

GREEN DENMARK: Environmental issues and solutions

St. Petersburg, 24 October 2017



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KULTUR-
INSTITUT**

**ДАТСКИЙ
ИНСТИТУТ
КУЛЬТУРЫ**

- Opened in St. Petersburg in 2003
- A self-governing institute under the Danish Ministry of Culture
- Mission: To create dialogue and understanding through exchanges of culture, ideas and experiences
- Activities and projects: Art exhibitions, performing arts, concerts, movie nights, translation seminars, talks about Danish culture, language and history



KINGDOM OF DENMARK



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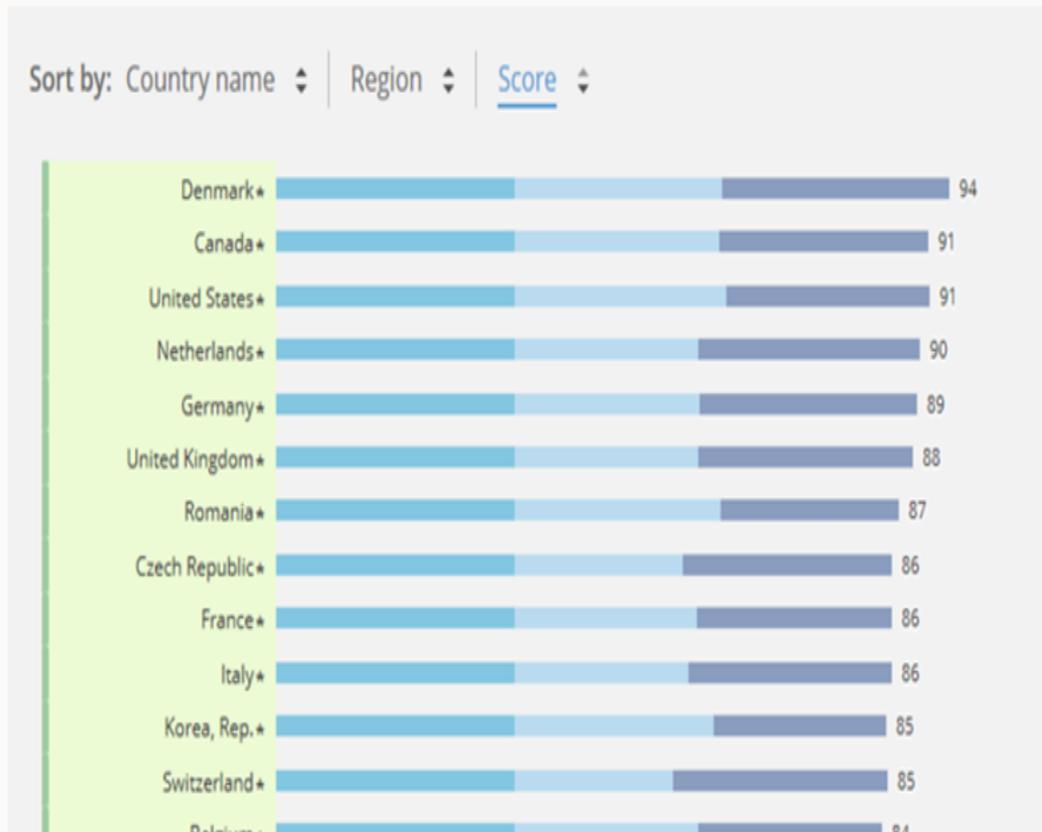
- Denmark: 42.931 km²
- Greenland: 21.166.086 Km²
- Faroe Islands: 1.193.4 km²

- Geographic region: Scandinavia
- Population: 5.7 million
- Capital: Copenhagen (1.2 mill.)
- Consists of Jutland and 500 islands of which 72 are populated
- Area: 43,000 km² (half the size of Leningrad Oblast)
- 12% forest, 64% agriculture (farming)
- Produces food for approx. 15 million people (3 times Denmark's population)



