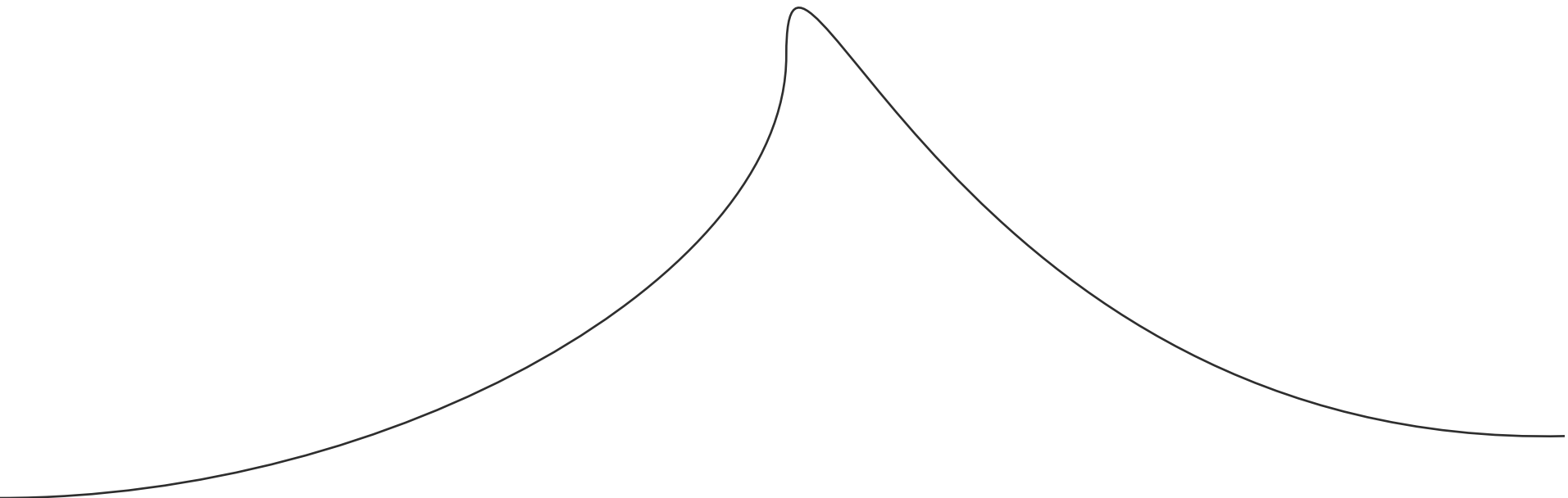


The physical reality

Foresight looks
at these points
in future.
Its about
understanding
discontinuities.



**Instead of
extrapolating
a single trend
it looks at
megatrends.**





Megatrends

What are megatrends:

- affect everything
- unlikely to go away
- interact with each other
- create trends, technologies and industries
- may change in definition, but remain the same in essence
- a short(est possible) list of phenomena you can explain the future with

What megatrends are not:

Trends or fashions

Technologies or industries

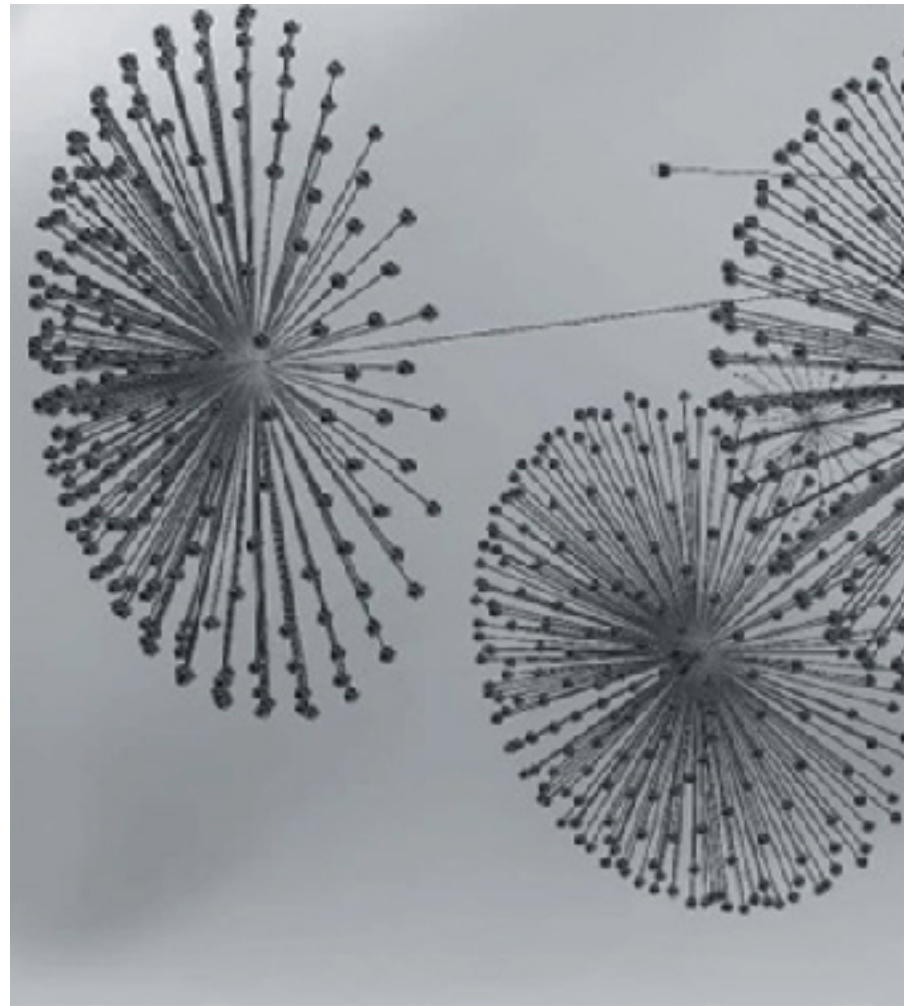
Local phenomena

Something you can abolish with a **magic bullet**

5 Demos Helsinki Megatrends

1. Planetary technology combines bits and atoms
2. Population tetris replaces population segments
3. Individualisation turns into participation
4. The emerging metropolises become the dominant global structure
5. Resource economy delivers constant disruptions

(Demos Helsinki, 2015)



Megatrends become *real* only in a given region.

