Lomonosov Moscow State University
Business School

Global Limits of Economic Growth

Lomonosov Moscow State University,
Inter-Departmental Course, 2024-2025, Spring Fall

Course Reader:

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Requirements to Pass the Course

1) At least 50% of sessions are attended (6 out of 12)

2) At least 60% points for the final course test

3) Individual Project (Presentation) is done properly and delivered in time

General Scheme for Resource Limitations Analysis

Scheme for the Individual Project (1-2 students per 1 project)

Resources	Steps of Analysis					
	Step 1	Step 2			Step 3	Step 4
	Role/ Importance	Limitations produced for			Ways used to overcome existing limitations	Suggestions how to improve these ways of coping with limitations
		World economy	National economy	Industries/ Business		
Unique Resource or Problem selected by you *Scale: world or a country or an industry*	...	...	...	...	...	...

Write the Topic of your individual project in a file

- https://disk.yandex.ru/i/0L_3ptbx-s2yBw

Topics for individual projects

Course «Global Limits of Economic Growth», spring 2025

№	Student's Name & Surname	MSU department	E-mail	Topic selected	Comments of the course teacher
	Example: Aurora Dias	*Geografical Department*	*...@geo.msu.ru*	*Water & electricity as limiting factors for the development of mining industries*	*Accepted*
	Example: Li Yuzhany	*Economic Department*	*...*	*I will participate in the **Climate Simulation Seminar based on the model En-ROADS** (the seminar will take place on one of these dates 30/04 or 14/05 at 13:00-14:30 at MSU BS: the final date will be selected by April, 15)*	*Accepted*
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

Приглашаем студентов

на Международный климатический семинар-игру с университетом Турции!

Уважаемые студенты!

Хотите получить уникальный опыт международного сотрудничества и применить свои аналитические навыки для решения глобальной задачи?

Присоединяйтесь к нашему **интерактивному очному семинару**, посвященному изменению климата, с использованием симулятора **En-ROADS**. Мероприятие пройдет совместно со студентами одного из ведущих университетов Турции!

О симуляторе: En-ROADS – это мощная научно-обоснованная модель, позволяющая исследовать различные сценарии климатической политики и их последствия в динамике.

Формат мероприятия:

- Интерактивная командная игра (3-4 человека в команде) на **английском языке**.
- Продолжительность: 1,5 часа (13:00 - 14:30).
- Задача: Команды от МГУ и турецкого университета будут поэтапно принимать стратегические решения для предотвращения глобального потепления, координируя свои действия.

Что вы получите от участия?

- Опыт работы в международной команде.
- Развитие навыков коммуникации на английском языке.
- Практику принятия стратегических решений на основе данных.
- Знакомство с современным инструментом моделирования – En-ROADS.
- Официальный сертификат участника международного семинара.
- Информацию об образовательных программах ВШБ МГУ.

Как принять участие?

1. Заполните регистрационную форму **до 14 апреля** (включительно): **[ССЫЛКА НА ФОРМУ РЕГИСТРАЦИИ]**
2. В форме укажите, какая из дат вам наиболее удобна: **30 апреля (среда)** или **14 мая (среда)**. Окончательная дата будет определена на основе большинства голосов.

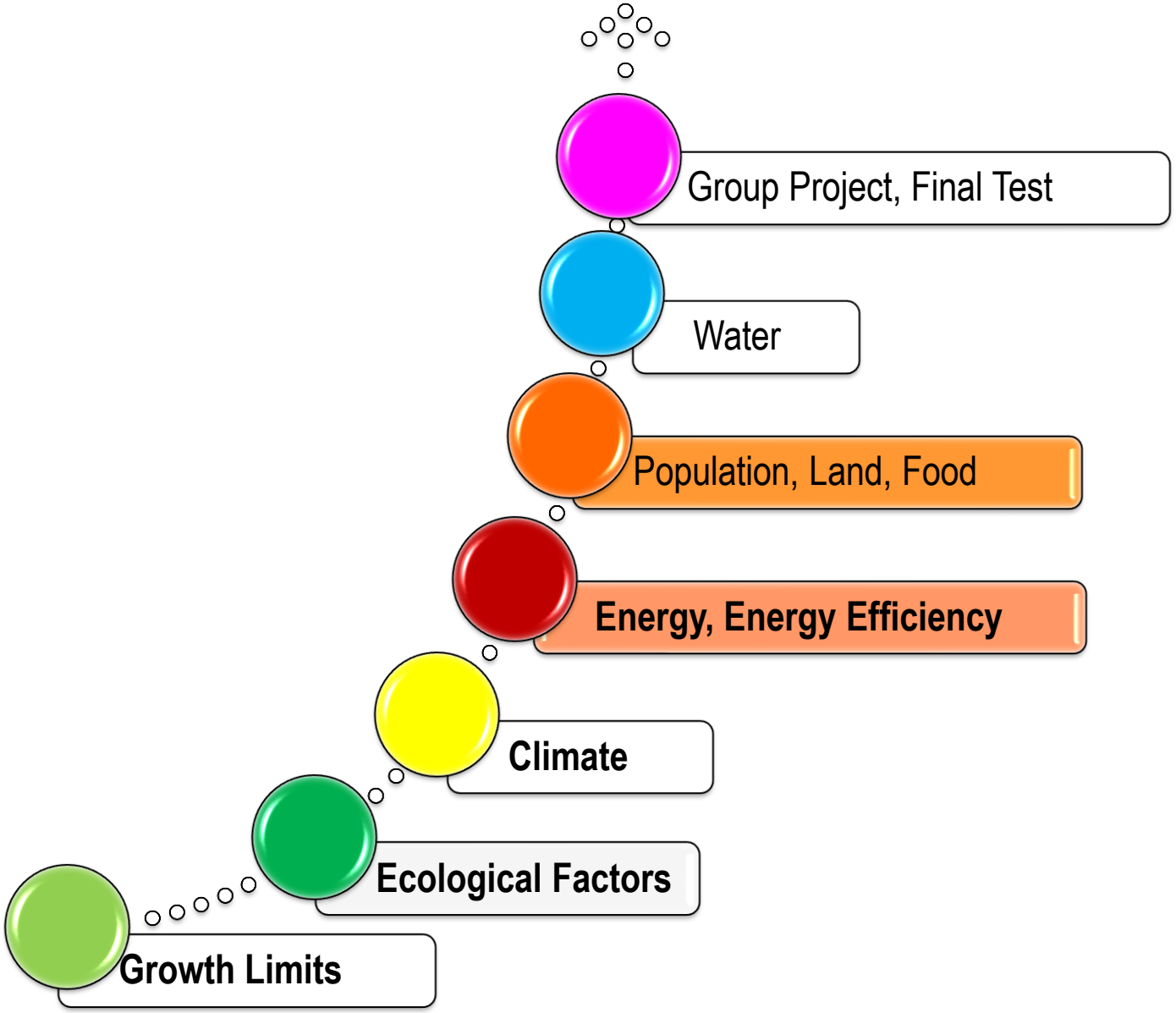
Для зарегистрированных команд будет организована предварительная подготовка к работе с симулятором.

Не упустите возможность стать частью интересного международного проекта!

Команда **ВШБ МГУ**

An alternative for the individual project

Course Route



Session 8

Energy Efficiency & Energy Saving

2025

Home Reading Assignment

ENERGY EFFICIENCY & ENERGY SAVING PROGRAMS

- Familiarize with websites www.ecolabel.eu and www.energystar.gov.

Think about:

1. What are the goals, measures and instruments used in each of these programs?
2. How can the efficiency of these programs be evaluated?
3. Should such programs be obligatory or voluntary in your opinion?

The Aims of the Session 8 (Energy Efficiency Topic)

1. To understand the causes of energy security problems and scope of them
2. To understand the origins of energy efficiency programs
3. To be able to calculate basic economic benefits in the field of energy saving
4. To know different types of energy efficiency programs and their instruments

Governmental Energy Efficiency Programs

- Energy Revolution in Cuba
- US Energy Star Program
- EU Ecolabel

Energy Revolution in Cuba

Energy Revolution in Cuba

Energy revolution means …?

1. A conflict between the national government and foreign energy companies
2. Significant changes in the structure of energy production
3. An energy conflict between the population and the government
4. Significant changes in energy consumption

"A Revolution with Energy: saving more we'll have more"

Gross Electricity Output in Cuba per type of generation plants

Gross electricity output per each generation plant

Gigawatt hora

AÑOS	Total	Generación térmica			Grupos Electrógenos		Renovables	
		Termo-eléctricas	Auto productores[a]	Turbinas de gas[b]	Interco-nectados al sistema[c]	Aislados	Hidro-eléctricas	Otras[d]
2000	15 032,2	12 185,3	1 301,2	1 307,4	-	149,3	89,0	-
2001	15 299,8	12 520,8	1 287,3	1 257,5	-	159,2	75,0	-
2002	15 698,8	12 877,5	1 335,2	1 222,9	-	156,5	106,4	0,3
2003	15 810,5	12 806,2	1 096,5	1 611,0	-	168,7	127,7	0,4
2004	15 633,7	12 335,6	1 160,3	1 871,2	-	178,6	87,6	0,4
2005	15 341,1	12 325,9	802,2	1 937,2	20,1	187,9	67,7	0,1
2006	16 468,4	11 672,3	775,8	2 233,2	1 500,6	192,7	93,5	0,3
2007	17 622,5	11 099,4	779,2	2 493,3	2 917,4	211,6	121,4	0,2
2008	17 681,3	9 828,6	900,9	2 537,9	4 113,5	153,9	138,3	8,2
2009	17 727,1	9 922,3	867,8	2 380,8	4 252,1	149,7	150,8	3,6
2010	17 386,8	10 237,9	802,9	2 269,1	3 892,5	76,1	96,6	11,7
2011	17 759,4	11 112,7	814,9	2 053,7	3 594,8	64,3	99,2	19,8
2012	18 427,9	11 399,9	832,0	2 092,3	3 971,1	-	110,9	21,7
2013	19 156,4	11 883,7	893,7	1 986,6	4 239,5	-	127,3	25,6
2014	**19 366,1**	**11 738,3**	**837,5**	**2 794,0**	**3 855,0**	-	**104,1**	**37,2**

Gross Electricity Output in Cuba per type of generation plants

	Estructura del total				Tasas (%)			
AÑOS	Generación térmica	Turbinas de gas	Grupos Electrógenos	Reno-vables	Generación térmica	Turbinas de gas	Grupos Electrógenos	Reno-vables
2000	89,7	8,7	1,0	0,6	1,1	40,1	8,2	-13,8
2001	90,3	8,2	1,0	0,5	2,8	-3,8	6,6	-15,7
2002	90,5	7,8	1,0	0,7	2,8	-2,8	-1,7	42,3
2003	87,9	10,2	1,1	0,8	-0,6	31,7	7,8	20,1
2004	86,3	12,0	1,1	0,6	-3,7	16,2	5,9	-31,3
2005	85,6	12,6	1,4	0,4	-0,1	3,5	16,5	-23,0
2006	75,6	13,6	10,3	0,6	-5,3	15,3	714,1	38,3
2007	67,4	14,1	17,8	0,7	-4,9	11,6	84,8	29,7
2008	60,6	14,4	24,2	0,8	-11,4	1,8	36,4	20,5
2009	60,9	13,4	24,9	0,9	1,0	-6,2	3,2	5,4
2010	63,5	13,1	22,8	0,6	3,2	-4,7	-9,8	-29,9
2011	67,2	11,6	20,6	0,7	8,5	-9,5	-7,8	9,9
2012	66,4	11,4	21,5	0,7	2,6	1,9	8,5	11,4
2013	66,7	10,4	22,1	0,8	4,2	-5,1	6,8	15,3
2014	**64,9**	**14,4**	**19,9**	**0,7**	**-1,2**	**40,6**	**-9,1**	**-7,6**

Energy Revolution in Cuba

- Before 1990: Soviet Period in Cuba History
  - *Strong dependence on oil import (60% of primary energy consumption)*
  - *“Oil triangular scheme” of oil import (USSR-Cuba-Venezuela)*
  - *Soviet technical basis of all power generation plants (built mainly in ‘70-80-s)*
- 1990-2004: Cuba Adapting to New Market Conditions
  - *Oil shortage (lost sources of import oil, no financial possibilities to buy it by market prices)*
  - *Local high-sulfur oil was not appropriate for existing plants*
  - *Blackouts and failures in electricity generation became a norm of life (224 days in 1 year)*
  - *Attracting foreign investors*
- Since 2005: New Governmental Policy “Energy Revolution”