World Bank: Denmark 1th in transitioning to green technologies

- Denmark scores 94 out 100 points
- Since 1970, Denmark have made massive investments in renewable energy
- To cover half of Denmark's energy consumption with renewable energy in 2030
- Denmark to be completely independent from fossil fuels in 2050
- It's possible to entirely run on renewable energy in the future, but the challenge is to make it affordable for the citizens to consume green energy

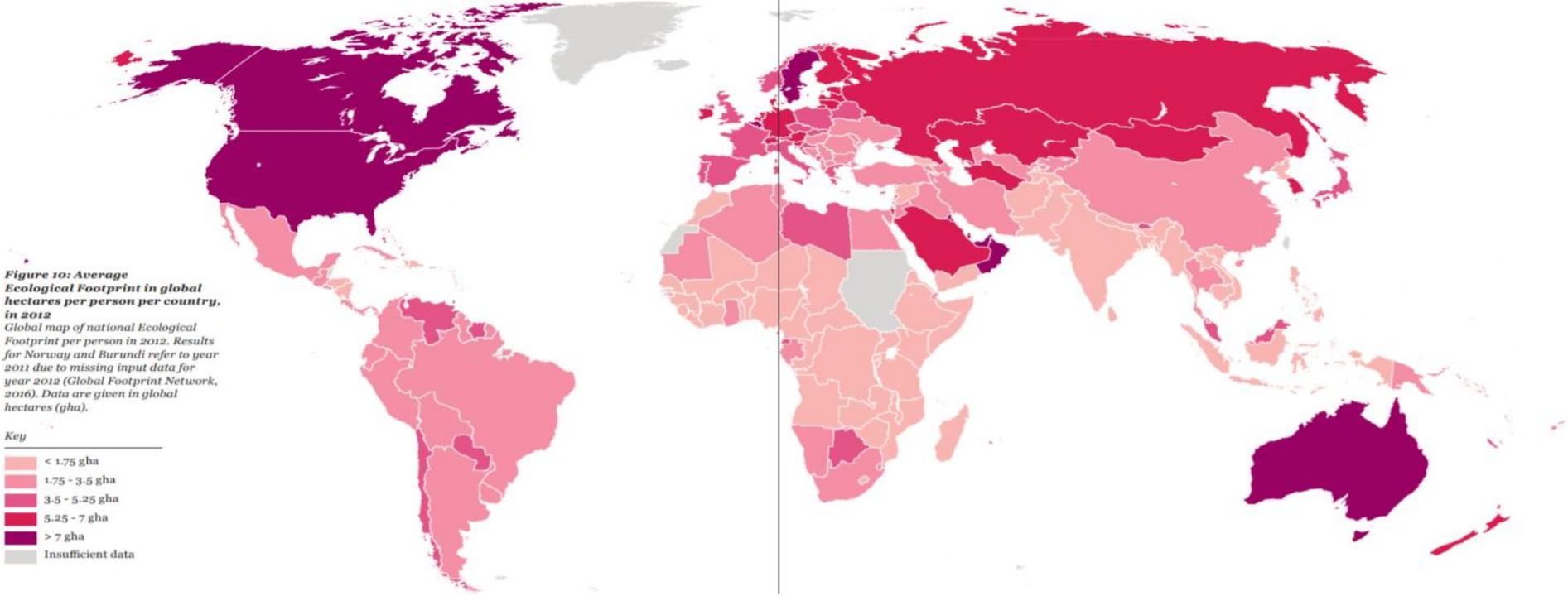
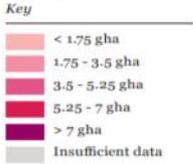




Environmental challenges

- Chemicals in food
- Food production
- Energy and electricity production
- Waste
- Transport
- Climate changes

Figure 10: Average Ecological Footprint in global hectares per person per country, in 2012
Global map of national Ecological Footprint per person in 2012. Results for Norway and Burundi refer to year 2011 due to missing input data for year 2012 (Global Footprint Network, 2016). Data are given in global hectares (gha).