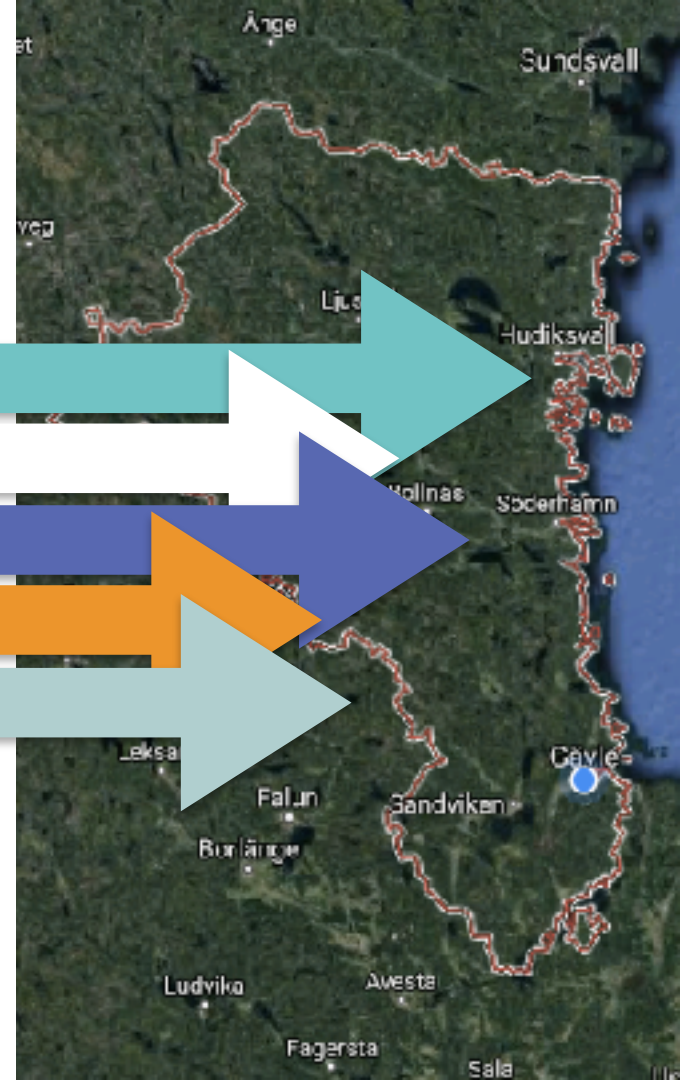
Planetary technology

Population tetris

Individualisation becomes participation

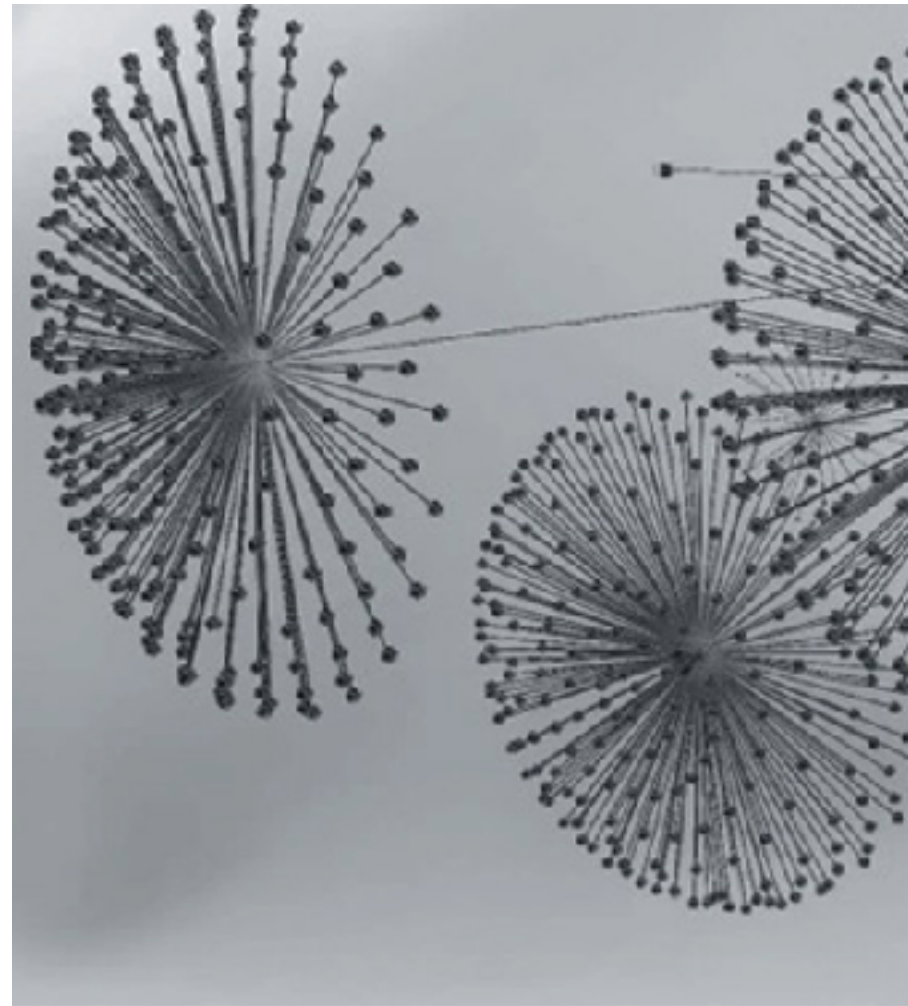
The liquid metropolis

Resource disruptions



Megatrend 1

**Planetary technology combines
bits and atoms**



**When is the last
time that you
watched your
mobile phone?**

**We look at our
phone every
6th minute**

**In ten years time
we will never look
at our phones.**

★ Radio Shack ★ ★ ★
AMERICA'S TECHNOLOGY STORE

**PRESIDENTS
BIRTHDAY
SALE!**

DON'T DELAY

3-DAY SPECIALS ABOVE GOOD SATURDAY THRU MONDAY OF

0% INTEREST!
NO PAYMENTS UNTIL MAY!
NO DOWN PAYMENT!

HURRY! OFFER ENDS TUESDAY FEBRUARY 10

COME IN AND TAKE ADVANTAGE OF THESE OTHER FANTASTIC VALUES!

INTRODUCTORY SPECIAL!

Save '670
\$1599



Save ~~100~~
\$199*

Save
159



5.3000 160 7995 MSRP

Compact 10-Channel Desktop
Save \$30 Q095



Model C25 V601 220V/240V 2.5kW 10A 50/60Hz



Our Fordson Jet Line Engine Now
Only \$299. **4095**

Outstanding
Speed Fuel Economy
Cut 33%

2995 per sq. ft.
Special SHAPE STEEL
Steel framing is used for
large openings, such as


Handheld Voice-Activated Carry
Time Rescue

2995



A large black arrow pointing upwards, containing the text 'Function-nalities' in white.

**Function-
nalities**

A large black arrow pointing downwards, containing the text 'Size Price' in white.

**Size
Price**

THE LAW OF HYPERCONNECTED PLANET

Size & Prize

Functionalities

Mainframe computers

Personal Computers
Laptops

Smart Phones

Smart Watches

Wearables

Nearables

Smart Environments

"Smart dust"

THE LAW OF HYPERCONNECTED PLANET

Size & Prize

Mainframe computers

Personal Computers
Laptops

Smart Phones

Smart Watches

Wearables

Nearables

Smart Environments

"Smart dust"

**you
are
here**

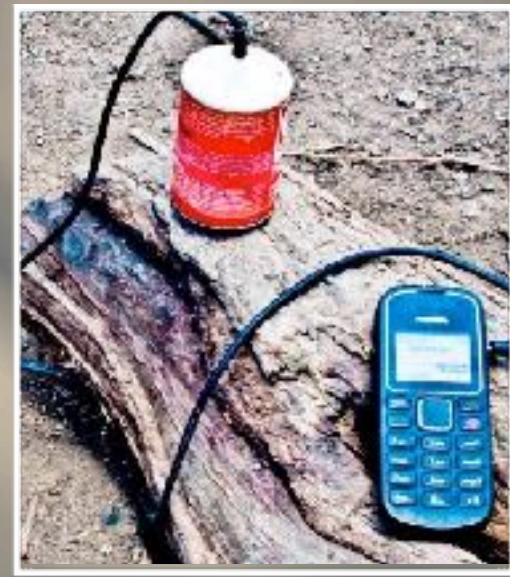
Functionalities

Bits and atoms are joining already and its creating a lot of value. Already.

Uber \approx \$18.2bn
Airbnb \approx \$30bn

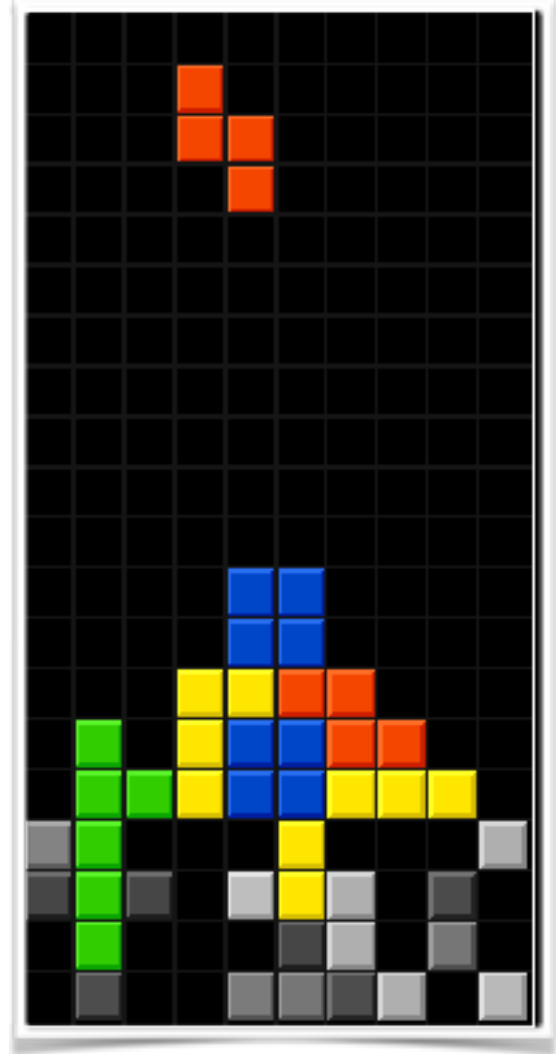
Pokemon GO increased
the valuation of
Nintendo w. \$11 bn
(oops!)