Energy Revolution in Cuba: Goals

- To reduce dependence on import energy sources
  - *In 1989 more than 90% of energy sources were imported, in 2007 - only 50%*
- To activate national oil exploration and production decreasing oil consumption
  - *In 2009 contracts on oil exploration signed with Spain, Norway, India, Venezuela, Vietnam, Malaysia, Brazil, Canada, China; also with Russia and Angola*
  - *Half of 59 exploration blocks were contracted*
  - *New data on potential oil reserves: from 9 to 20 bln barrels*

To attract foreign investments and new technologies to electricity and oil / gas sector

- Electricity generation:
  - *Gradual shift from traditional oil based thermoelectric plants to modern generation combined cycle plants and autonomous generation groups (electric generators based on fuel oil and diesel engines)*

Energy Revolution in Cuba: Measures

- Special measures on energy saving and rational energy consumption

1. Diesel engines and autonomous electricity generators (based on fuel oil) began to replace traditional thermoelectric stations

Energy Revolution in Cuba: Measures

- Special measures on energy saving and rational energy consumption

2. Reconstruction and modernization of thermoelectric plants and of transmission facilities

Energy Revolution in Cuba: Measures

- Special measures on energy saving and rational energy consumption

  3. Replacement of all old electrical equipment (households, industries)
     - 10 mln energy efficient electric bulbs distributed among population by 2009 (60-80% less electricity consumed)
     - The first country in the world to prohibit the import of incandescent electric bulbs (in 2005)
     - “1 day repair” service centers
     - Differentiated tariffs on electricity consumption
     - Information campaign on culture of energy saving

Energy Revolution in Cuba: Measures

- Special measures on energy saving and rational energy consumption

4. Replacement of kerosene by electricity in households

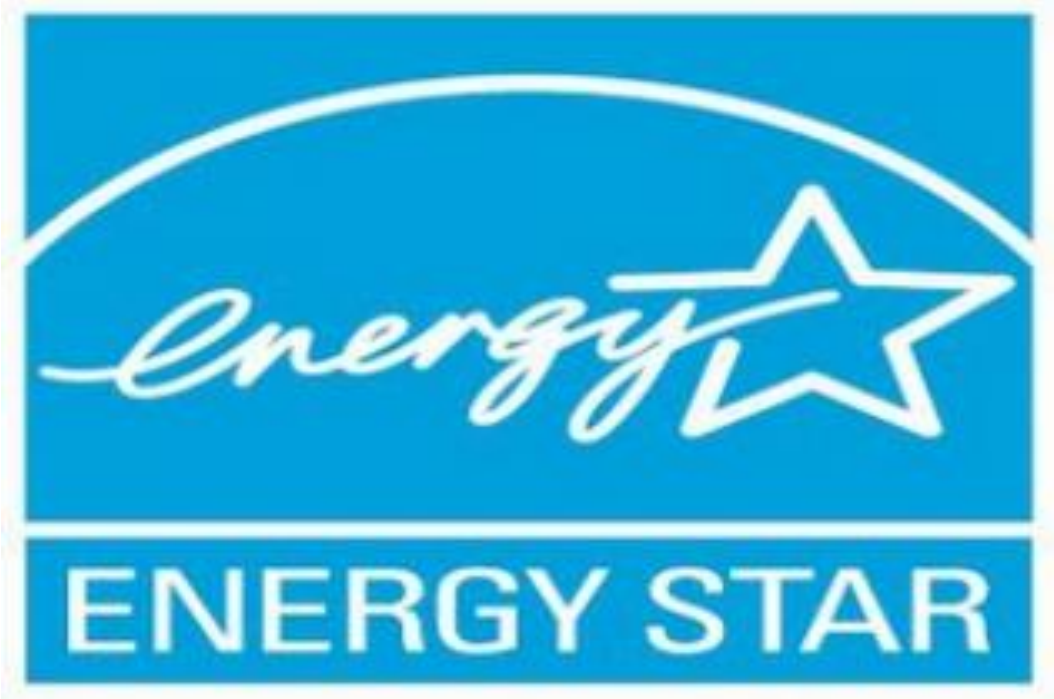
5. Alternative energy: wind, biomass, solar, hydro

Energy Revolution in Cuba

1 2 3 4 5 6 7 8

Basic ideas of Cuban Energy Revolution

US ENERGY STAR Program



US ENERGY STAR

- ENERGY STAR is a joint program of the U.S. Environmental Protection Agency and the U.S. Department of Energy aimed at save money and protect the environment through energy efficient products and practices.

- Elaboration of **energy efficient standards** for equipment and technologies that use 20-30% less energy than their analogues.

US ENERGY STAR

- ENERGY STAR
  - became a symbol of energy quality
  - Is a part of competitiveness of products
  - Is a stimulus for energy equipment producers to cooperate with it

US ENERGY STAR Strategies

- ENERGY STAR strategies to stimulate the production of energy saving products:

1. Elaboration of a clear and comprehensive procedure of products evaluation approved by industrial representatives
2. The same for building construction industry
   - note: Energy Star voluntary norms are stricter than existing obligatory ones
3. Elaboration and implementation of indicators system for building construction (35-40% energy less consumed in such buildings)

US ENERGY STAR: Effect

- Savings
  - $19 bln economized by consumers only in 2008

- Practice Replication
  - Gained a worldwide reputation and was “exported” to such countries and regions as EU, Canada, Japan, Switzerland, Taiwan, Australia, New Zealand, Norway, Iceland and others

US ENERGY STAR

- What is the secret of ENERGY STAR success?
  - Energy Star helps to overcome market barriers that complicate the expansion of energy saving technologies by giving full and clear information on them
  - A real symbol of energy quality
    - All products with the logotype ENERGY STAR are tested and certified by this program

US ENERGY STAR

ENERGY STAR saves you money and protects the environment. Use of qualified products in your home can mean up to 30% savings.

The 2nd price tag: Products have two price tags: the buying price and the cost of electricity to use the product over its lifetime.

An easy choice: Either the product is energy efficient because it displays the ENERGY STAR mark or it isn't (has no mark).

EU Ecolable

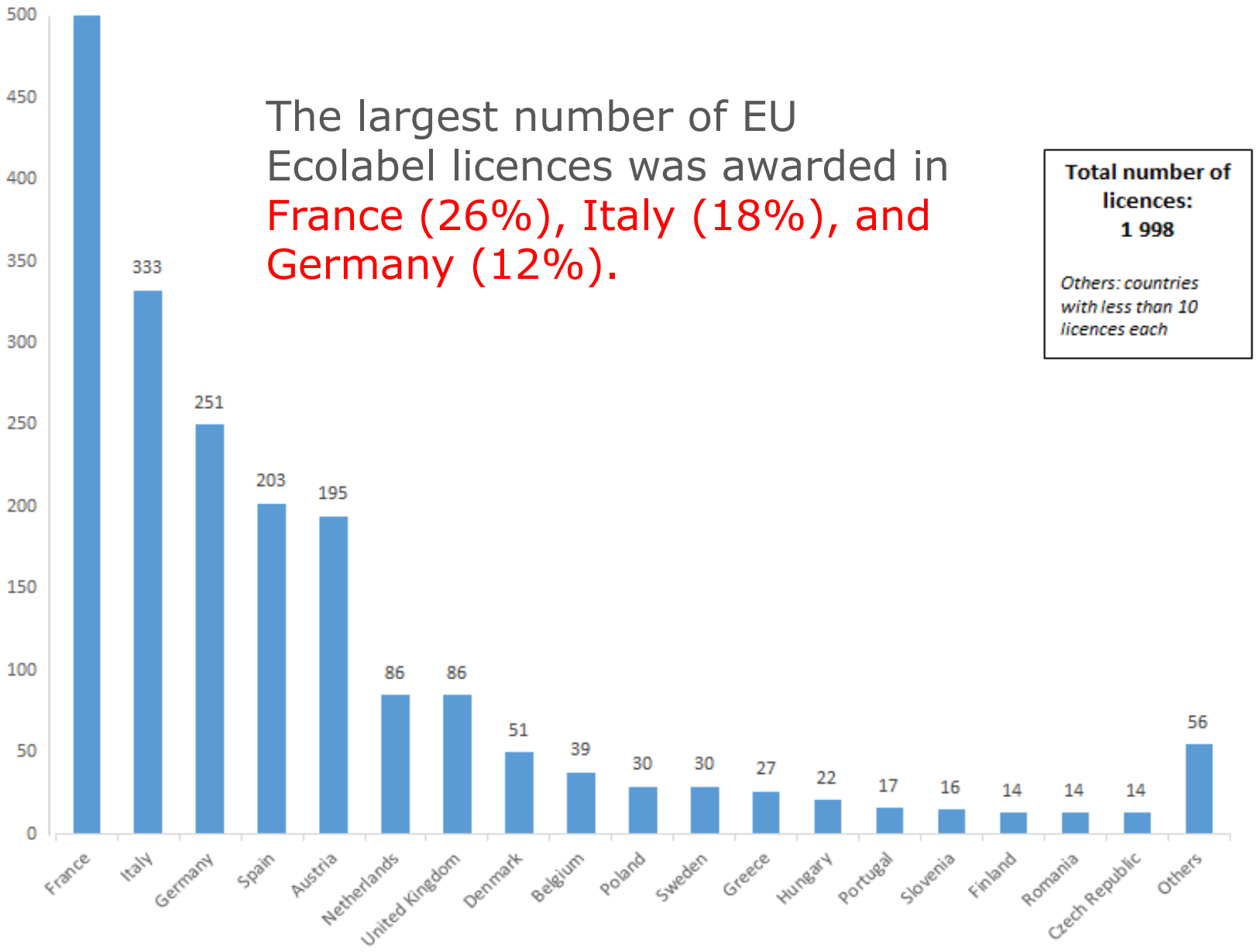
See video on EU Ecolable & UPM

EU Ecolabel

- The European Ecolabel is a voluntary scheme
  - *established in 1992 to encourage businesses to market products and services that are kinder to the environment*
- The flower logo to identify marked products easily
- Product groups include
  - *cleaning products, appliances, paper products, textile and home and garden products, lubricants and services such as tourist accommodation*
- The label itself is only awarded after verification that the product meets high environmental and performance standards