Living Planet Report 2016, WWF

- Ecological footprint: the amount of the earth's energy a single person uses
- High standard of living: high salaries = big consumption.
Cars, electronics, meat, travels ...
- In the latest report from the Global Footprint Network, Denmark takes a 17th place of all countries



Organic food

- No chemicals
- No additives
- Animal welfare
- Environmentally friendly
- State controlled



11.6 % of the food Danes buy is organic

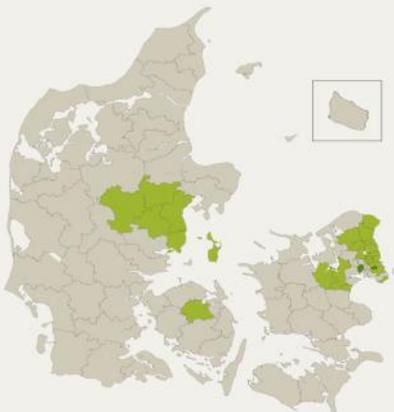
Økologiens Danmarkskort

I år 2001 var danskernes forbrug af økologi koncentreret omkring København og Århus.

Men i de senere år har det billede ændret sig. Tryk på "play" og se, hvordan Det Økologiske Danmarkskort har udviklet sig over tid.

- Ingen data
- 0 - 4%
- 4 - 6,3%
- Over 6,3%

Landsgennemsnit 03,6 %



Jan 2001

Play

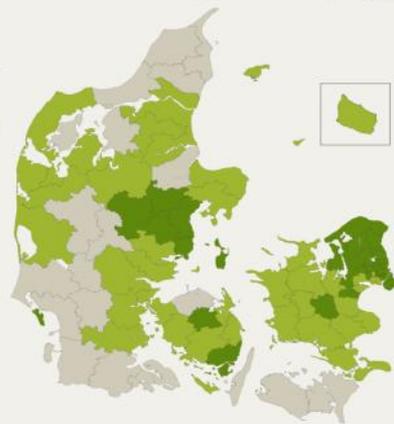
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Landsgennemsnit 07,0 %



Nov 2009

Play

Økologiens Danmarkskort

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Landsgennemsnit 11,6 %



Nordic Ecolabel



Ecolabel for non-food:

- Est. 1989
- Soap, cosmetics, paper, electronics, toys and even houses
- Criterias: No dangerous chemicals or metals, energy saving, recycling

Energy production

- Denmark is very flat and very windy
- Since the 1970's Denmark has been focusing on wind energy
- In 2016 windmills produced 42 % of all electricity
- On windy days the windmills produce more electricity than needed
- Denmark getting ready for testing 330 meters tall windmills
- Goals: 50% of electricity should come from renewable sources in 2030, Denmark should be 100% CO2 neutral in 2050

POWER LINK ISLAND

Providing electricity for 80 million Europeans

- Renewable supply of electricity in Northwest Europe
- Wind and solar energy necessary to develop in order to reduce CO2 emissions
- Wind and solar energy complement each other
- More sun in spring, summer, and autumn
- More wind in winter months





Amager Bakke:

This power plant will be the most energy efficient in the world. At the same time the roof will be a public park and ski slope!

Each time 1 ton of CO₂ is emitted, the chimney will blow a smoke ring. Architect: Bjarke Ingels Group