Megatrend 2

Population tetris replaces
population segments





Population tetris replaces
population segments

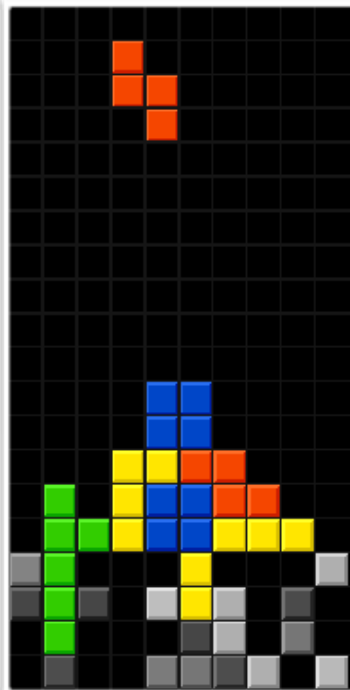
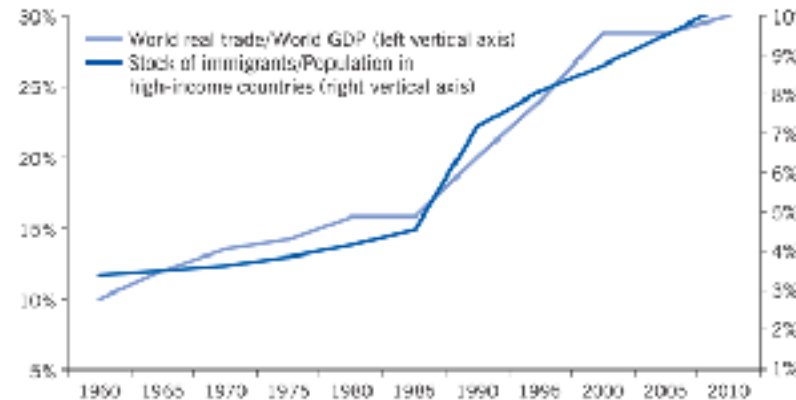
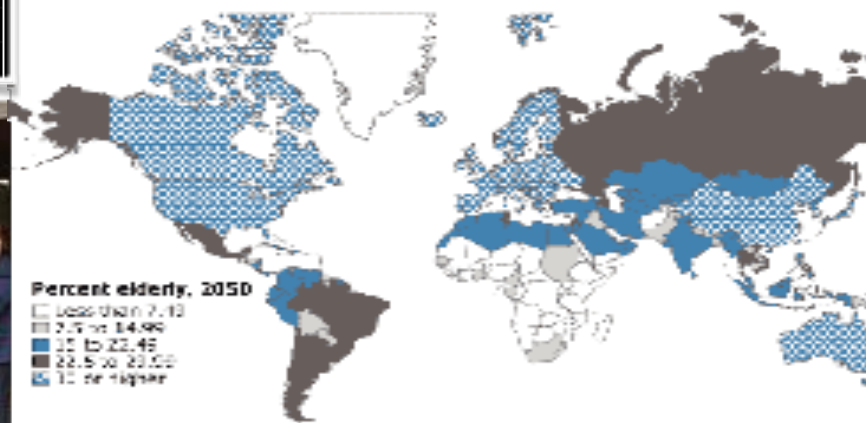
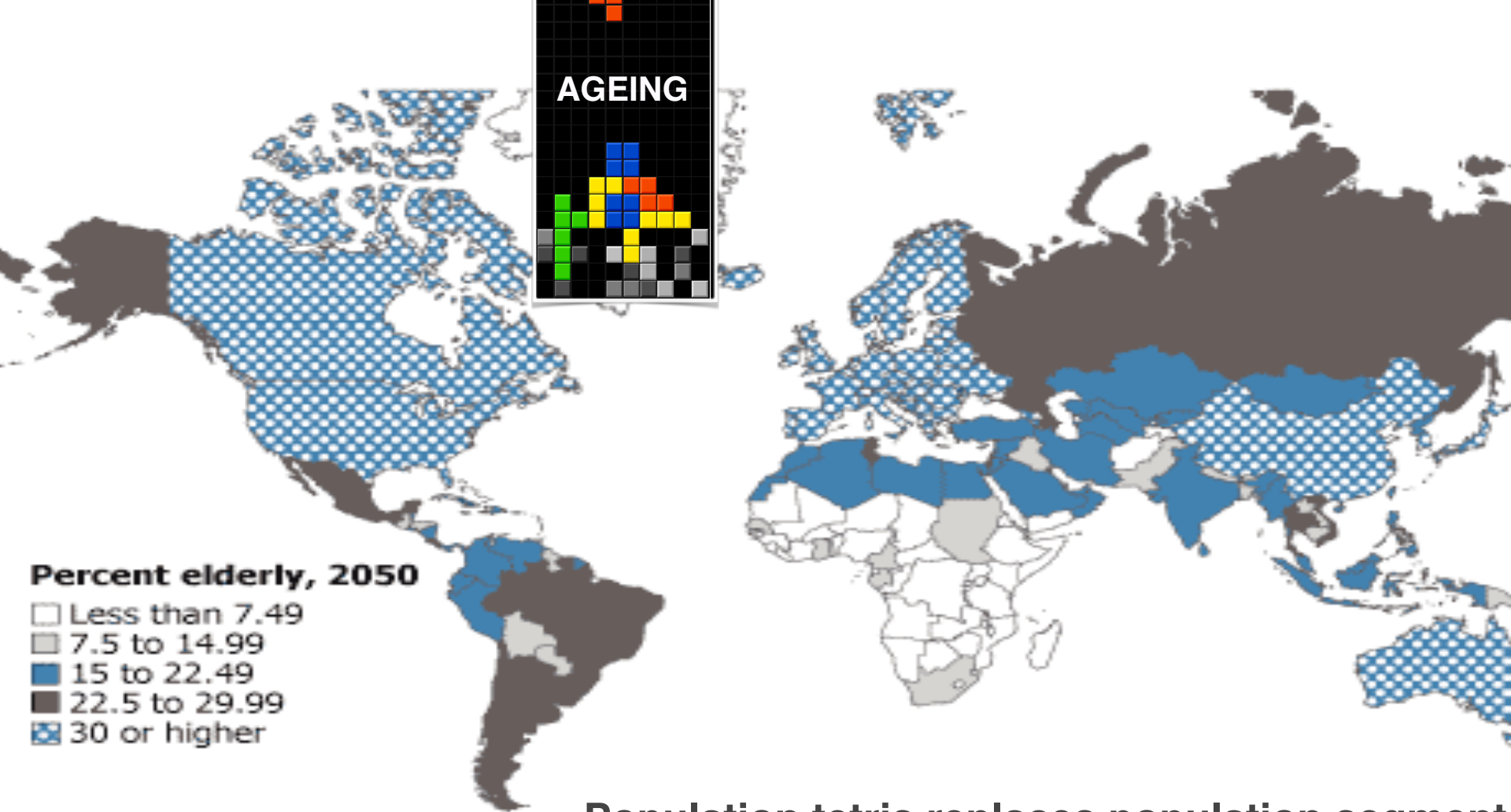


Figure 1. Immigration rates in high-income countries have tripled since 1950, following the same trajectory as the trade/GDP ratio

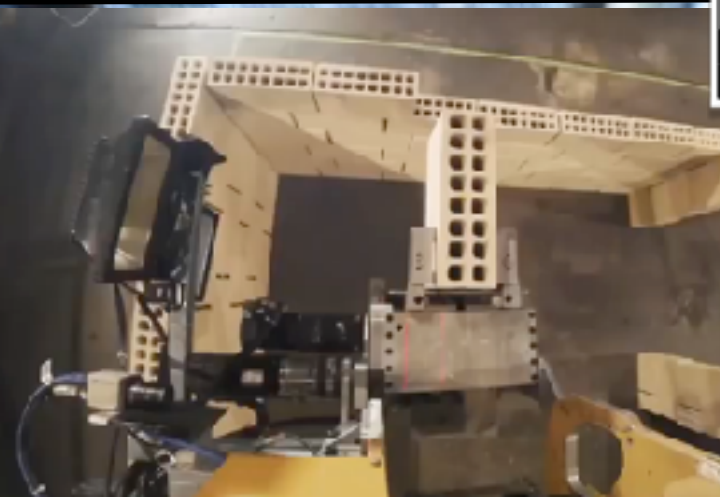
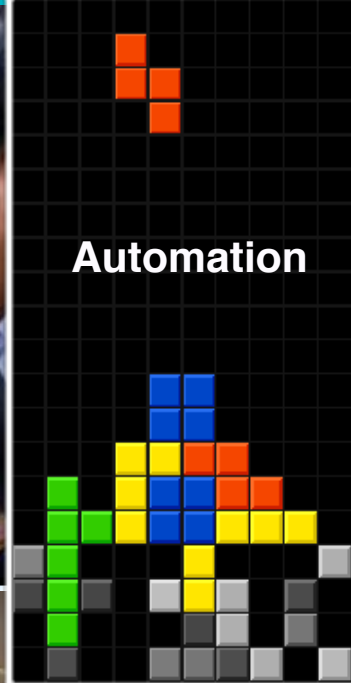


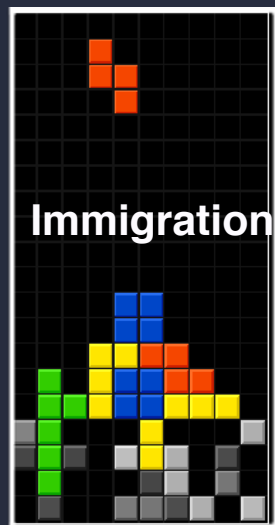
Source: United Nations database on international migrant stock, 2008 revision (<http://esa.un.org/migration/>) and World Trade Organization online database (<http://stat.wto.org/>)