TOTAL EU ECOLABEL LICENCES PER COUNTRY

-September 2016



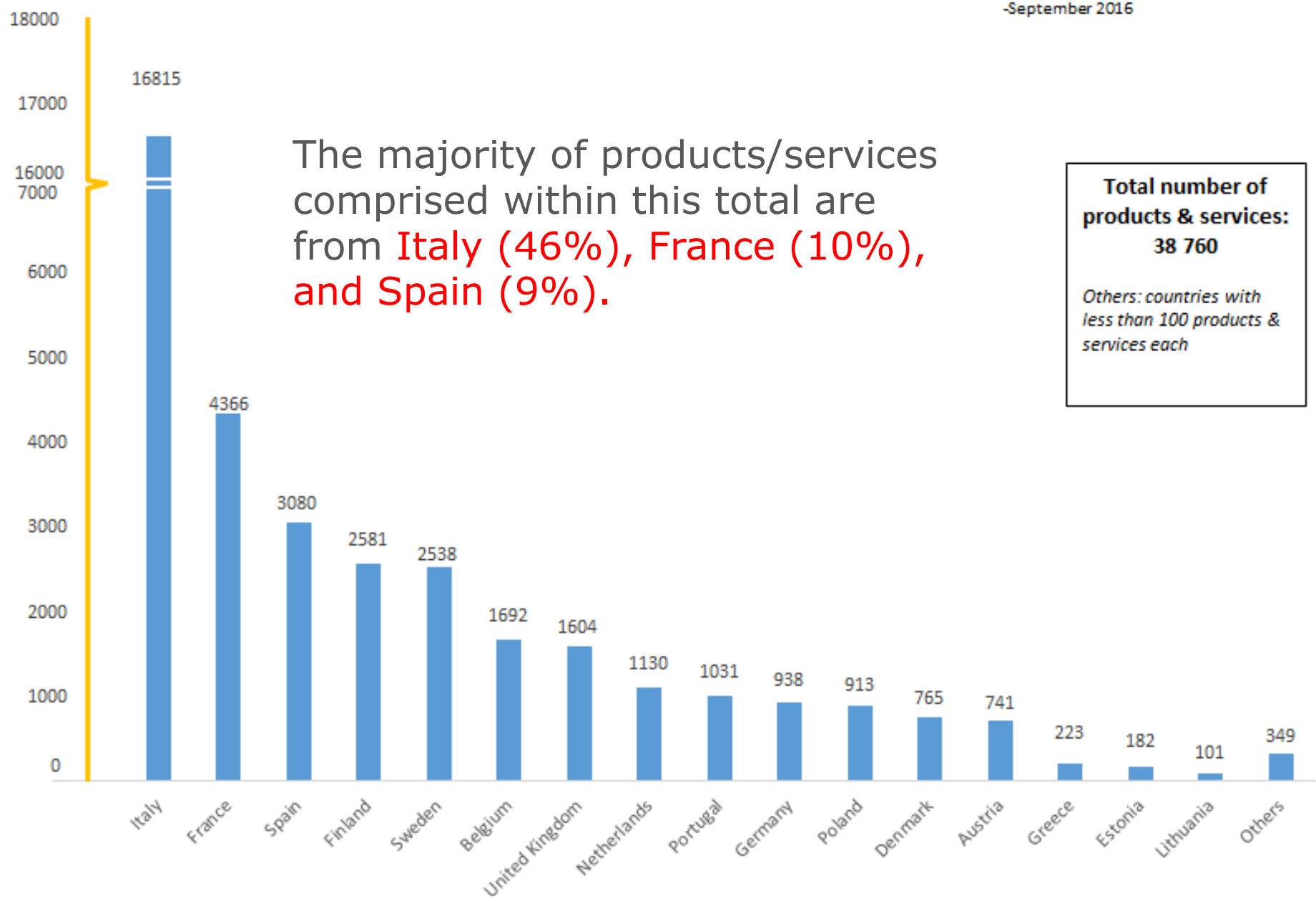
The largest number of EU Ecolabel licences was awarded in France (26%), Italy (18%), and Germany (12%).

Total number of licences: 1 998

Others: countries with less than 10 licences each

TOTAL EU ECOLABEL PRODUCTS & SERVICES PER COUNTRY

-September 2016

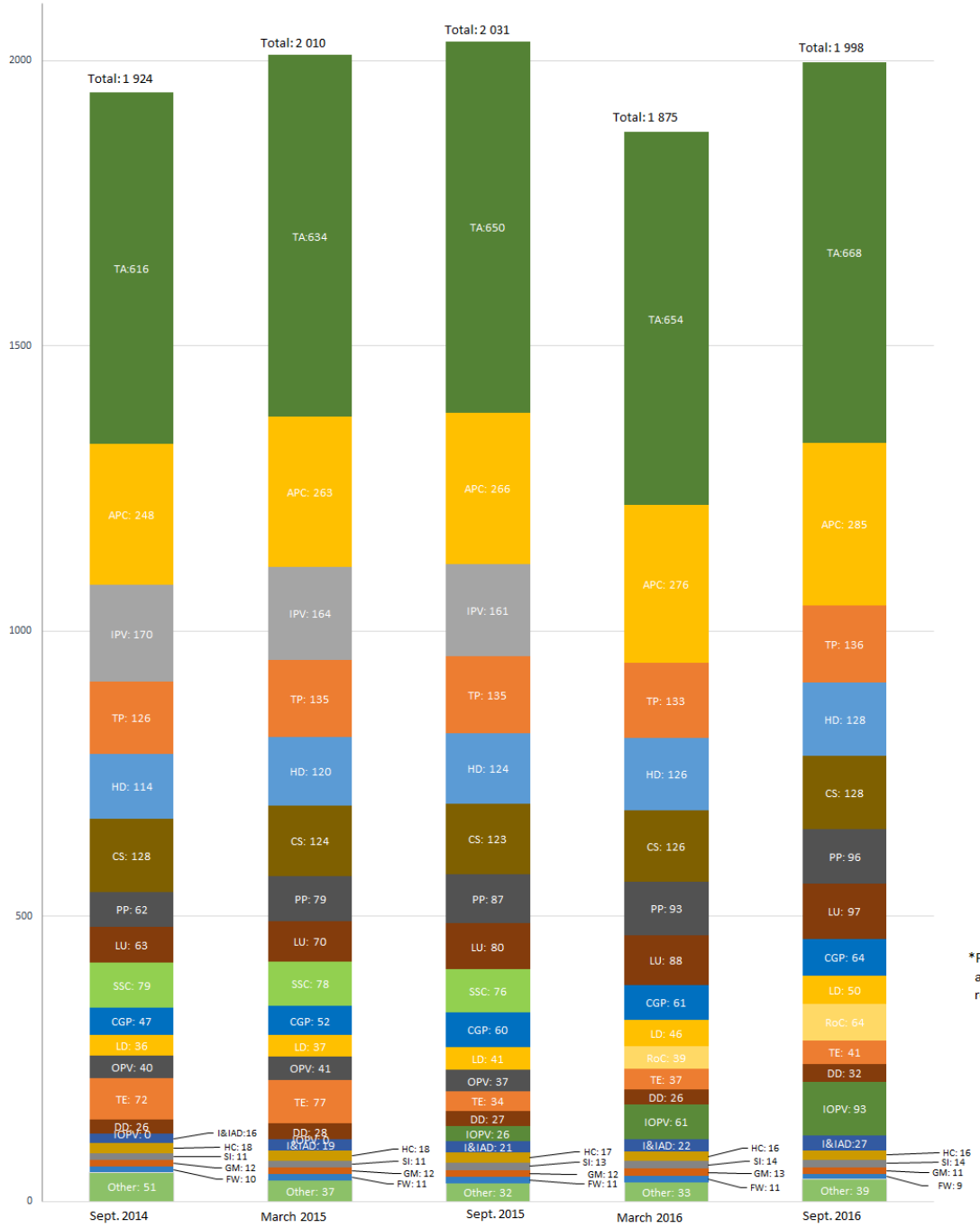


The majority of products/services comprised within this total are from Italy (46%), France (10%), and Spain (9%).

Total number of products & services: 38 760

Others: countries with less than 100 products & services each

TOTAL EU ECOLABEL LICENCES PER PRODUCT/SERVICE GROUP



-Last update: September 2016

- **TA: Tourist accommodation services**
- **APC: All-purpose cleaners & sanitary cleaners**
- ***IPV: Indoor paints and varnishes**
- **TP: Tissue paper**
- **HD: Hand dishwashing detergents**
- **CS: Campsite services**
- **PP: Printed paper**
- **LU: Lubricants**
- ***SSC: Soaps, shampoos, and hair conditioners**
- **CGP: Copy and graphic paper**
- **LD: Laundry detergents**
- **RoC: Rinse-off cosmetics**
- ***OPV: Outdoor paints and varnishes**
- **TE: Textiles**
- **DD: Detergents for dishwashers**
- **IOPV: Indoor & outdoor paints and varnishes**
- **I&IAD: I&I automatic dishwasher detergents**
- **HC: Hard coverings**
- ***SI: Soil improvers**
- ***GM: Growing media**
- ***FW: Footwear**
- **Other: Product groups with less than 9 licences each**

*Please note that the validity of these EU Ecolabel product groups expired and have been replaced by other product groups. See 'Specificities on the reporting periods' for more information.

EU Ecolabel

Targets:

- Many more EU Ecolabel products on the shelves
- Criteria documents which can easily be used by public purchasers
- An Ecolabel that is very well harmonised with other labels, nationally and globally
- An Ecolabel that can be attained by companies with limited costs and efforts for them while still maintaining a high ambition

SUCCESS STORY

Boutiquehotel Stadthalle

Awarded the EU Ecolabel for tourist accommodations in 2007

Location: HQ – Vienna, Austria
Service advertised: throughout Europe
Competent Body with which application was made: Austrian CB
Interviewee: Claudia Plot – Director

ABOUT

In 2002, Michaela Reitterer renovated the building that would become the world's first city hotel with a zero energy balance in 2009. Depending on the weather, the 130 m² solar installation supplies enough electricity and energy to power the hotel and heat the facility's water. The green vines and lavender garden intertwined on the building's walls and roof insulate the hotel while creating an aesthetically pleasing view. During the harvest season, lavender is collected to create sachets, and homemade apricot jam from the region of Wachau is distributed to guests. Additionally, the water well in the garden assists in powering the hotel's flushing toilets and irrigates the hotel's garden. This haven for eco-tourists has won numerous sustainability awards and was recently crowned 2013's "Most Popular Hotel in Austria" by HolidayCheck.

WHY EU ECOLABEL?

"After obtaining the Austrian Ecolabel, our Competent Body suggested that we apply for the EU Ecolabel to reap the advantages of both labels. We thought it was an excellent idea to spread our sustainability message throughout the entire European continent via this certification".

BENEFITS

"With the adoption of the EU Ecolabel, we began to buil reputation as a sustainable and trusted hotel. This re solidified as an increasing number of suppliers approa eco-friendly products, ready to become partners. Th market expanded to the point where we now welco eco-friendly travellers on a regular basis".

CHALLENGES

During the application process:
"The information available on the EU Ecolabel website was rather basic in 2007, therefore it was difficult to obtain quick information at first".

After being awarded the EU Ecolabel:
"Some guests are not always aware about the difference between ecolabels and organic certifications, which has sometimes led to confusion. We have had to make sure that these types of misconceptions do not lead to wrong expectations among guests. Nevertheless, we actually have experienced more advantages than challenges".

How these challenges were overcome:
"We appreciated receiving the great deal of indirect support once we were awarded the EU Ecolabel, especially from (climate-related) authorities. We eventually were treated and regarded as role models, which meant a lot of press coverage; the level of publicity that we obtained justified our efforts in obtaining the EU Ecolabel".

MARKETING

"Our marketing efforts stem from our website (www.hotelstadthalle.at/en) and extend through our social media platforms and our Green Guest Club. This club is a loyalty programme which allows our regular guests to collect "Green Points" and pay a range of hotel services with them. To appeal to the international eco-tourist, we translated our website into seven different languages (German, English, French, Italian, Spanish, Hungarian and Czech).

Additionally, since our hotel has won various sustainability and eco-tourism awards, past and potential guests can rest assured that we always strive to live up to our hotel's environmental mission and positive customer satisfaction reviews.

Satisfied guests have also greatly facilitated our outreach, as word of mouth has spread positive news about our hotel".

FACTS ABOUT EU ECOLABLE: what are environmental positive results?

TOWARDS A CIRCULAR ECONOMY

The EU Ecolabel promotes Europe's transition to a circular economy, where materials stay in a loop, so new products begin when old ones end. This drives manufacturers to produce goods that:

* Promote green innovation and sustainable industries
* Generate less waste and CO_2 when they are made and used
* Use energy, water and raw materials more wisely
* Last longer and are easier to repair
* Are easier to recycle

For example, some paints now use oil from algae as a low-carbon alternative to traditional petrol-based oil.

Thanks to the label's transparent criteria, consumers can make responsible choices while supporting green innovation and jobs.

ECO-VALUES IN ACTION

Find out more about the European Commission's Circular Economy Package, a detailed plan to move to a more competitive, sustainable economy.
ec.europa.eu/environment/circular-economy

Look for the EU Ecolabel for products and services that are better for the environment and better for you.

It is the label that makes green choices easy.

ADDITIONAL INFORMATION

EU policies support and recognise sustainable production and consumption.

EU Ecolabel:
www.ecolabel.eu

@EMAS.EUEcolabel @EMAS_EUEcolabel

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KH-01-17-148-EN-N

A LABEL YOU CAN TRUST

Around 40 000 products and services hold the EU Ecolabel, from baby clothes to electronic equipment. It is a reliable label that identifies products and services with a reduced environmental impact:

* Verified by independent experts
* Strict criteria for over 30 different categories of products and services, updated regularly
* The entire product life cycle considered, from production to recycling or disposal
* Consumer health and responsible production guaranteed
* No compromise on performance. It is easy to consume green!

65 % of consumers who know the EU Ecolabel already trust it*.

EU Ecolabel products can come from anywhere in the world, as long as they prove that they fulfil its criteria.