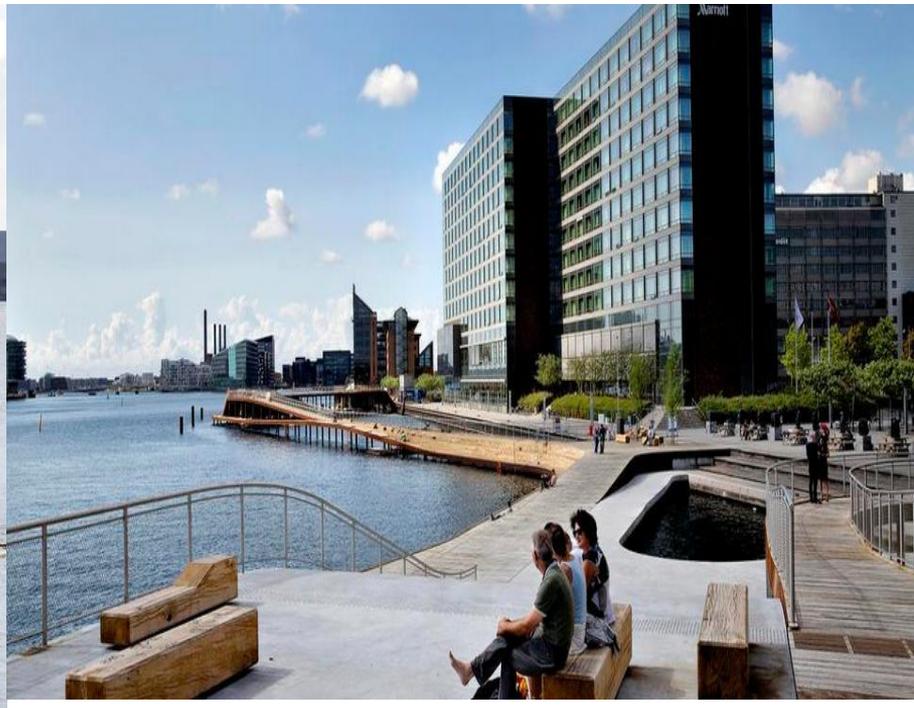


Waterfront exhibition St. Petersburg 2017

Conference with representatives from Copenhagen, St. Petersburg, Oslo, Helsinki and Stockholm about Waterfront developing, building and innovation



WATERFRONT COPENHAGEN: HEALTHY ENVIRONMENTAL BUILDING, WITH DESIGN THAT IMPROVES LIFE QUALITY





Harbour Bath:

After many actions to reduce pollution, the water in the harbour of Copenhagen is now so clean, that many citizens and tourists now can take a clean swim in the harbour.



“WeFood”:

Shop selling food that can't be sold in regular supermarkets - products where the packaging has been damaged in some way. But nothing is wrong with the food inside the packaging. Prices are reduced with 50-70%. This prevents food waste.



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“LØS Market”: Shop selling groceries without packaging. The customers are supposed to bring containers. This will prevent waste and increase recycling.