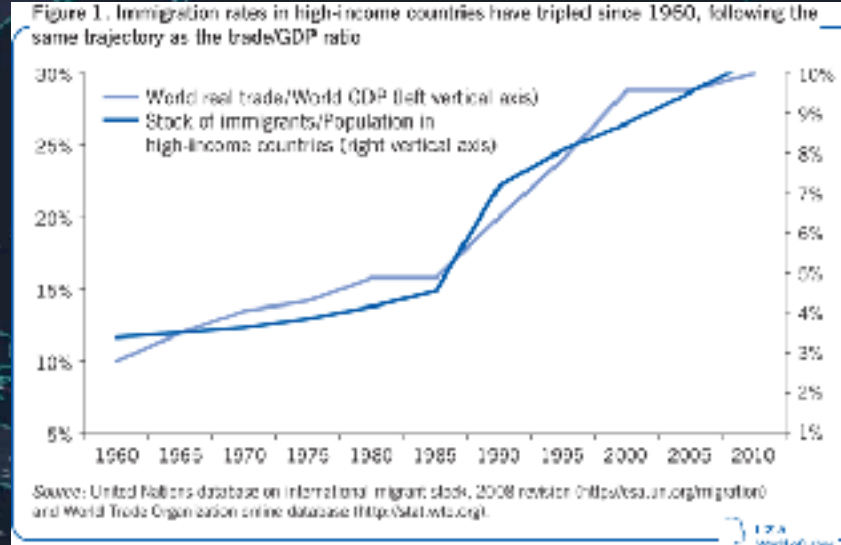


Population tetris replaces population segments



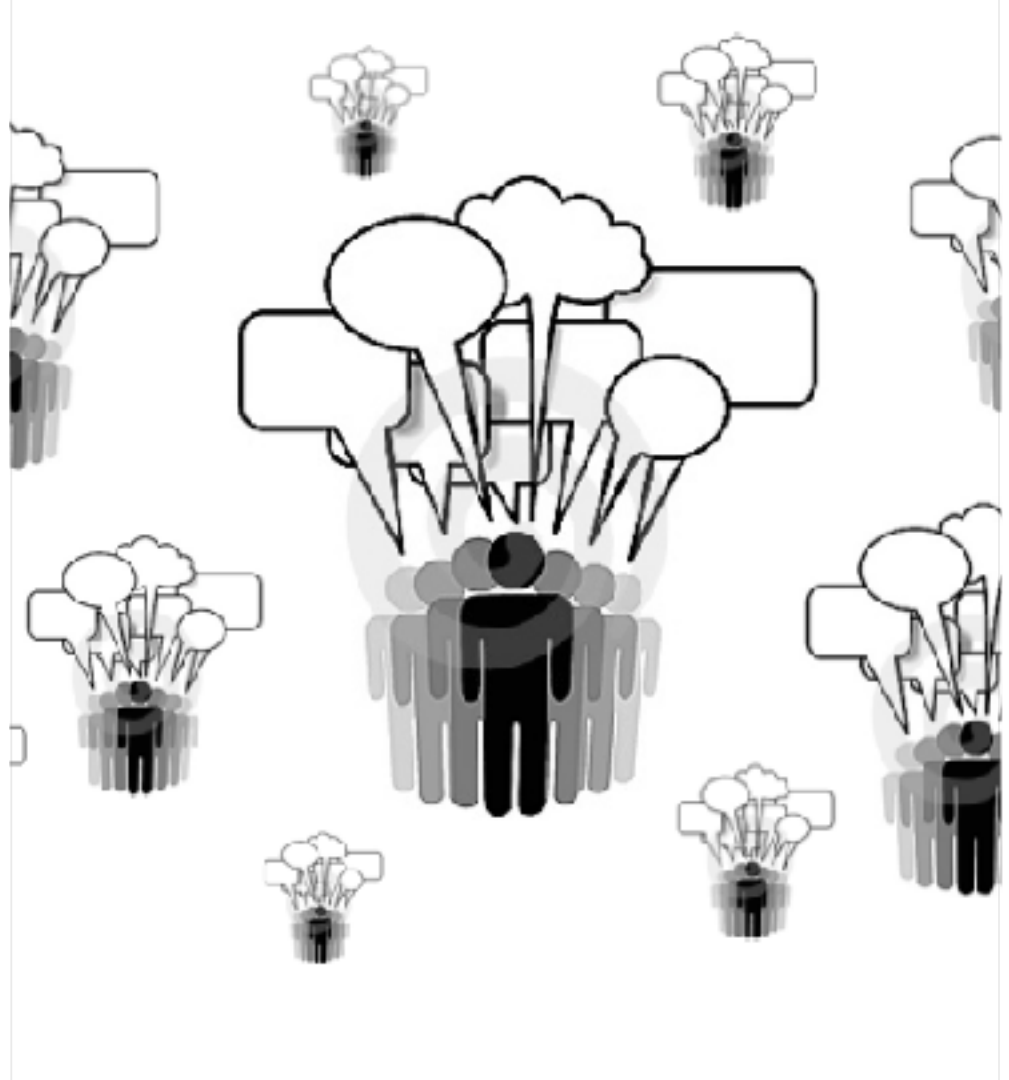


Population tetris replaces population segments



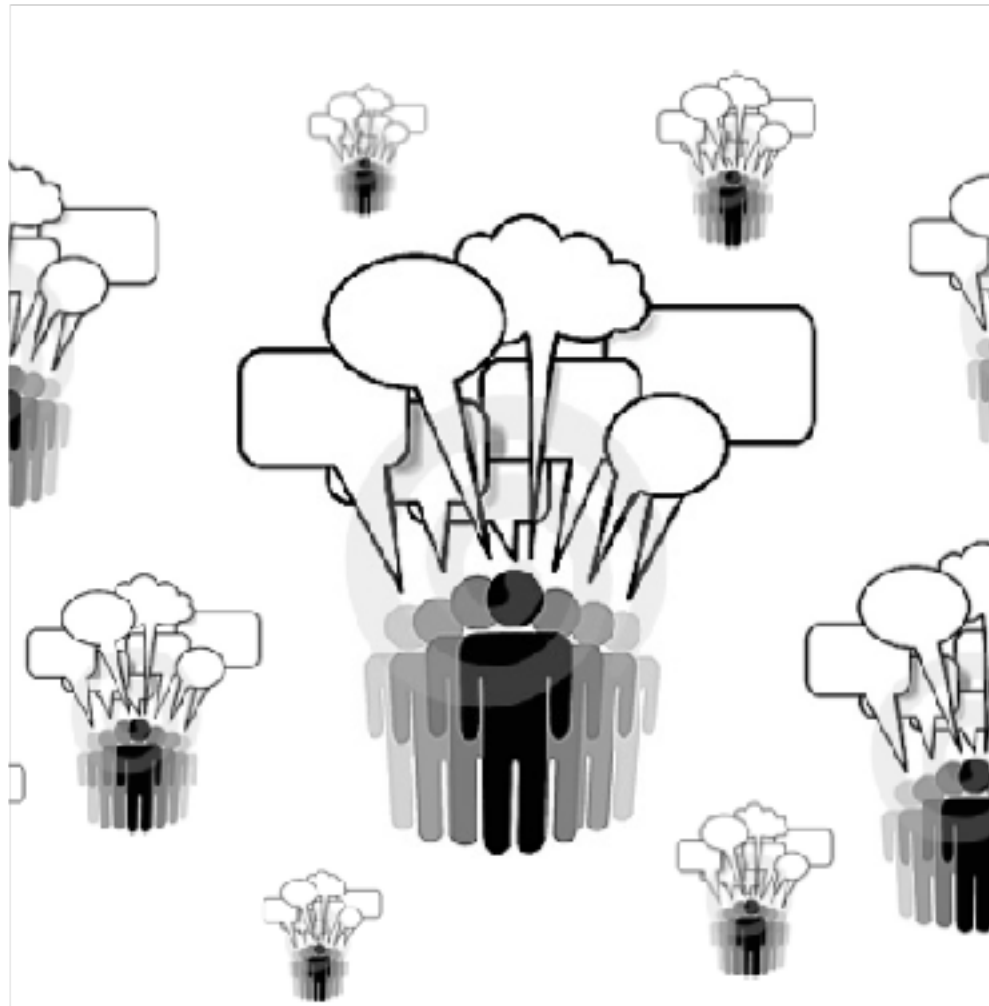
Megatrend 3

Individualisation through
participation

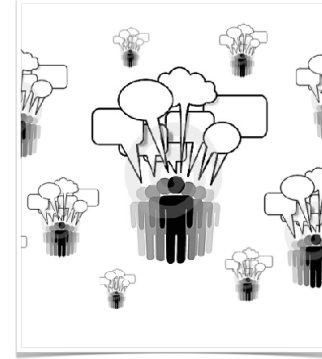
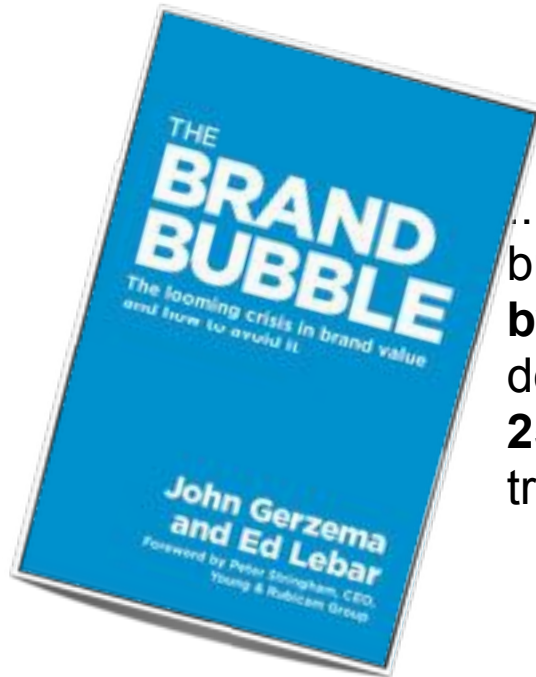