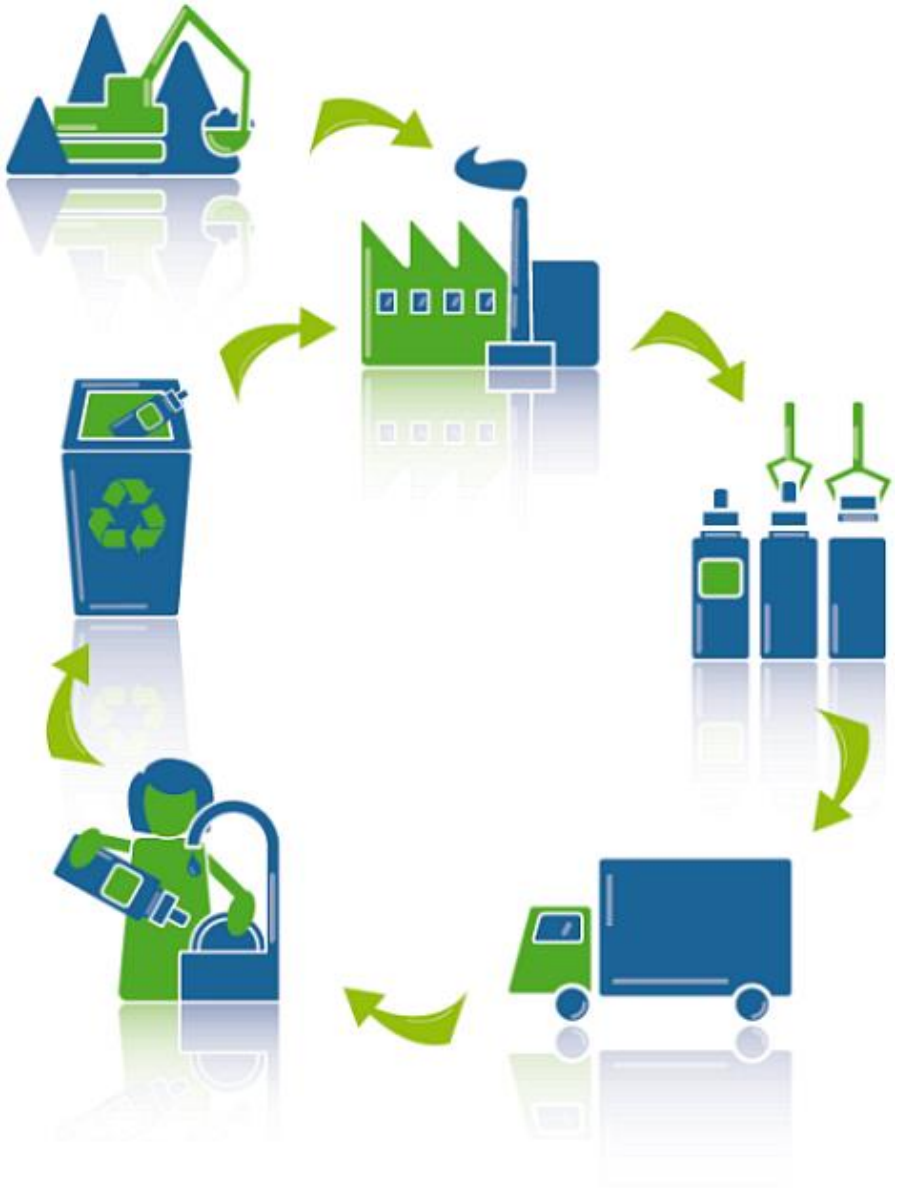
* Consumer Market Study on Environmental Claims for Non-Food Products, European Commission 2014

FACTS ABOUT EU ECOLABLE: what are environmental positive results?

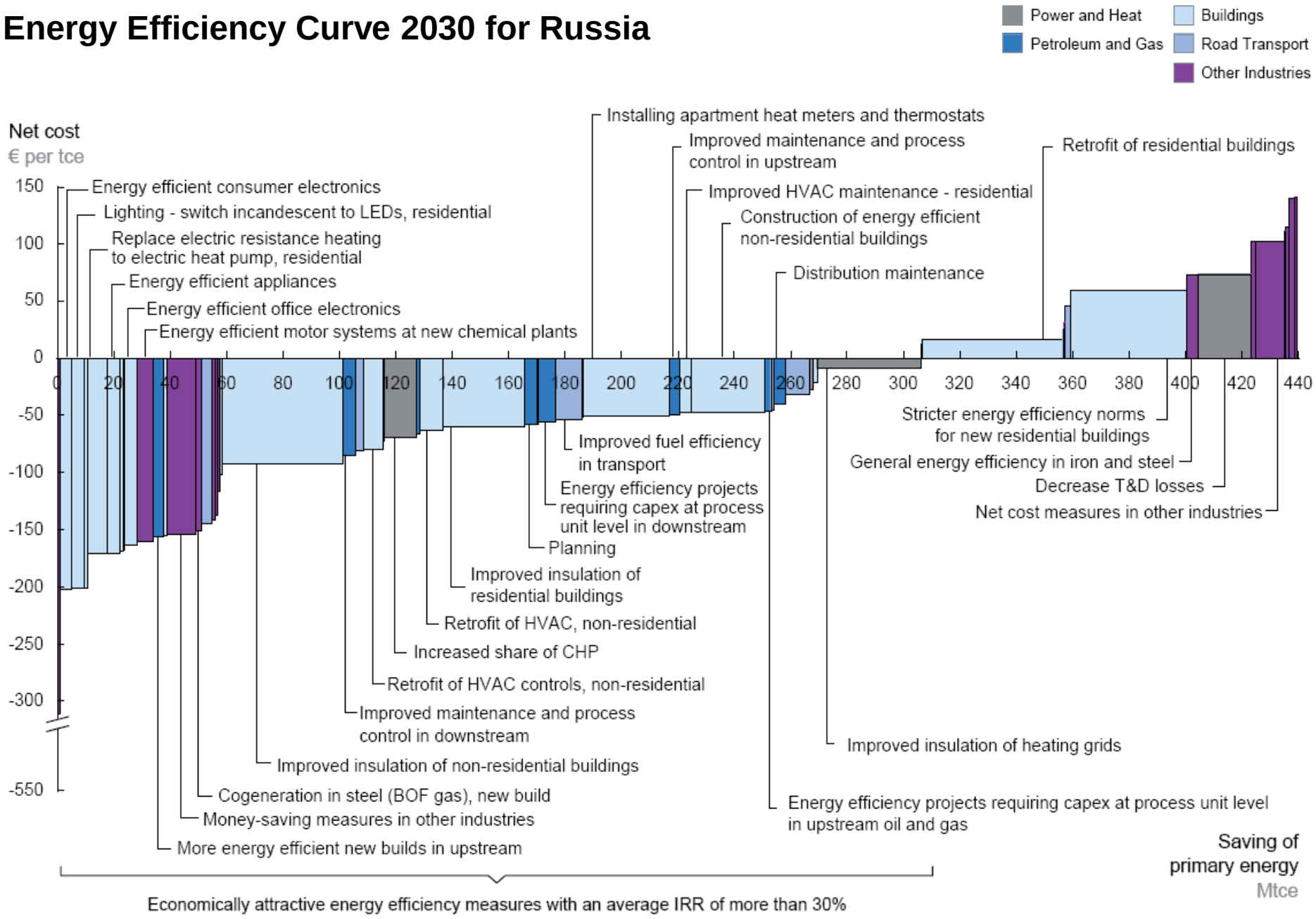
FACTS ABOUT EU ECOLABLE:
what are environmental positive results?

- To qualify for the EU Ecolabel, products have to comply with a tough set of criteria. These environmental criteria, set by a panel of experts from a number of stakeholders, including consumer organizations and industry, *take* ***the whole product life cycle*** *into account - from the extraction of the raw materials, to production, packaging and transport, right through to your use and then your recycling bin.*

- This **life cycle approach** guarantees that the products' main environmental impacts are reduced in comparison to similar products on the market.