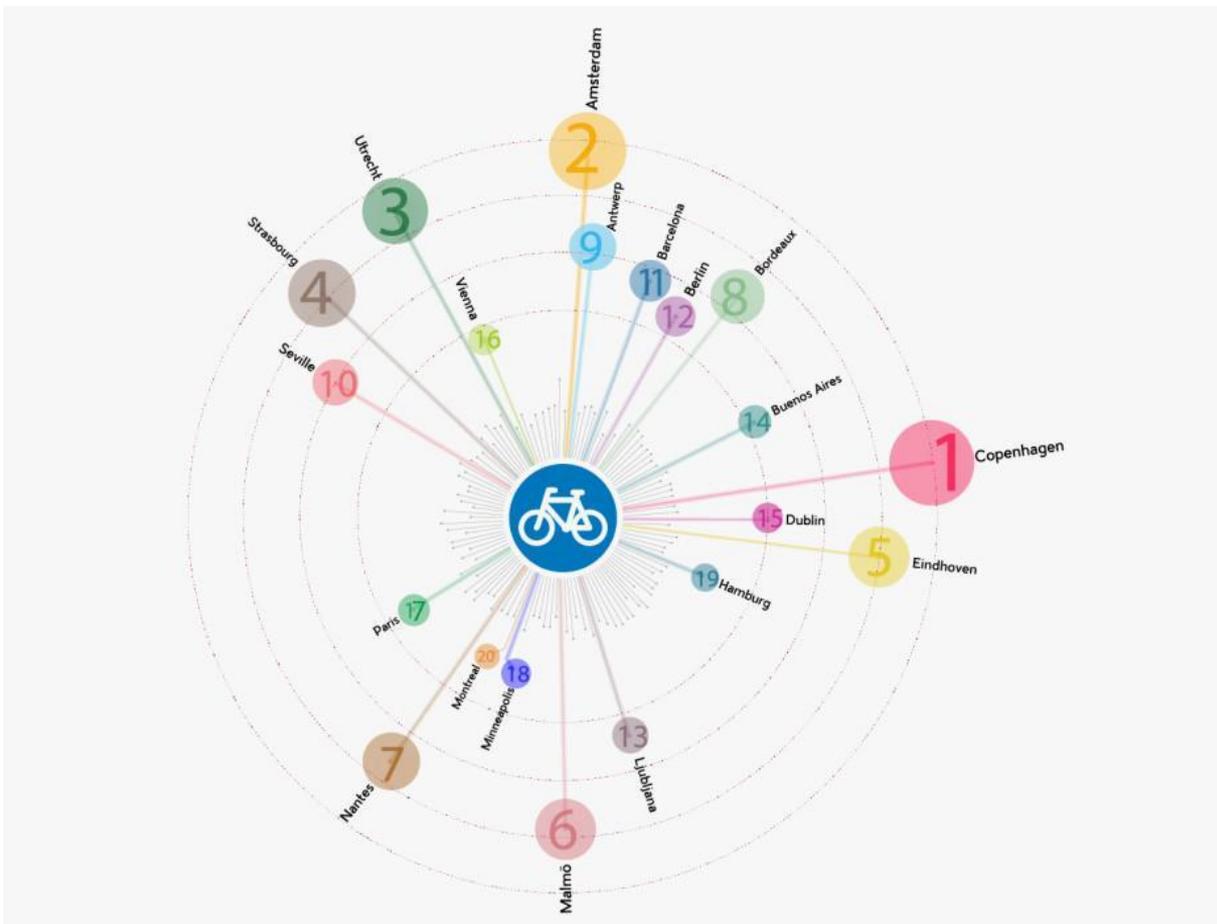
New environmentally friendly initiatives in Copenhagen

KlimaKvarter Østerbro: Climate changes will mean more storms and heavy rain in Denmark. Roads are transformed into parks which can handle the rain and avoid floods.



Urban Gardening: Small private communities using rooftops and green spaces in the city to grow vegetables, herbs and the like.





COPENHAGEN – THE CITY OF BIKES

CYCLING CULTURE IN COPENHAGEN

- 40% of all Copenhageners bike to and from work/school each day. 4 out of 5 Copenhageners have access to a bike.
- In the centre of the city there are more bikes than cars!
- Bicycles have their own bicycle lanes, traffic lights, and parking spaces.
- When a road gets a separate lane for bikes there will be 20% more bicycles and 10% fewer cars.
- Average speed through Copenhagen on bike is 15.5 km/h
- 76% of cyclists say they 'feel safe' in traffic, only 5% feel 'very unsafe' (2012)
- Denmark and Holland have the highest number of commutes by bike in the world!

Traffic lights



Footstool



Garbage bins



Queen Louise's Bridge

The world's busiest bicycle lane:
36,000 cyclists per day



Denmark and distance

- Average distance cycled per Dane per day is 1.6 km.
- Average distance cycled per Dane per year is 530 km.



Reasons to bike

- CO2 reduction
- Mobility
- Comfortable
- Quick
- Handy parking
- Public health
- Life quality
- No fuel costs



Comparison of other countries' cycling culture

Norway

People: 4,943,000, Bicycles: 3,000,000, Cyclists: 60.7%



Finland

People: 5,380,200, Bicycles: 3,250,000, Cyclists: 60.4%



Denmark

People: 5,560,628, Bicycles: 4,500,000, Cyclists: 80.1%



Germany

People: 81,802,000, Bicycles: 62,000,000, Cyclists: 75.8%



10 good things to know about biking in Denmark

Wear a helmet.