Individualisation
through
participation

groups
challenge
institutions
power

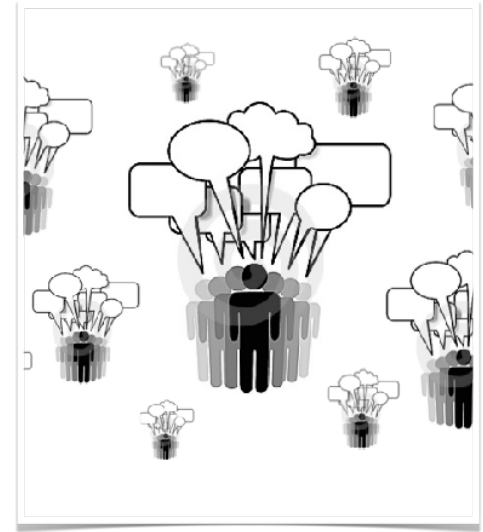
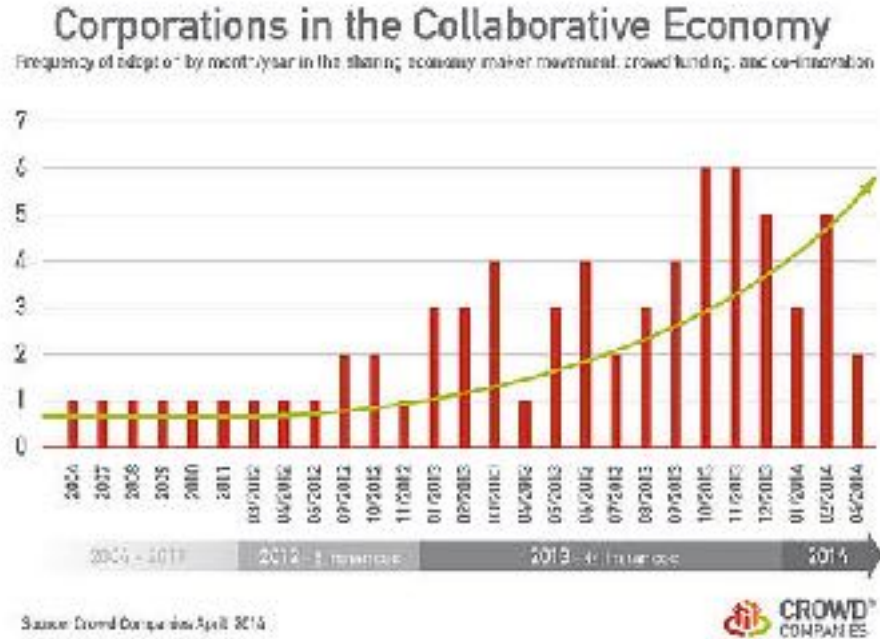


Individualisation through participation



...consumer trust in brands has **declined by 50%** in a decade, down from 52% **to 25%**. Instead, people trust their **peers**.

Individualisation through participation



The Mayor's Crowdfunding Programme

#CrowdfundLDN

We want to help you create special local places that bring Londoners together.

LEARN MORE

Swedes

Individualisation through participation

Women

Men

Individualisation through participation

Fully employed

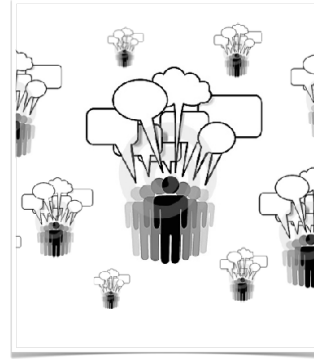
Students
and
pensioners

The
unemployed

Individualisation through participation



Individualisation through participation



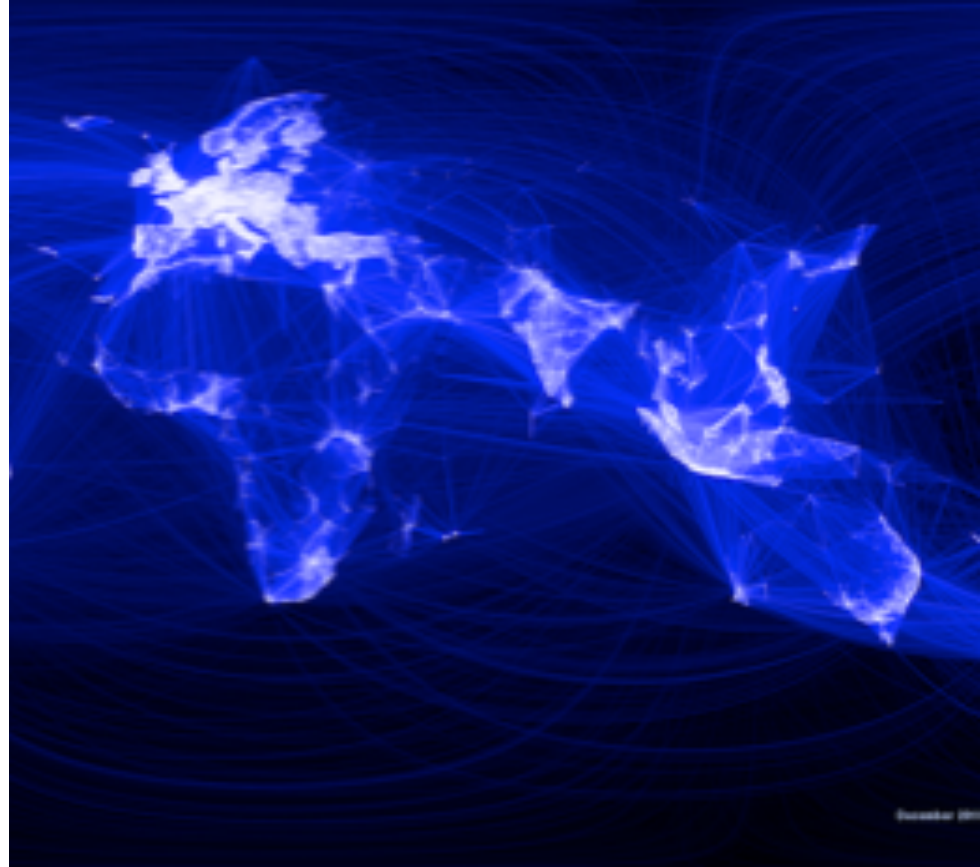
Black Rock City - A Future City?

- No money, everything is free
- Everything is produced by the attendees "burners"
- Tickets sell in seconds
- Desert city of 75 000 inhabitants
- A platform for co-creation

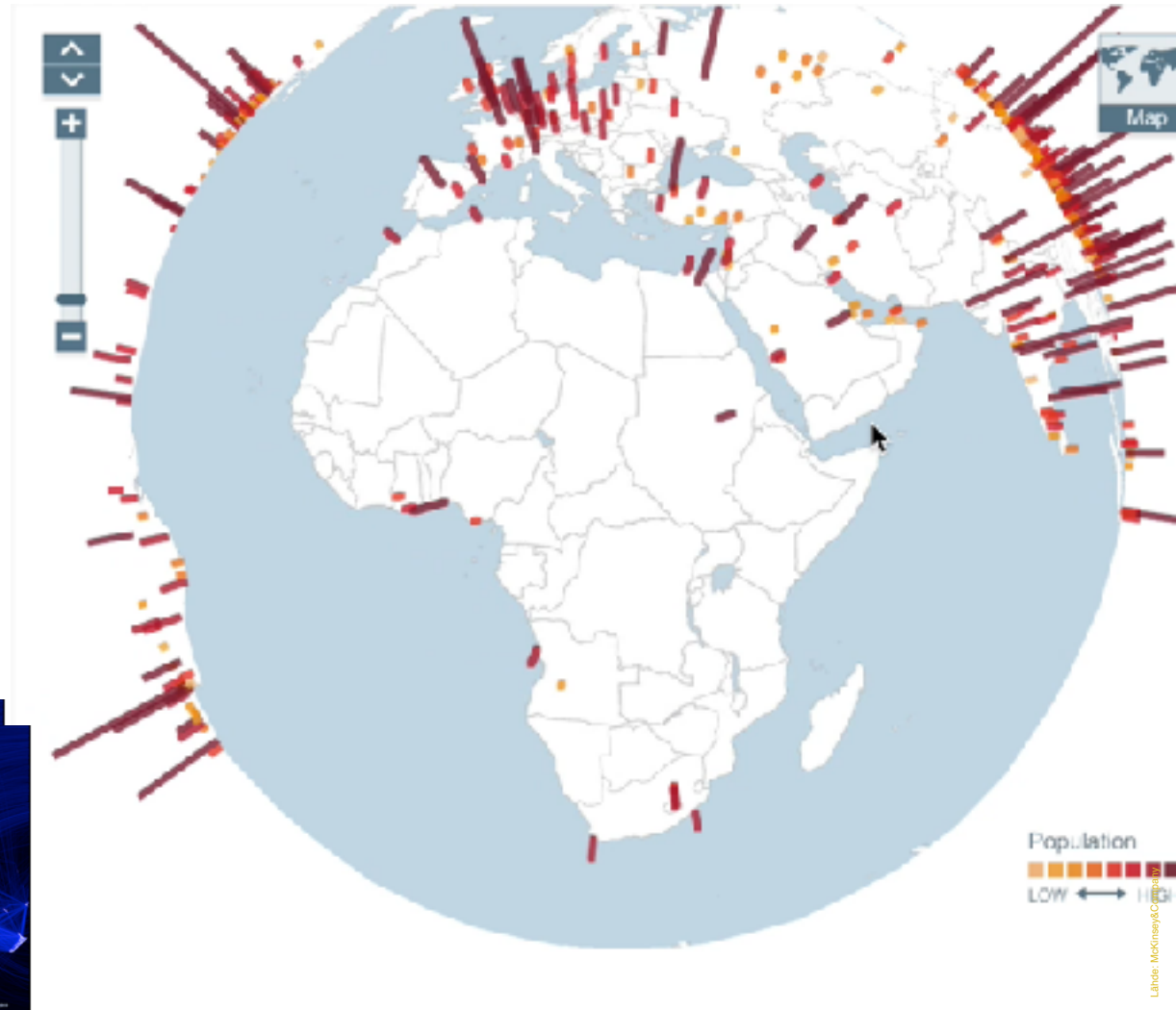


Megatrend 4

**The emerging metropolises
become the dominant global
structure**



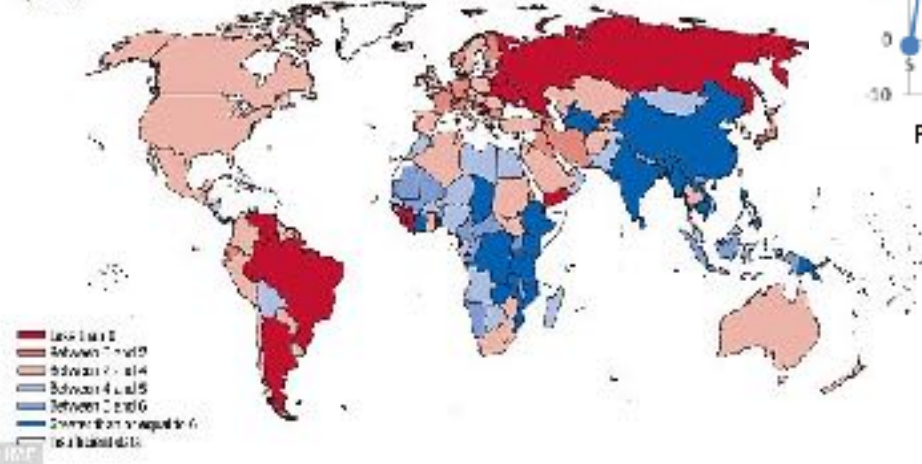
The emerging metropolises
make most of the growth
and world economies