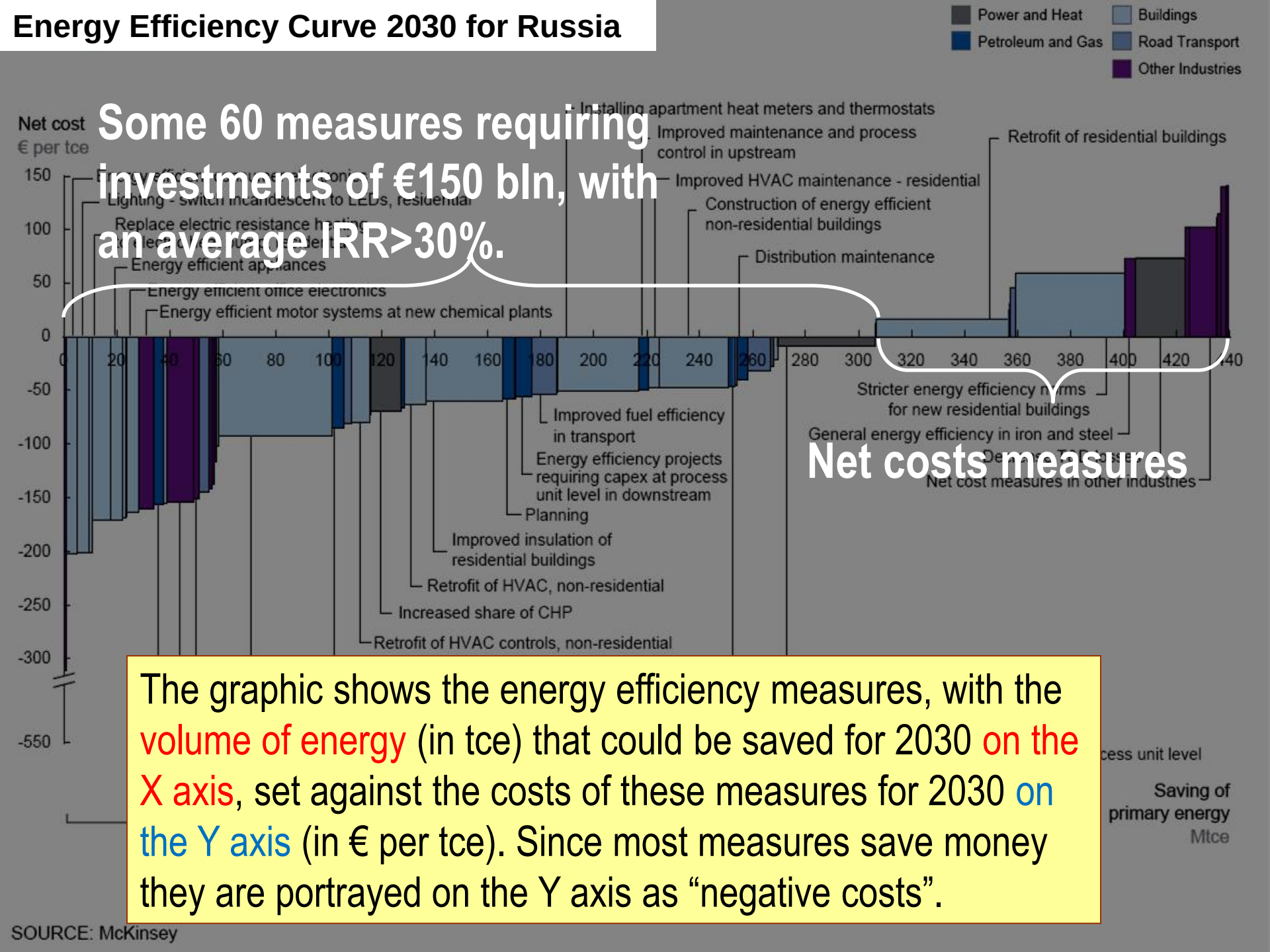


Energy Efficiency Curve 2030 for Russia



SOURCE: McKinsey

Energy Efficiency Curve 2030 for Russia

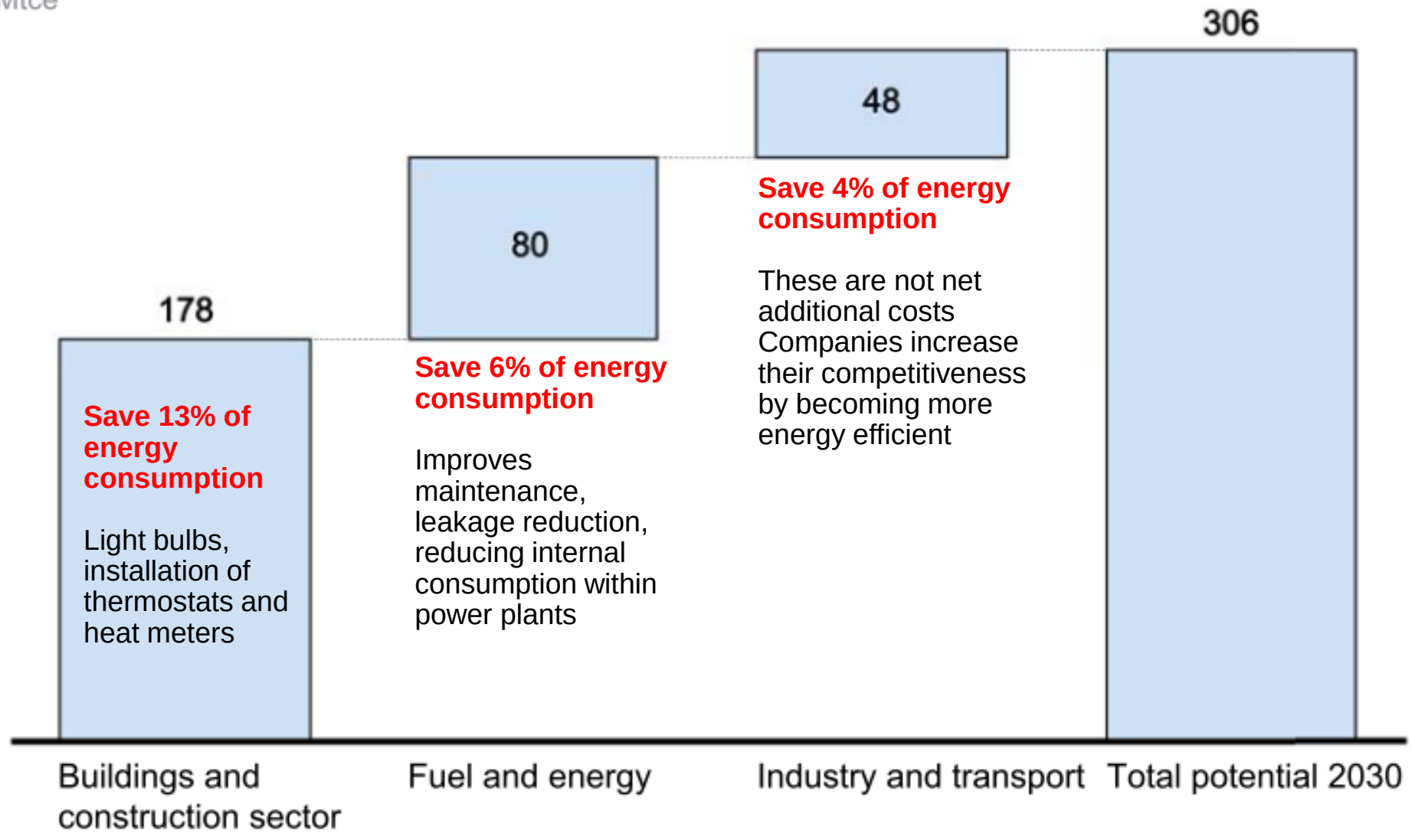


The graphic shows the energy efficiency measures, with the volume of energy (in tce) that could be saved for 2030 on the X axis, set against the costs of these measures for 2030 on the Y axis (in € per tce). Since most measures save money they are portrayed on the Y axis as “negative costs”.

SOURCE: McKinsey

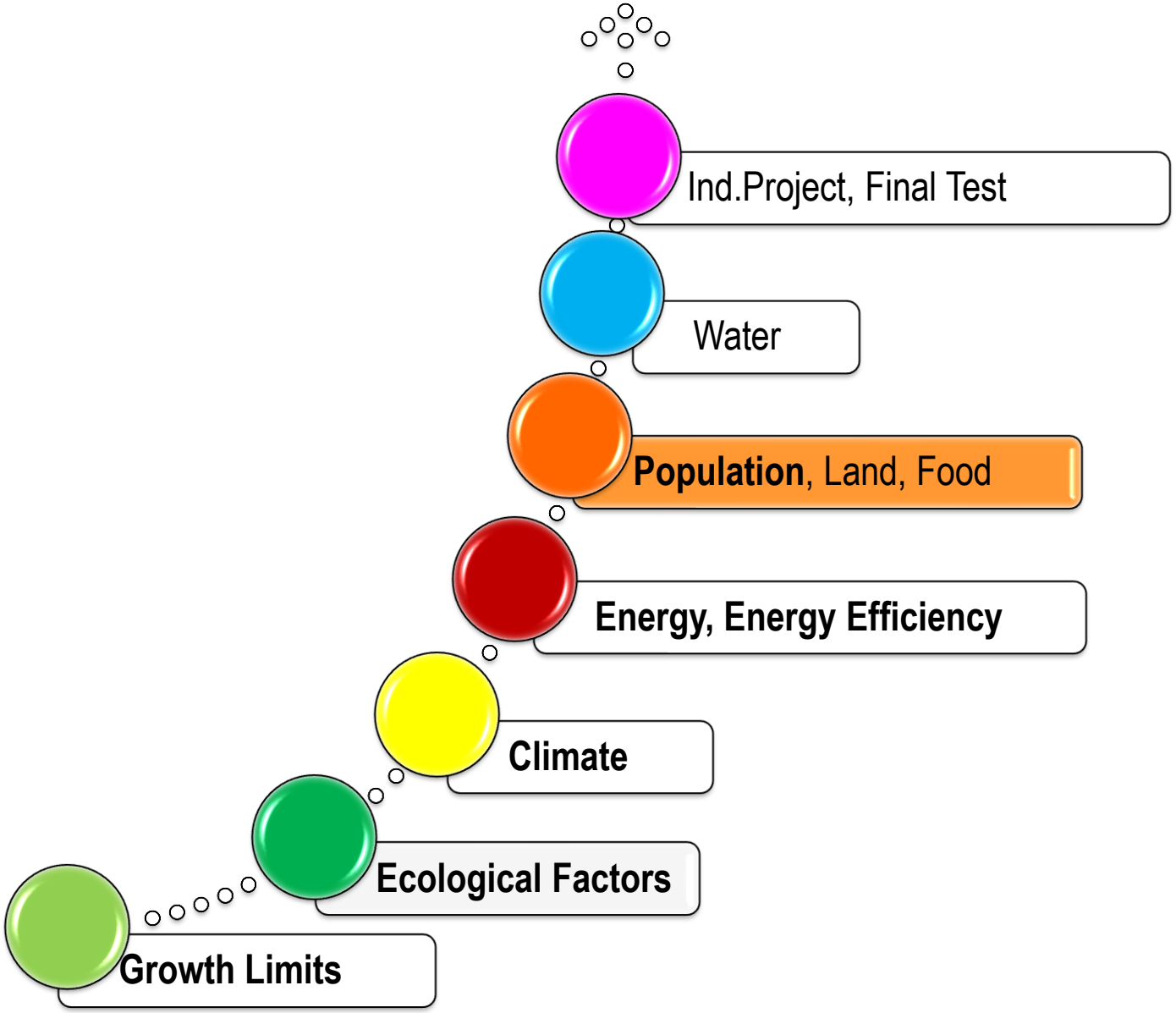
Energy reduction potential by implementing energy efficient measures in 2030 by sector

Mtce



SOURCE: McKinsey

Course Route



Sessions 8

Population

2025

The Aims of Session 8 (Population Topic)

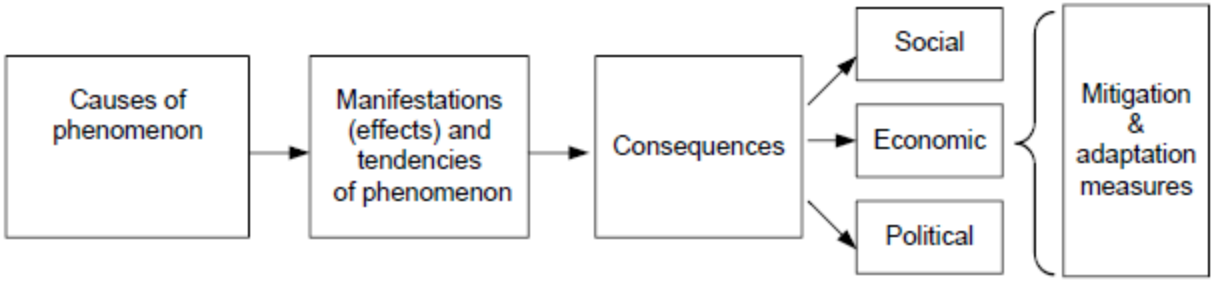
- To identify main limitations that can be produced by population for business & national economic growth and to work out ways how to overcome these limitations

Home Reading Assignment

POPULATION

- Check one of the following short articles or any similar article about actual population dynamics:
  - https://www.economist.com/the-economist-explains/2022/07/11/which-countries-are-driving-the-worlds-population-growth
  - https://www.economist.com/special-report/2021/12/07/an-ageing-country-shows-others-how-to-manage
  - https://www.economist.com/special-report/2020/03/26/africas-population-will-double-by-2050
  - https://www.economist.com/special-report/2020/03/26/migration-is-helping-africa-in-many-ways
  - https://www.economist.com/special-report/2018/08/14/a-slow-burning-fuse
  - https://www.economist.com/the-economist-explains/2018/11/26/the-challenges-of-japans-demography
  - https://www.economist.com/graphic-detail/2019/07/09/japans-pension-problems-are-a-harbinger-of-challenges-elsewhere

- Read the selected article and think what are the main 2-3 problems described in it? Prepare for their analysis and discussion using the scheme below. Be ready to illustrate it with examples from the article.

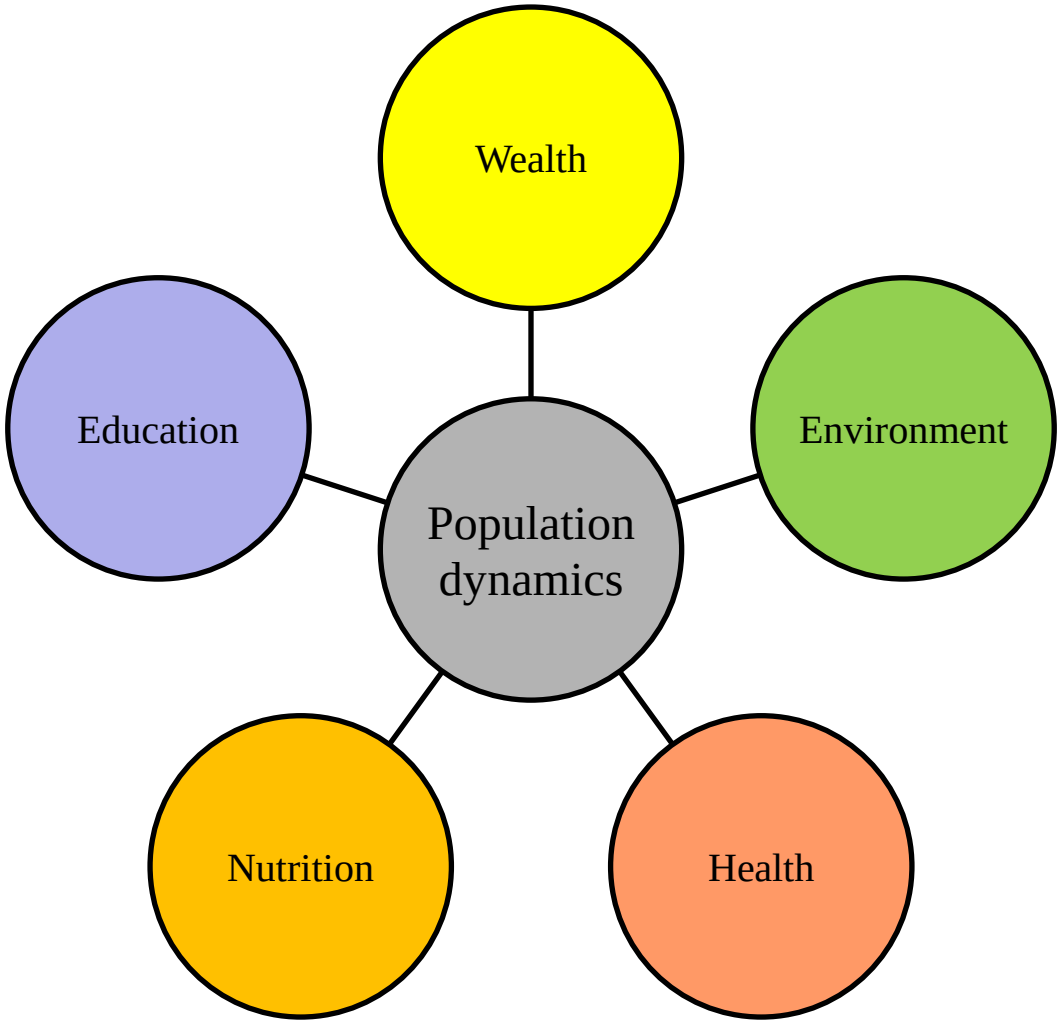


Content

1. Population Trends & Risks
2. Ways to overcome these limitations
3. Social factor in ESG policy

Population trends

- Population trends are at the roots of many world trends shaping tomorrow's market