Aarhus has a campaign called "8000 advantages from biking".

Aarhus as a cycling town started in 2009, aim: CO2 neutral in 2030.

People will get annoyed if you are not following the cycling rules.

In every big city there are small pit-stops for bikes.

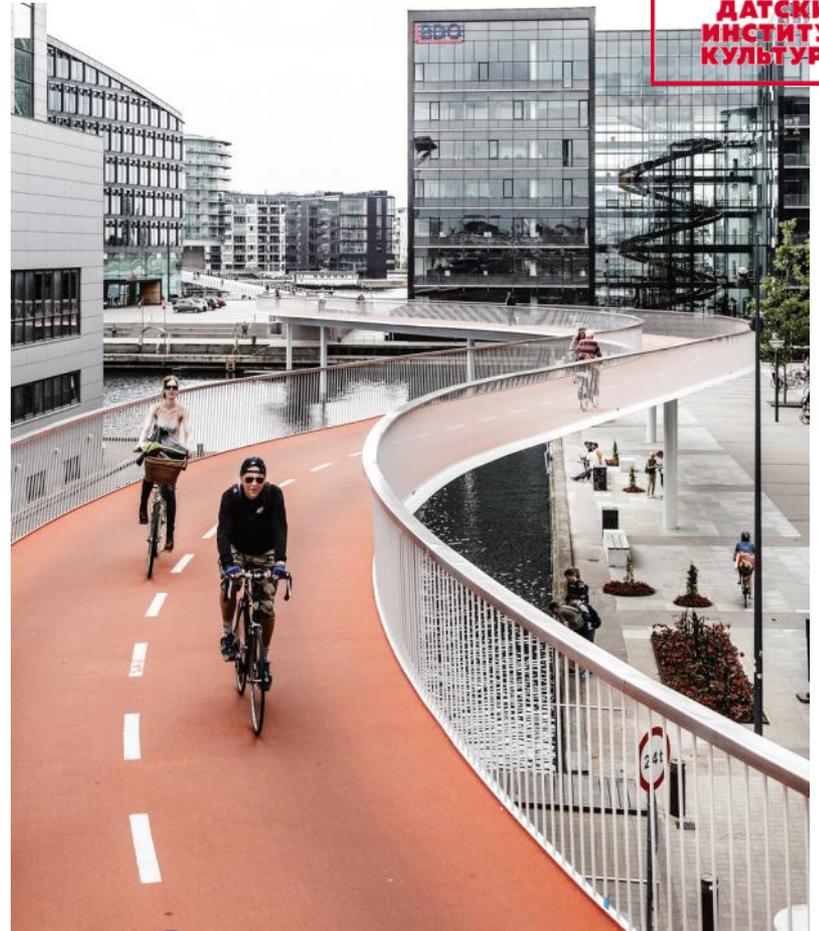
We got a "Cycling Embassy of Denmark".

We love our biking culture and we love to promote it.

All Danes learn to ride a bike as children.

Danes think of the bikes as related to freedom and health.

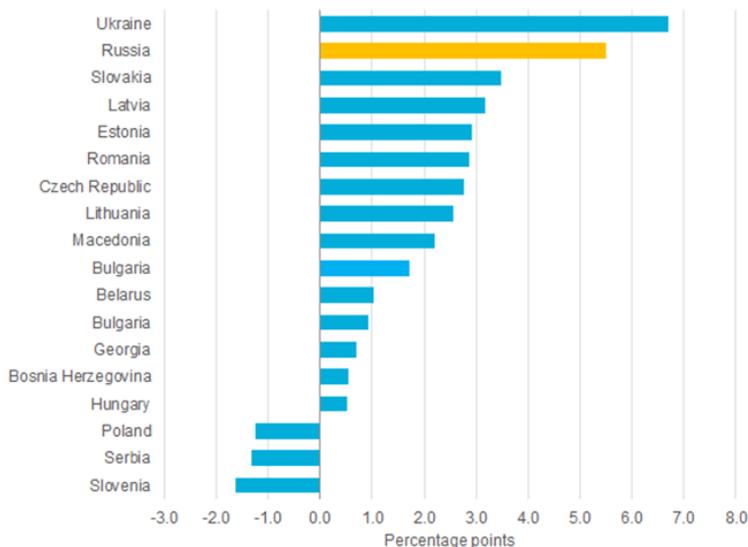
It is not unusual that your bike gets stolen.