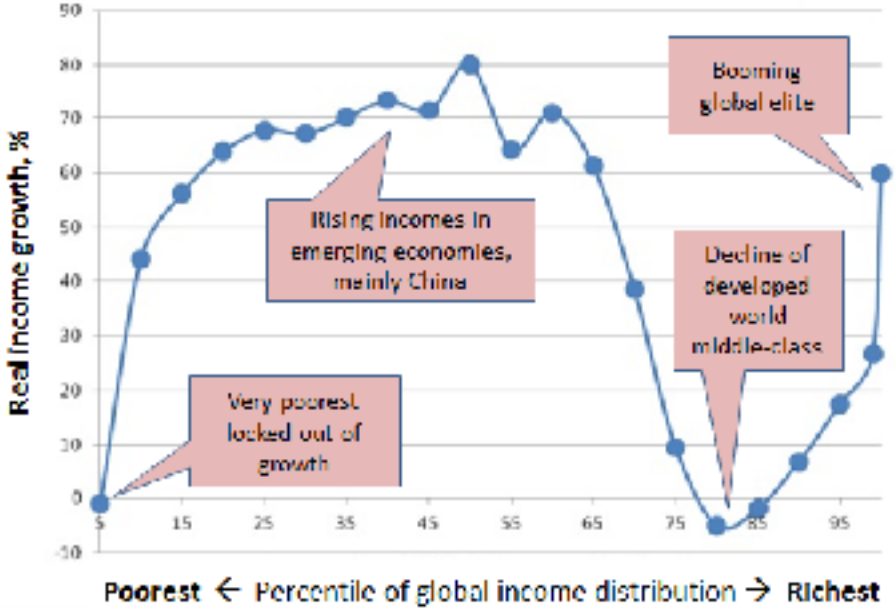
The emerging metropolises make most of the growth and world economies

Figure 2.1. 2015 GDP Growth Forecasts and the Effects of an Oil Supply Shock

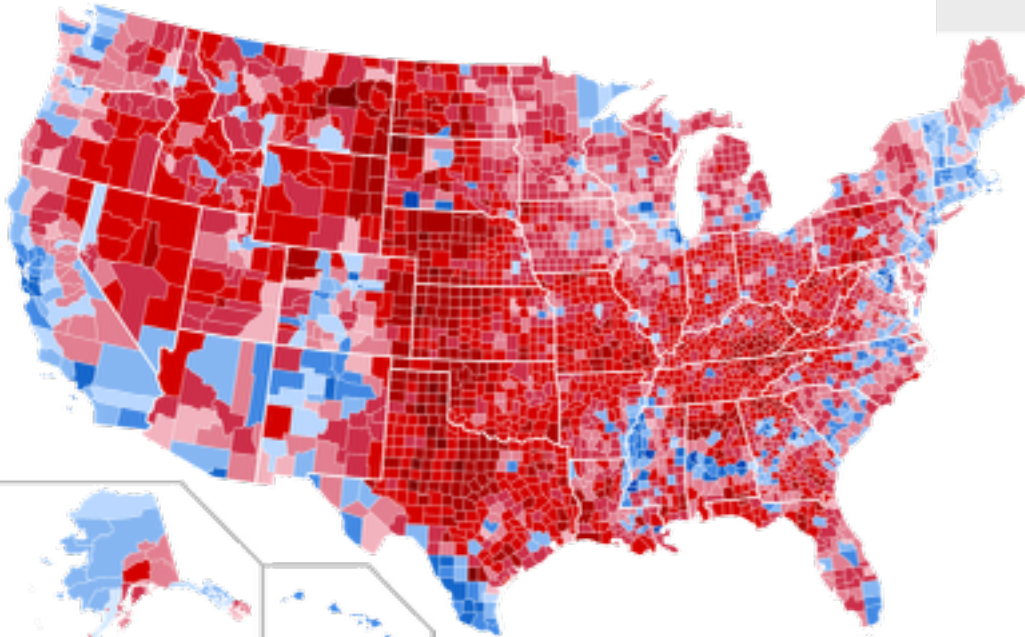
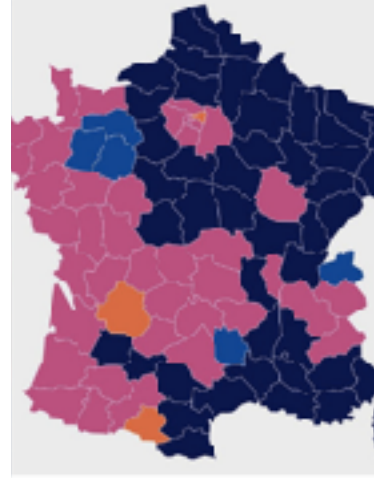
2015 GDP Growth Forecasts
Percent



Global income growth from 1988 to 2008

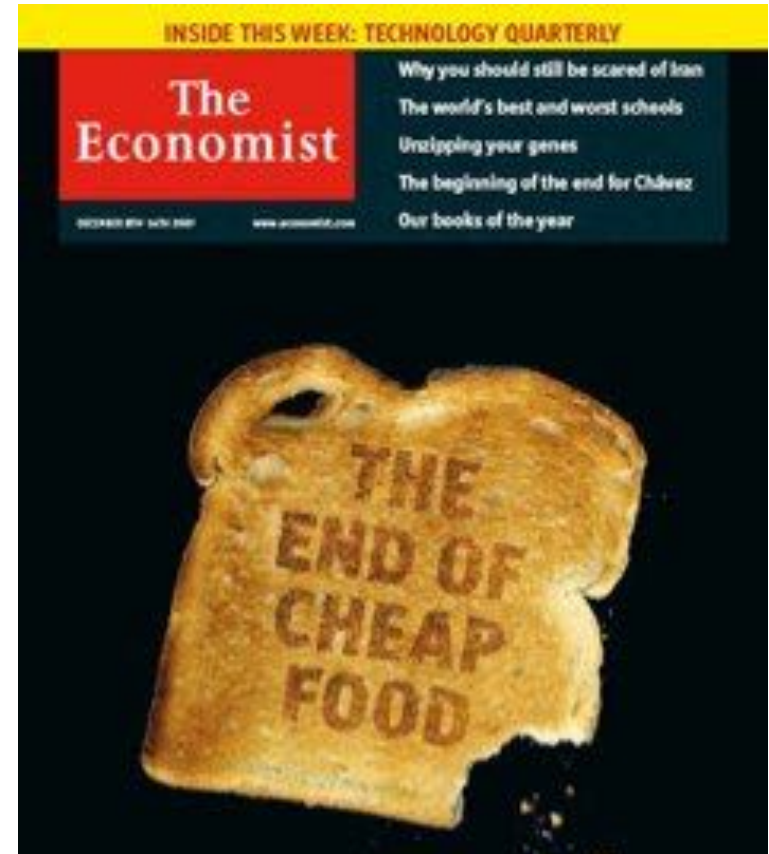


The emerging global metropolises grow out of the periphery and slow growth cities.