Key Challenges in Population for Business and Society

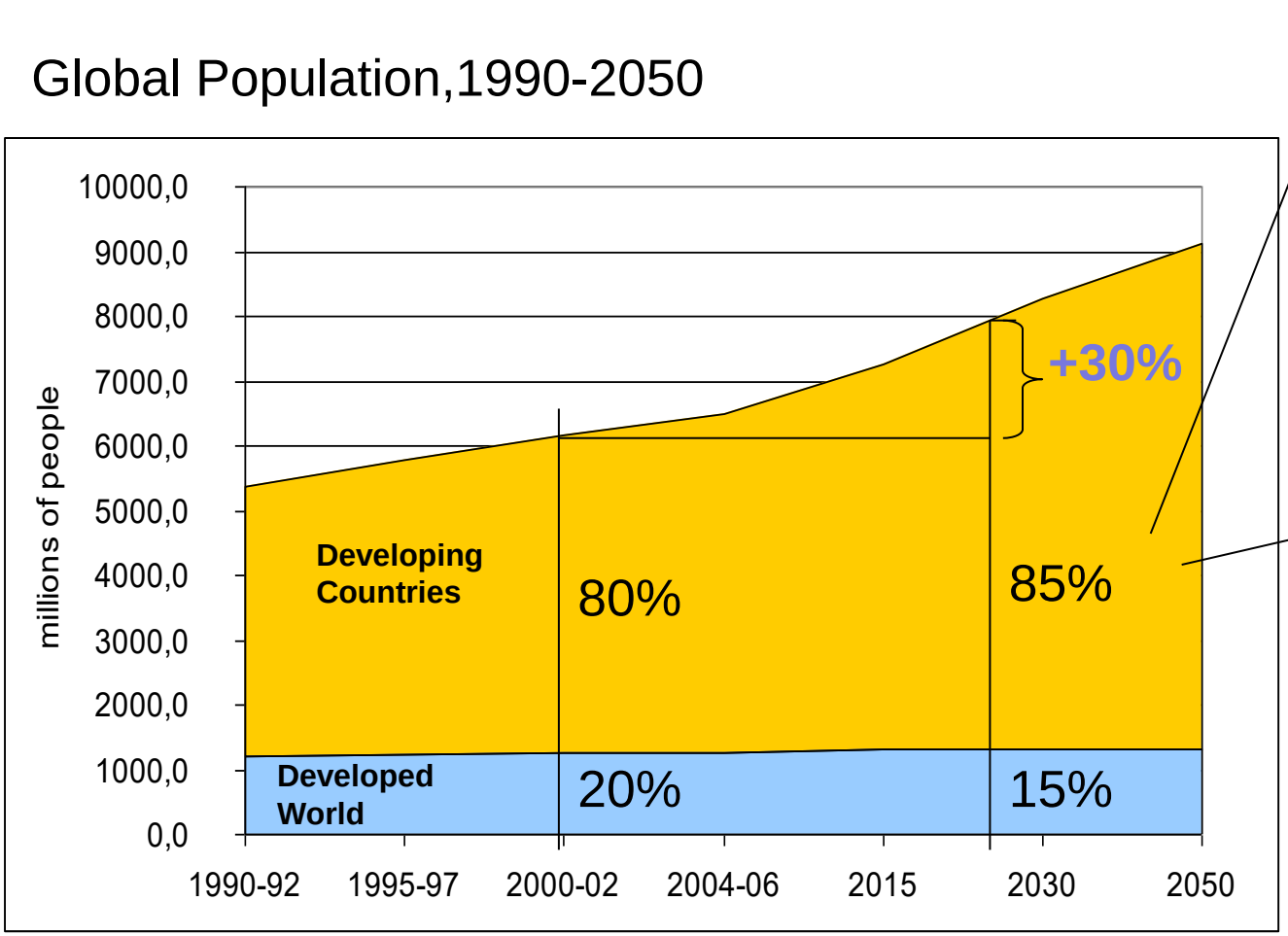
Challenges produced by world population trends:

- Overpopulation
- Ageing Population
- Consumers of produced goods & services
- Labor Force
  - Population Labor Mobility
  - Shortage of Qualified Workers
- Population Pauperization
- Business Social Responsibility
- Illegal Immigration
- …

Population of the Earth

 According to The Complete Ecology Fact Book, 1972

The World's Population is Growing

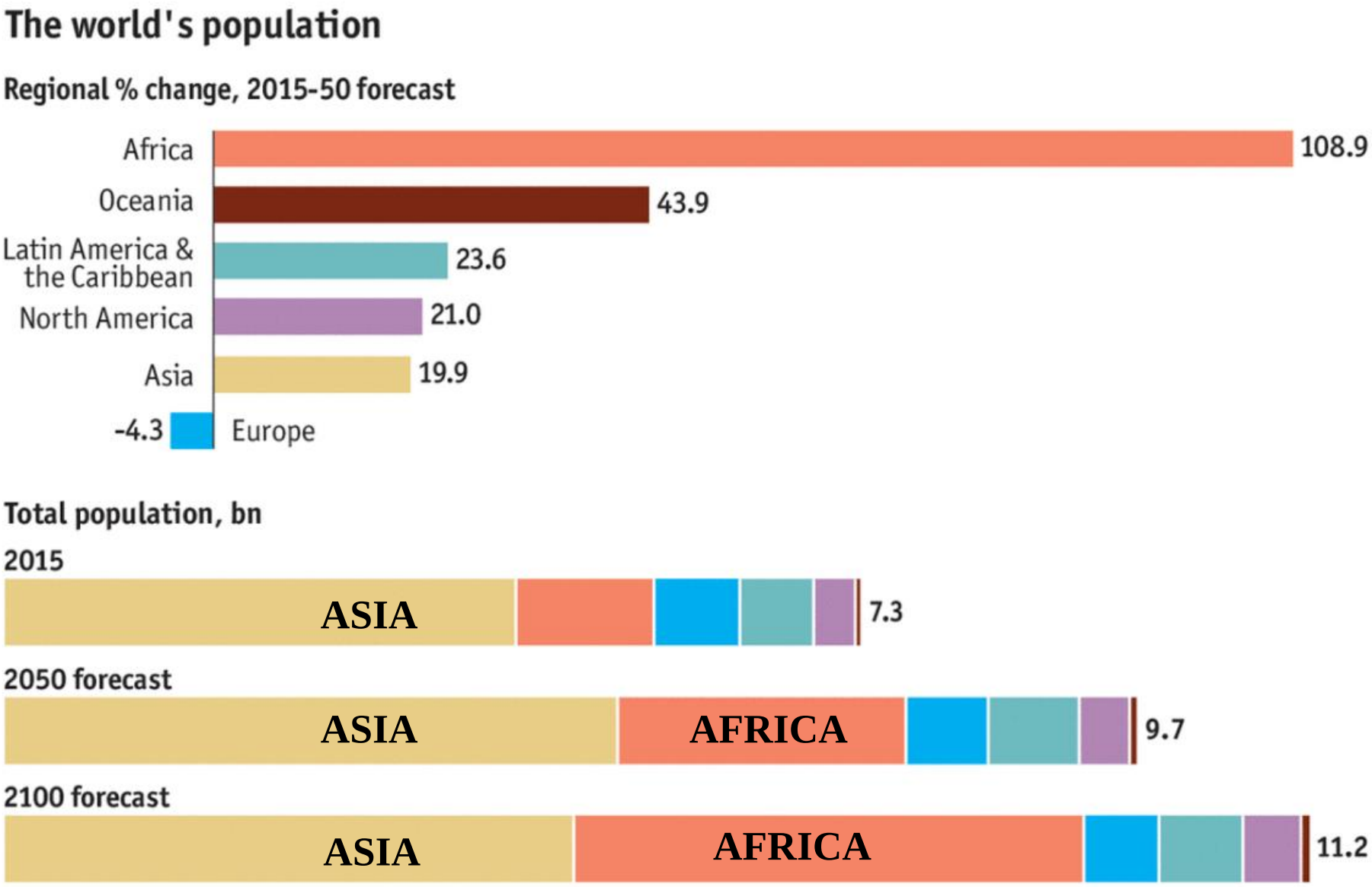


In the next decades most of the world's citizens will be born in low- and medium-income economies

Expanding population in developing regions will create large markets dominated by the young

Data source: FAO UNO

Regional Structure of population and its' growth

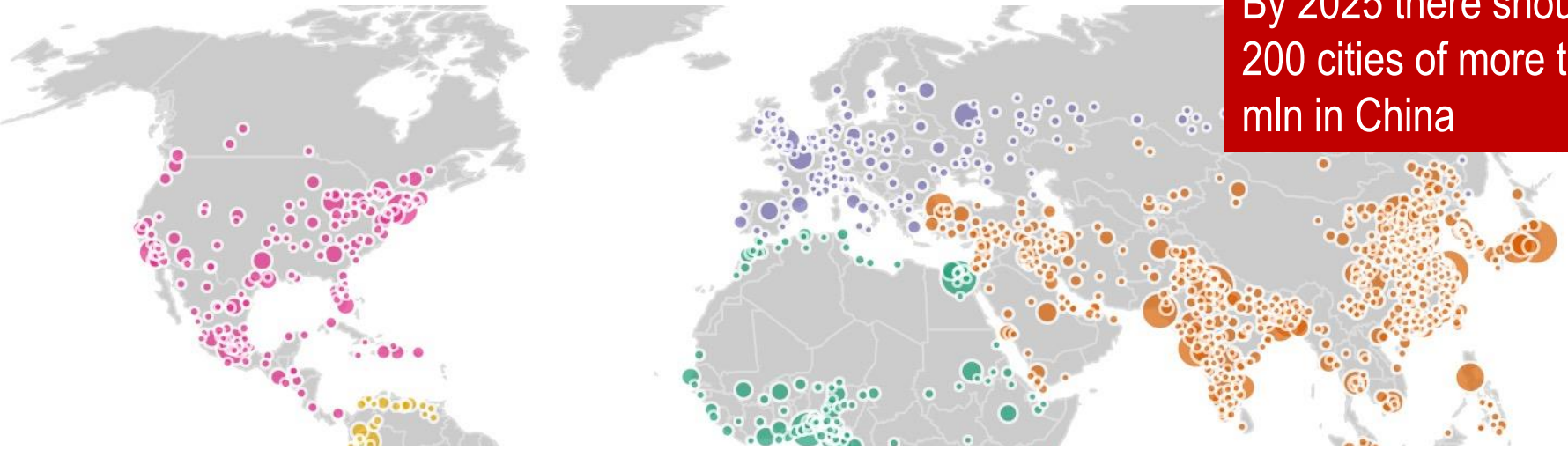


https://www.economist.com/graphic-detail/2015/08/04/global-population-forecasts

Population Growth in the Cities (Urbanization)