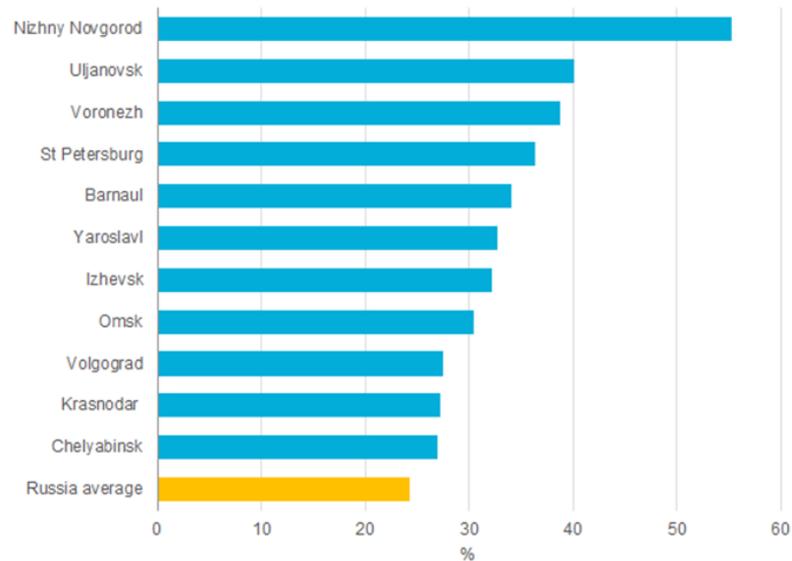
Biking in Saint Petersburg

- Recently in Russia it has become a trendy to ride a bike.
- By the end of 2015, St Petersburg has improved cycling infrastructure in the city.

Change in Household Ownership Rate of Bicycles: 2010-2015:



Russia's major cities with largest share of households owning a bicycle: 2015



CO2 GREEN DRIVE

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BRUSH

PAINT

CANVAS



CITIES 2009 – 2016



Since 2009, CO2 Green Drive took place 40 times in 27 cities of the world



CO2 Green Drive

St. Petersburg
2016

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CO2GREENDRIVE ART
CLIMATE
TECHNOLOGY



POLYTECH

Peter the Great
St. Petersburg Polytechnic
University



Леонтьевский центр



Norden

St. Petersburg International Innovation Forum 2016

- Nordic speakers: 4 (Denmark, Iceland, two from Finland)
- Russian speakers: 3
- participants: 3.000
- Estimated total outreach: 100.000 people
- Media impact: 130.000 people

Project activities

- Nordic stand
- Seminar on green mobility



C02 Green Drive & Green Day festival

1 October 2016

Peter the Great St. Petersburg Polytechnic University

C02 Green Drive & Green Day festival 2016

- ❖ Bike ride
- ❖ Electrical car race
- ❖ Presentations
- ❖ Music & shows
- ❖ Solar e-charging station opening



BIKE RIDE



ELECTRIC CARS RACE & OPENING OF SOLAR E-CHARGING STATION



LECTURES



STATISTICS

- Visitors: 4000
- outreach 40.000 people
- Media impact 80.000 people



Youth Green Day at the Strategic Forum

- Nordic speakers: Green mobility
- Participation from national and international leaders of youth movements and organisations.



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VIDEO CO2 Green Drive