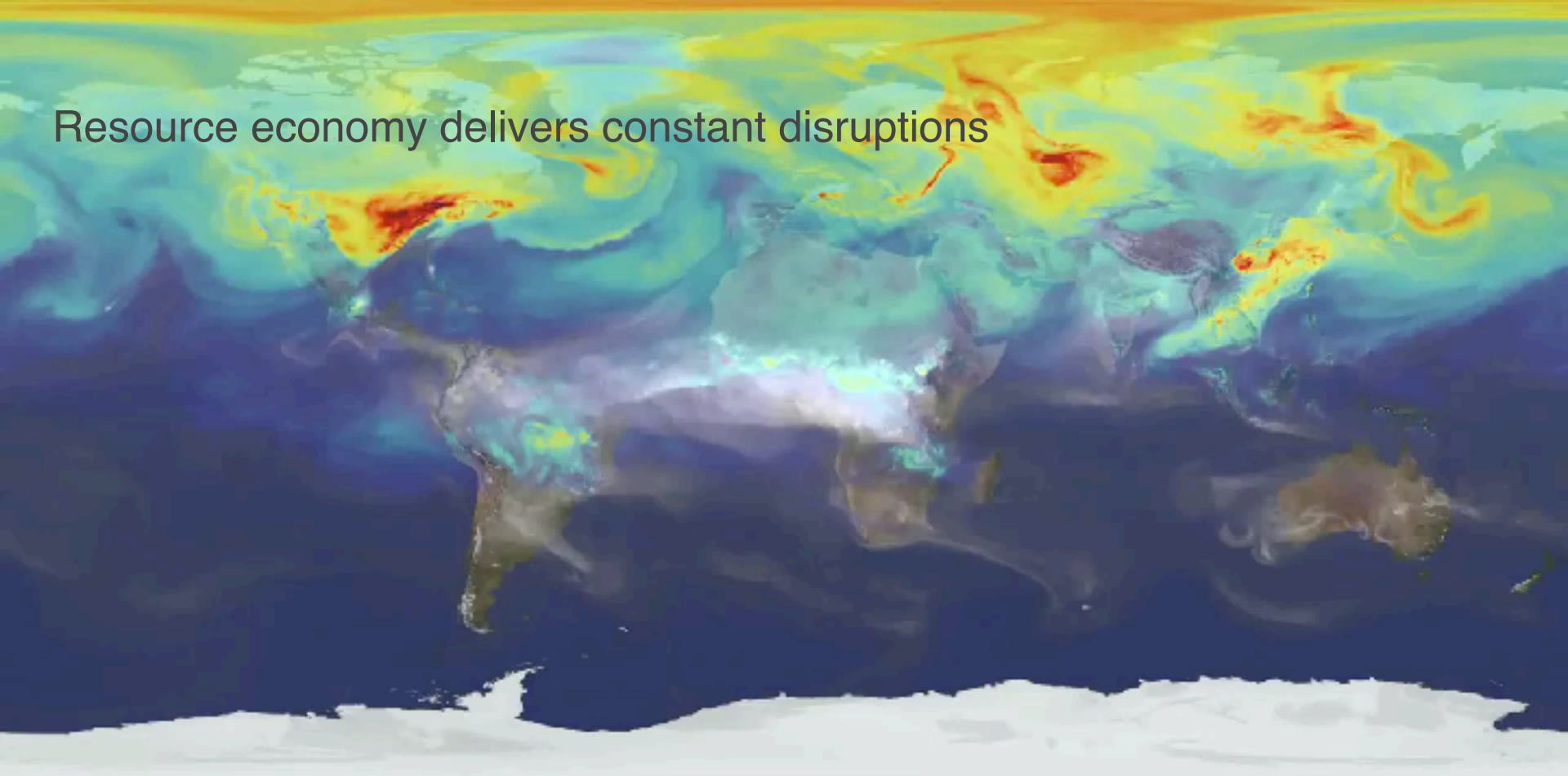


Megatrend 5

Resource economy delivers
constant disruptions



Resource economy delivers constant disruptions



2006 / 01 / 01

Global Modeling and Assimilation Office

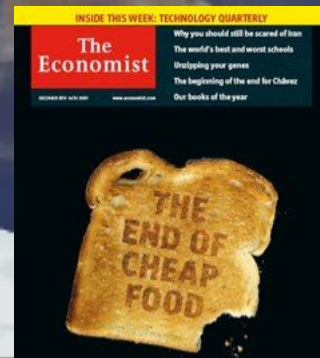
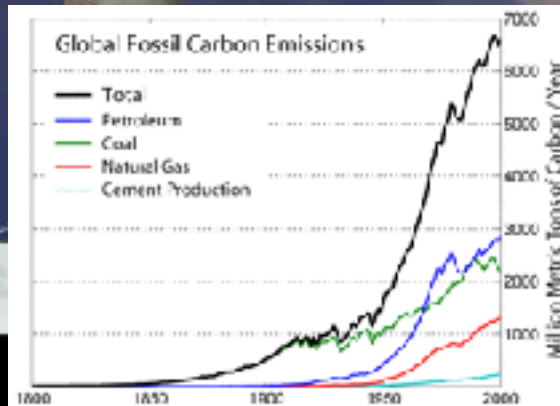
Carbon Monoxide Column Abundance [1.0×10^{18} moles cm^{-2}]



Carbon Dioxide Column Concentration [ppmv]



Resource economy delivers constant disruptions



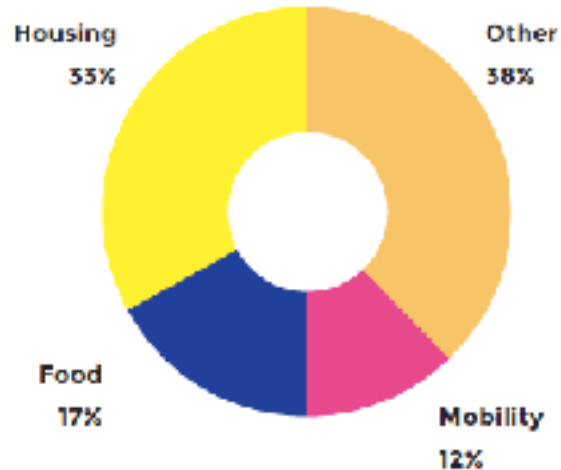
2006 / 01

Global Modeling and Assimilation Office

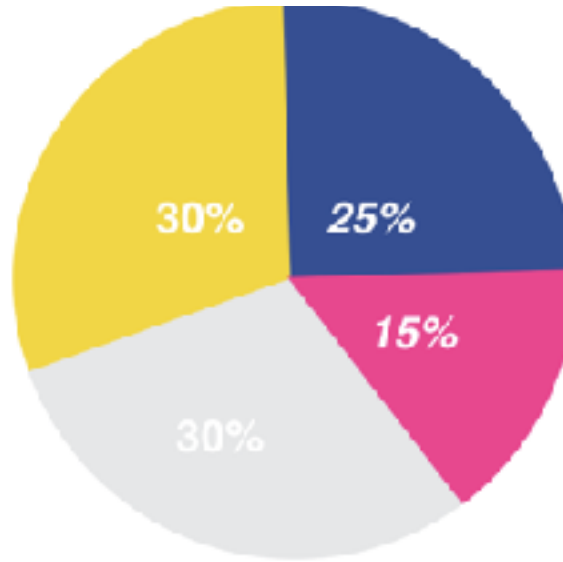
0.0 0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0 5.5 6.0 6.5 7.0 7.5 8.0 8.5 9.0 9.5 10.0 10.5 11.0 11.5 12.0 12.5 13.0 13.5 14.0 14.5 15.0 15.5 16.0 16.5 17.0 17.5 18.0 18.5 19.0 19.5 20.0 20.5 21.0 21.5 22.0 22.5 23.0 23.5 24.0 24.5 25.0 25.5 26.0 26.5 27.0 27.5 28.0 28.5 29.0 29.5 30.0 30.5 31.0 31.5 32.0 32.5 33.0 33.5 34.0 34.5 35.0 35.5 36.0 36.5 37.0 37.5 38.0 38.5 39.0 39.5 40.0 40.5 41.0 41.5 42.0 42.5 43.0 43.5 44.0 44.5 45.0 45.5 46.0 46.5 47.0 47.5 48.0 48.5 49.0 49.5 50.0 50.5 51.0 51.5 52.0 52.5 53.0 53.5 54.0 54.5 55.0 55.5 56.0 56.5 57.0 57.5 58.0 58.5 59.0 59.5 60.0 60.5 61.0 61.5 62.0 62.5 63.0 63.5 64.0 64.5 65.0 65.5 66.0 66.5 67.0 67.5 68.0 68.5 69.0 69.5 70.0 70.5 71.0 71.5 72.0 72.5 73.0 73.5 74.0 74.5 75.0 75.5 76.0 76.5 77.0 77.5 78.0 78.5 79.0 79.5 80.0 80.5 81.0 81.5 82.0 82.5 83.0 83.5 84.0 84.5 85.0 85.5 86.0 86.5 87.0 87.5 88.0 88.5 89.0 89.5 90.0 90.5 91.0 91.5 92.0 92.5 93.0 93.5 94.0 94.5 95.0 95.5 96.0 96.5 97.0 97.5 98.0 98.5 99.0 99.5 100.0

Resource economy under constant disruptions - mostly in housing, food and transportation.

Share of consumer spend in EU (Eurostat)



Energy consumption per household [Eurostat]



$$\begin{array}{l} \text{house icon} \quad \text{housing} \\ + \quad \text{fork and knife icon} \quad \text{food} \\ + \quad \text{wrench and screwdriver icon} \quad \text{mobility} \\ \hline = 70\% \end{array}$$

Megatrends become *real* only in a given region.