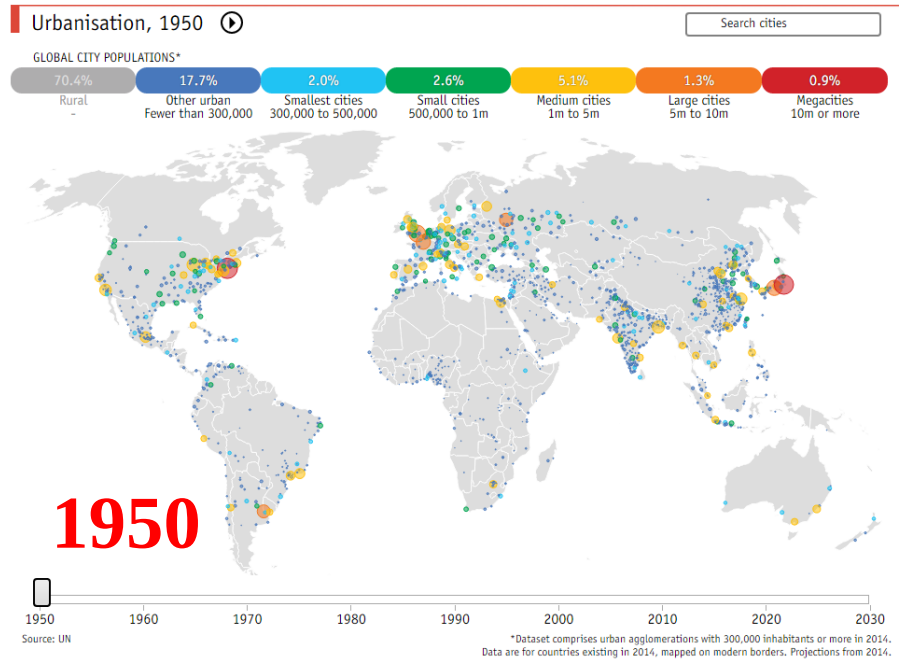
- More than 50% of all people are living now in cities
- Approx. 50% of population is living within 200 km coastal zone (75% by 2025)

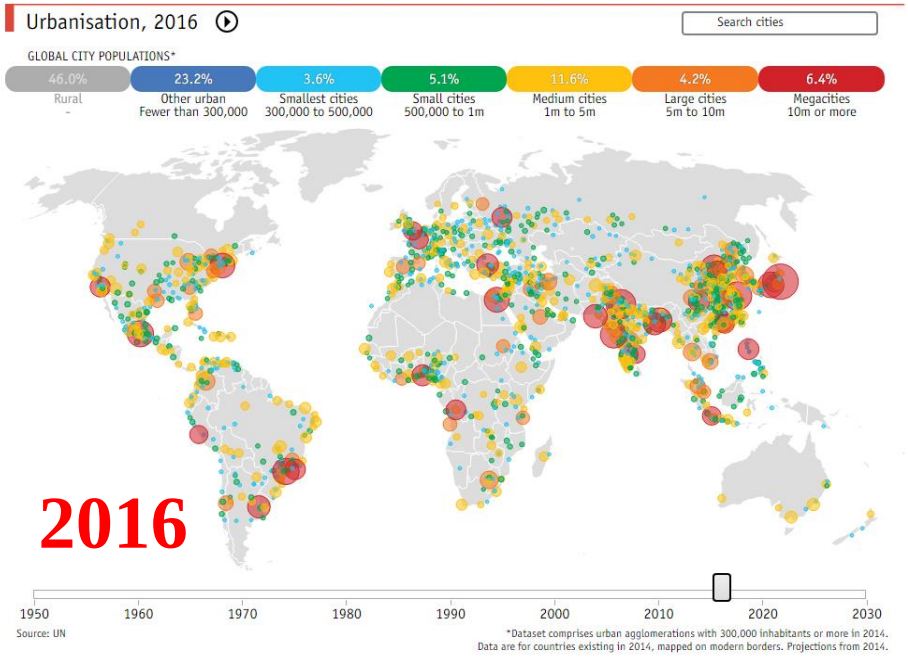
By 2025 there should be 200 cities of more than 1 mln in China



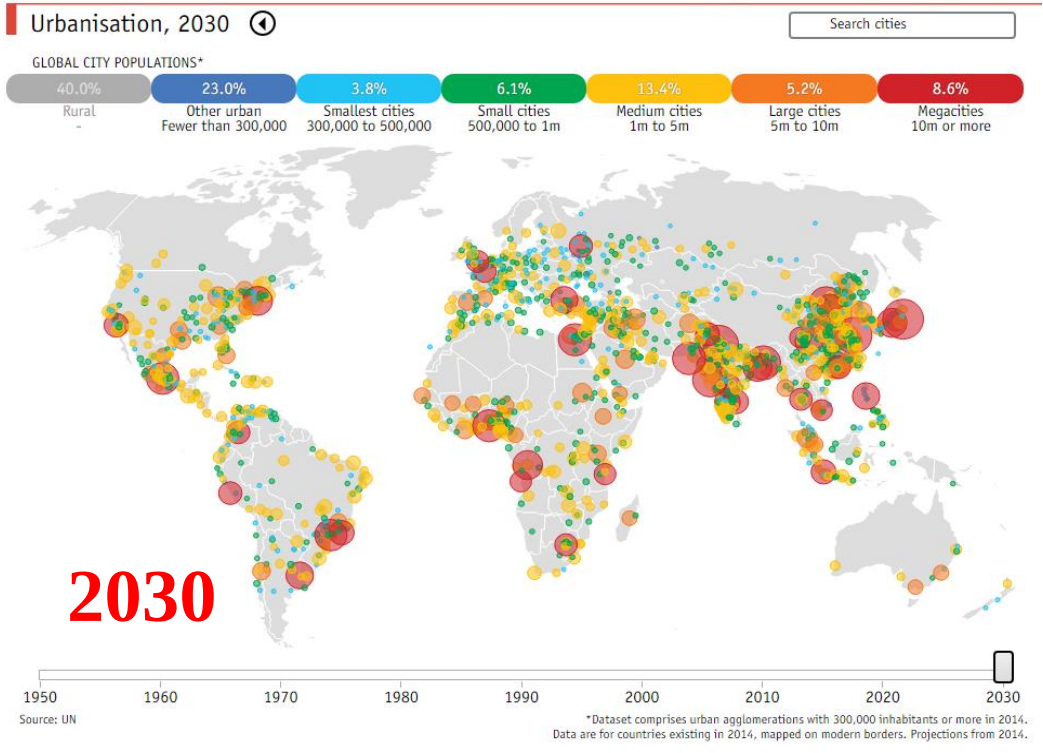
Implications for Business:

- Benefits from the growth of urban areas with their demand for energy and infrastructure, and their concentrations of labor and consumers.
  - Land-use planning, health services, education, water and sanitation services
- The greatest change in urban population will occur in developing countries



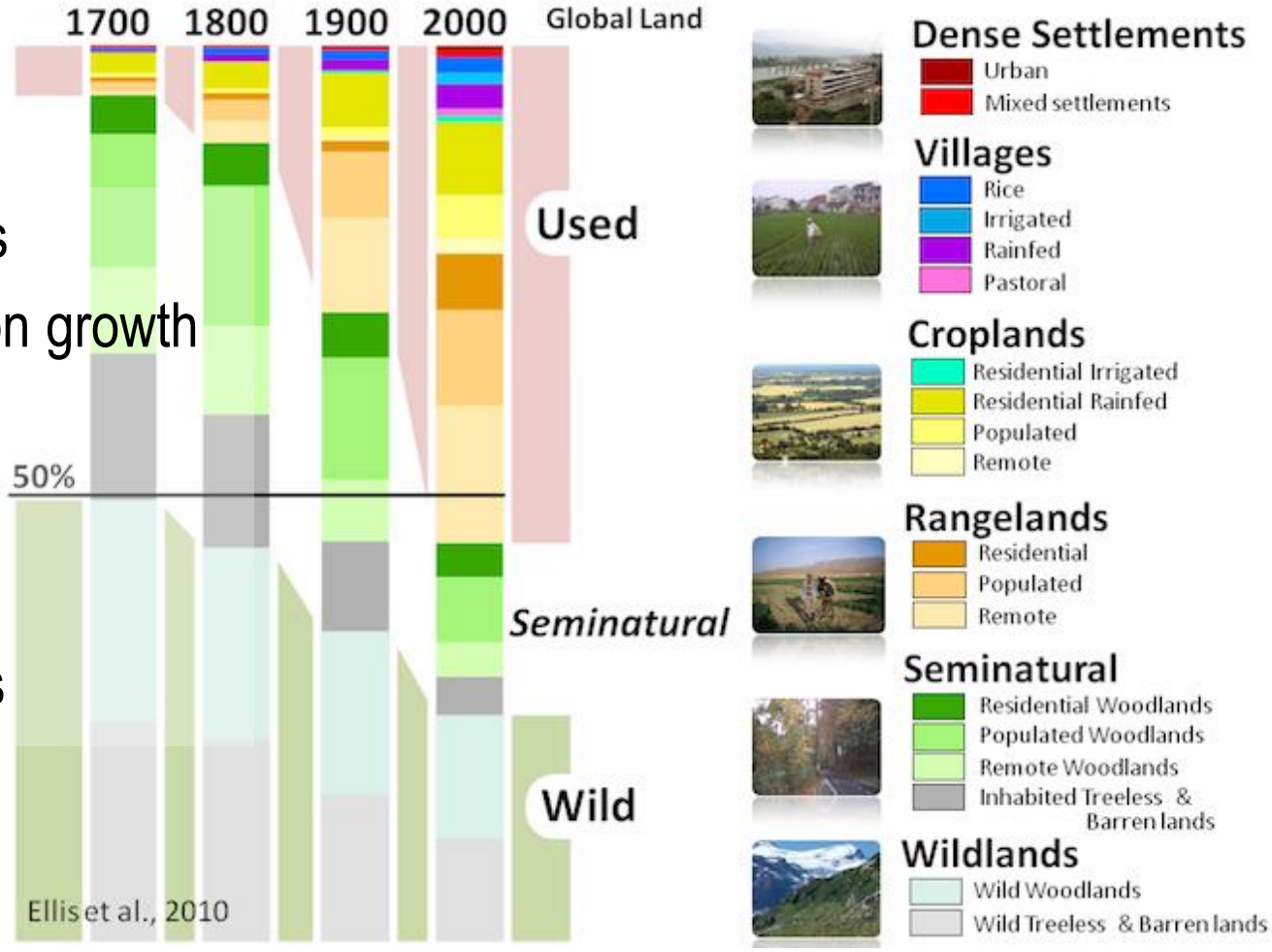


- Asia accounted for over half of the world's 29 megacities in 2016.
- But it is in Africa that some of the most rapid urbanisation is taking place.



What are consequences of overpopulation?

- Depleted resources
- Energy consumption growth
- Lack of food
- Social tensions
- Climate changes
- Ecological changes