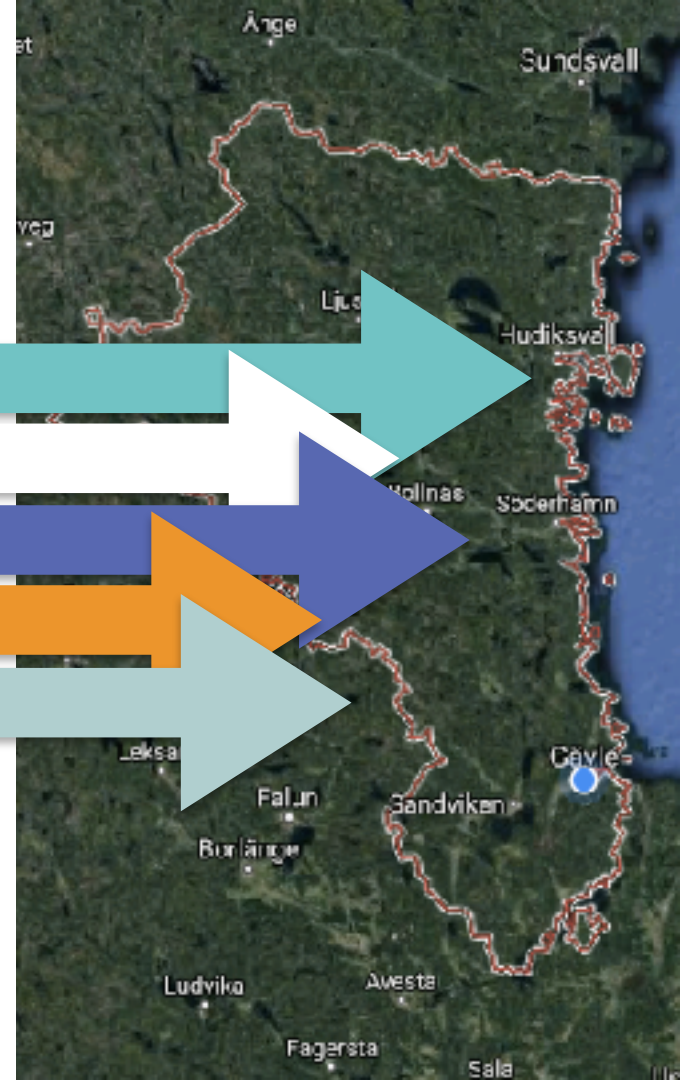
Planetary technology

Population tetris

Individualisation becomes participation

The liquid metropolis

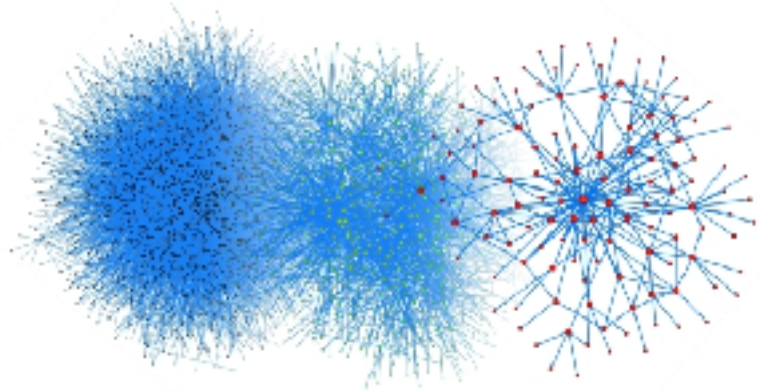
Resource disruptions



Megatrends mean **black swans** and **complexity** for the regional level.



+



Black swans

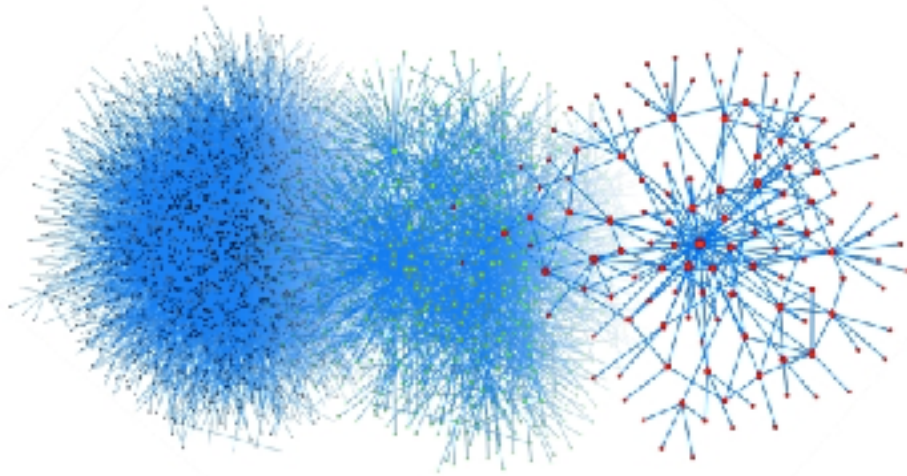
Complexity



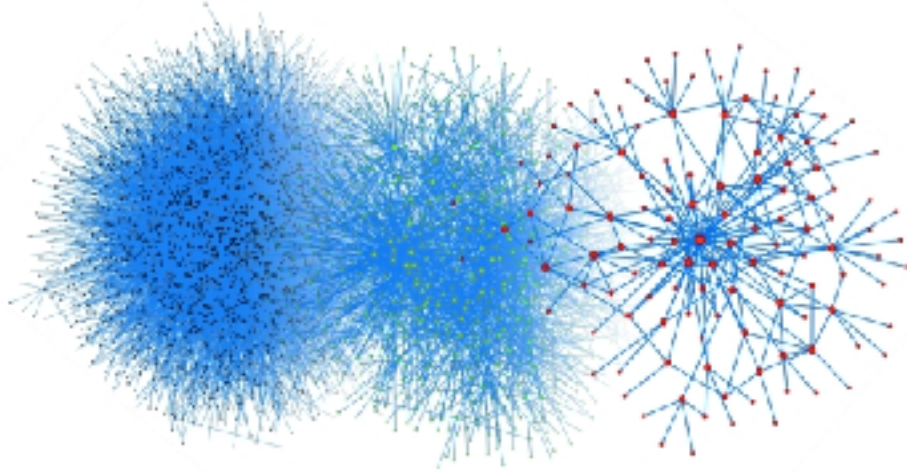
Black swans



**HOW COME WE DID NOT SEE
THIS COMING?**

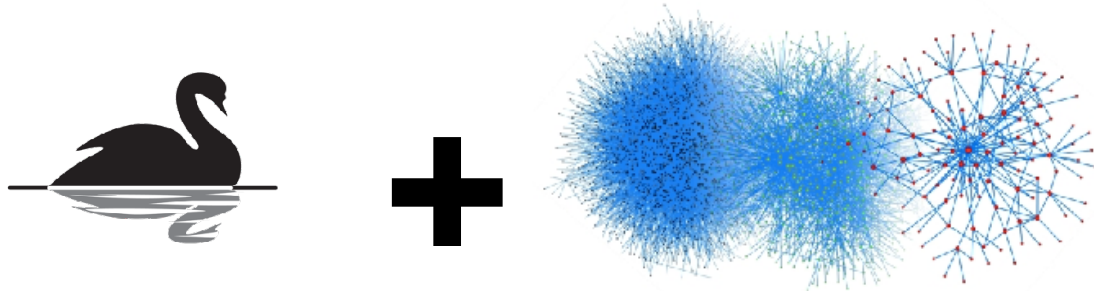


Complexity



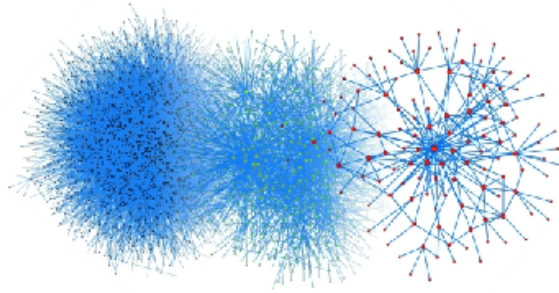
You can not do just one thing for any given action ramifies to a greater or lesser degree throughout the whole ecosystem.

How to plan for the future of black swans and complexity?





+



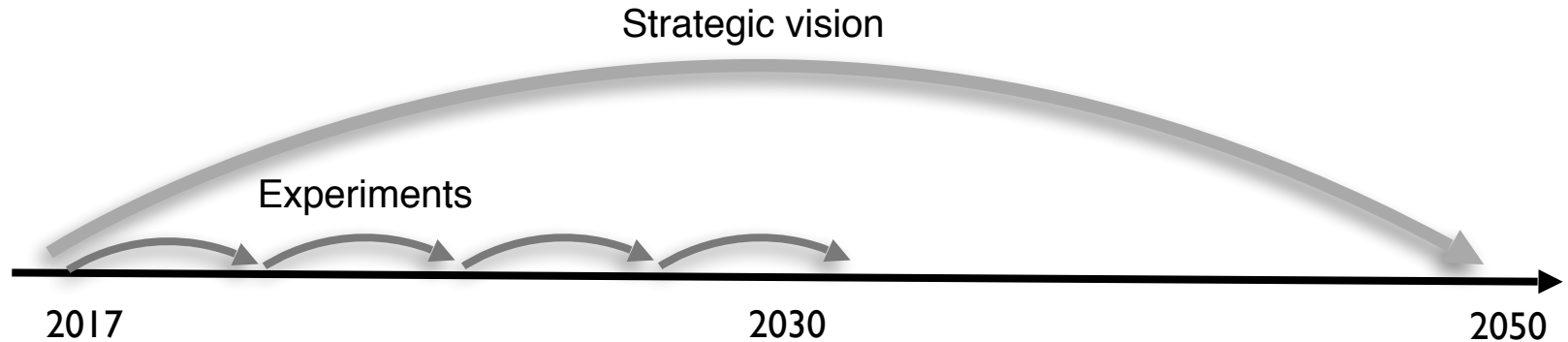
=

**Experimental
foresight.**

Black swans

Complexity

Experimental Foresight



Ekonomi
**Finland testar statlig
medborgarlön**

DN.ekonomi



TRADITIONAL PLANNING

Variants of single trends

0,25-4 year time horizon

Great for managing continuity

Starts with numbers

Predicting the future

Interest in continuities

Medium term resource allocation

EXPERIMENTAL FORESIGHT

Discontinuities of multiple trends interacting

2-50 year time horizon

Great for managing transformation

Finds new numbers

Making the future

Interested in discontinuities

Long-term vision and short term experiments



LET'S DIVE IN!
(VOTE WITH YOUR HEART)

KIITOS! Tack!

Roope Mokka
Founder
Demos Helsinki



@mokka



@demoshelsinki

**DEMOS
HELSINKI** /