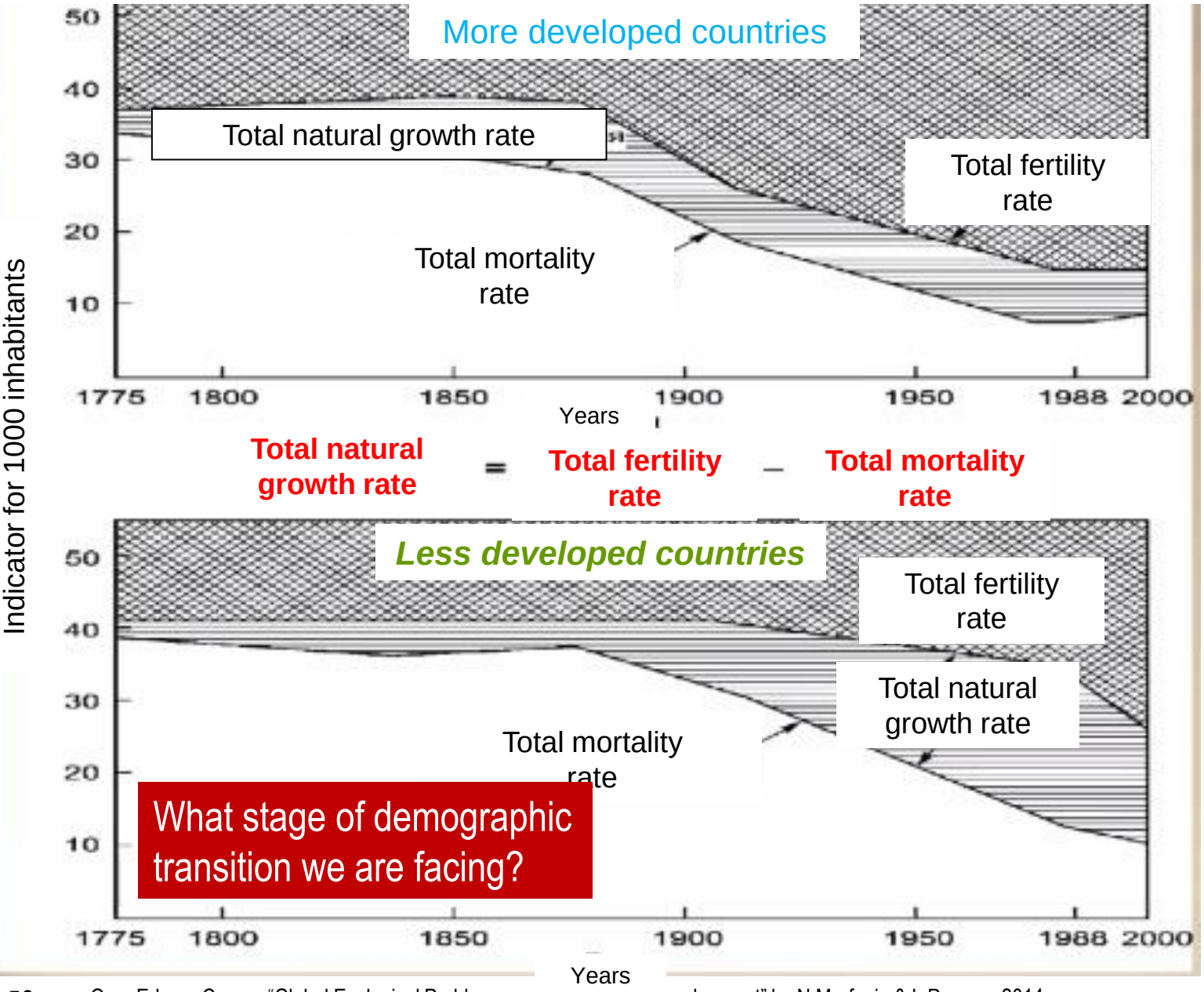


Terms / indicators

1. The fertility rate means …

2. The replacement rate is … and means …

Total Mortality and Fertility Rates Dynamics



Demographic Transition Stages

I
High M
High B
Stable P

II
Lower M
High B
Longer life, Gr.P

III
Low M
Lower B
Stable P

IV
Low&Stable M
Low&Stable B
Low&Unstable P

Let's Think

- What are the main factors contributing to the decrease of mortality? Find correct ones from the list.

1. Greater wealth
2. Less wars
3. Improvement of nutrition
4. Individual hygiene, water sanitary conditions
5. Better Medical Care in general
6. Sterilization
7. Appearance of maternity hospitals
8. Vaccination
9. Introduction of artificial nourishment for infants
10. Education spread
11. Less natural disasters

Let's Think

- What are the main factors contributing to the decrease of birthrates? Find correct ones from the list.

1. Poverty
2. Urbanization
3. Cost of living
4. Poor life conditions
5. Education of Women
6. Higher age of births
7. Social Guarantees in old age
8. Role of children reduced
9. Contraception
10. Family planning
11. Poor medical care

Discussion Topic

POPULATION

- Check the following short articles:
  - https://www.economist.com/special-report/2018/08/14/a-slow-burning-fuse
  - https://www.economist.com/special-report/2021/12/07/an-ageing-country-shows-others-how-to-manage
  - https://www.economist.com/the-economist-explains/2018/11/26/the-challenges-of-japans-demography
  - https://www.economist.com/graphic-detail/2019/07/09/japans-pension-problems-are-a-harbinger-of-challenges-elsewhere
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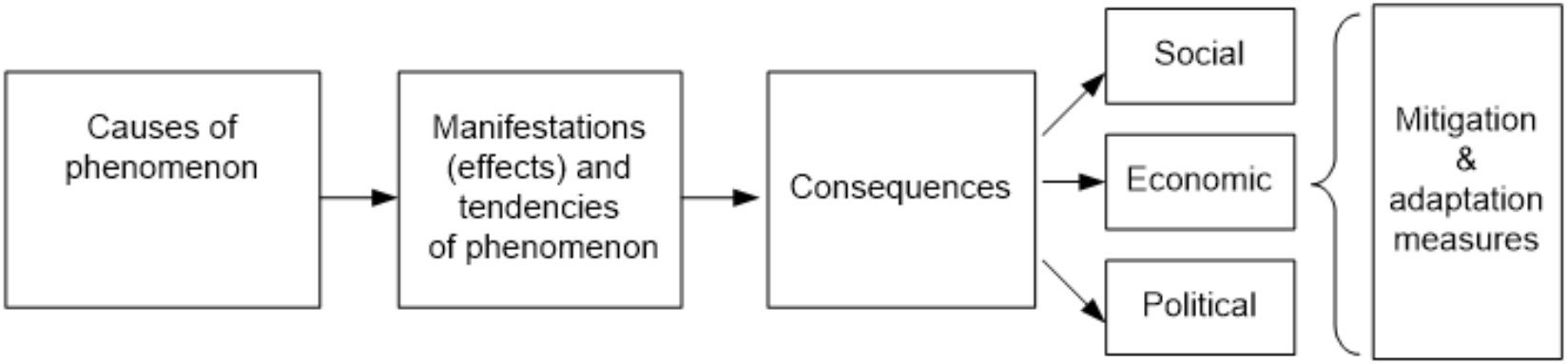
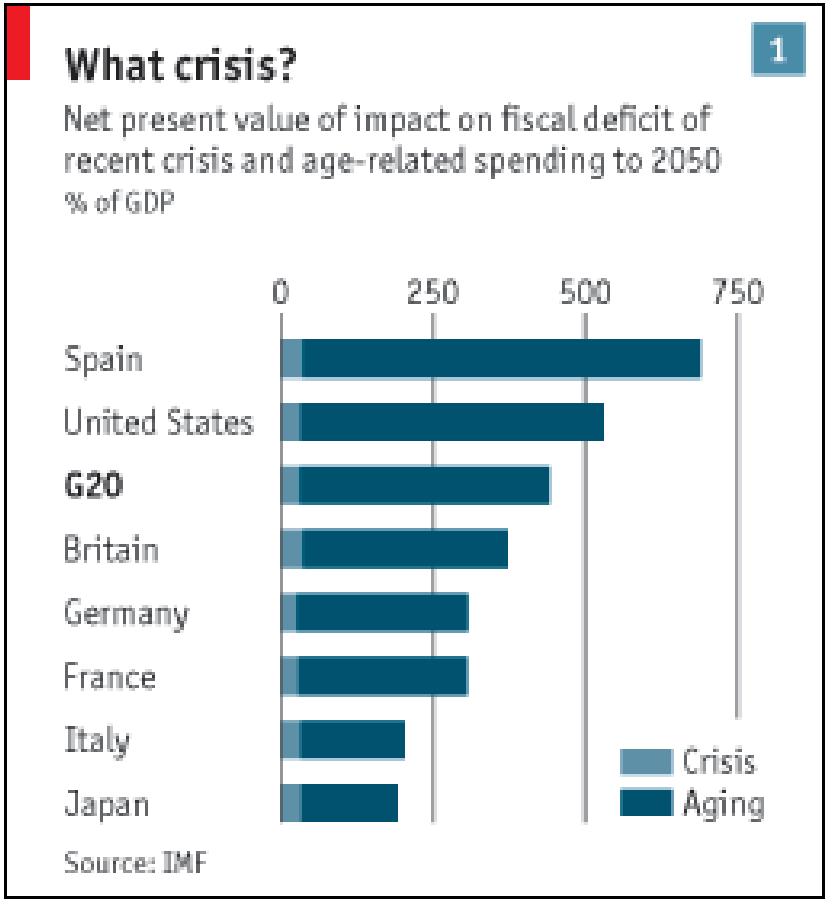
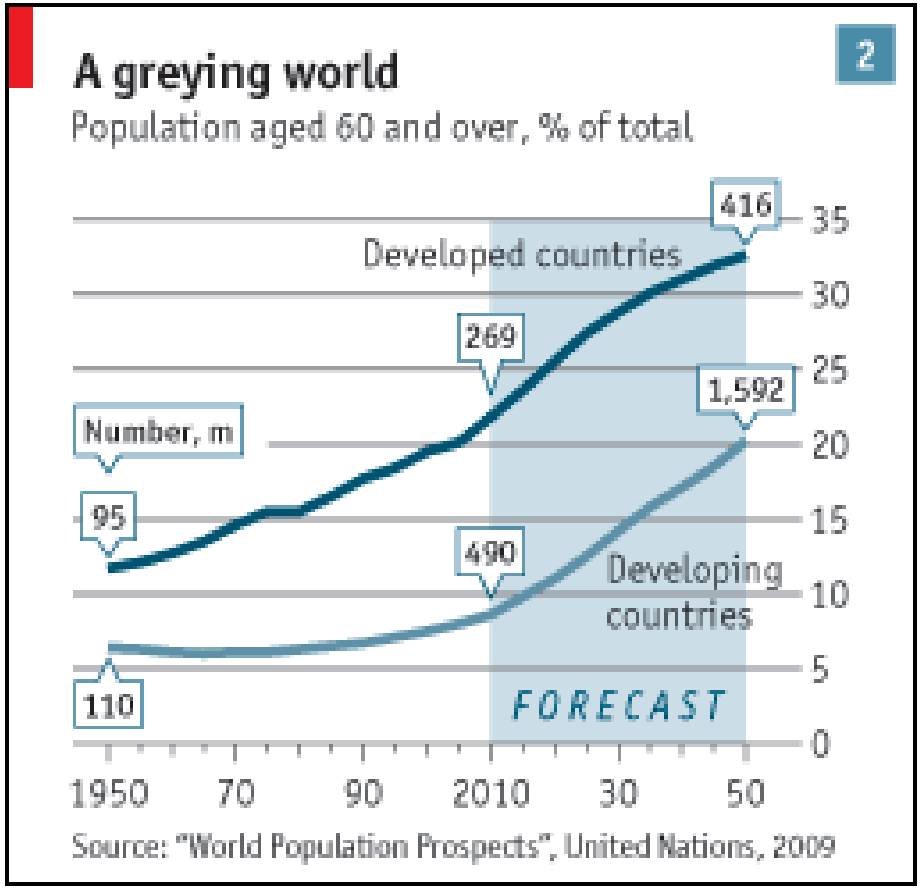
  - https://www.economist.com/special-report/2020/03/26/migration-is-helping-africa-in-many-ways
- What are the main 2-3 problems described in these articles? Prepare for their analysis and discussion using the scheme below. Be ready to illustrate it with examples from the articles.

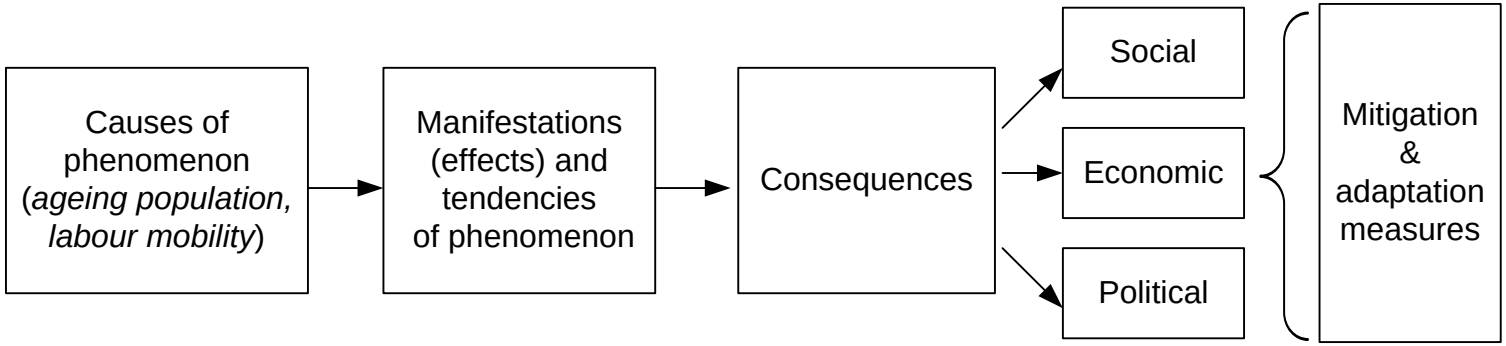


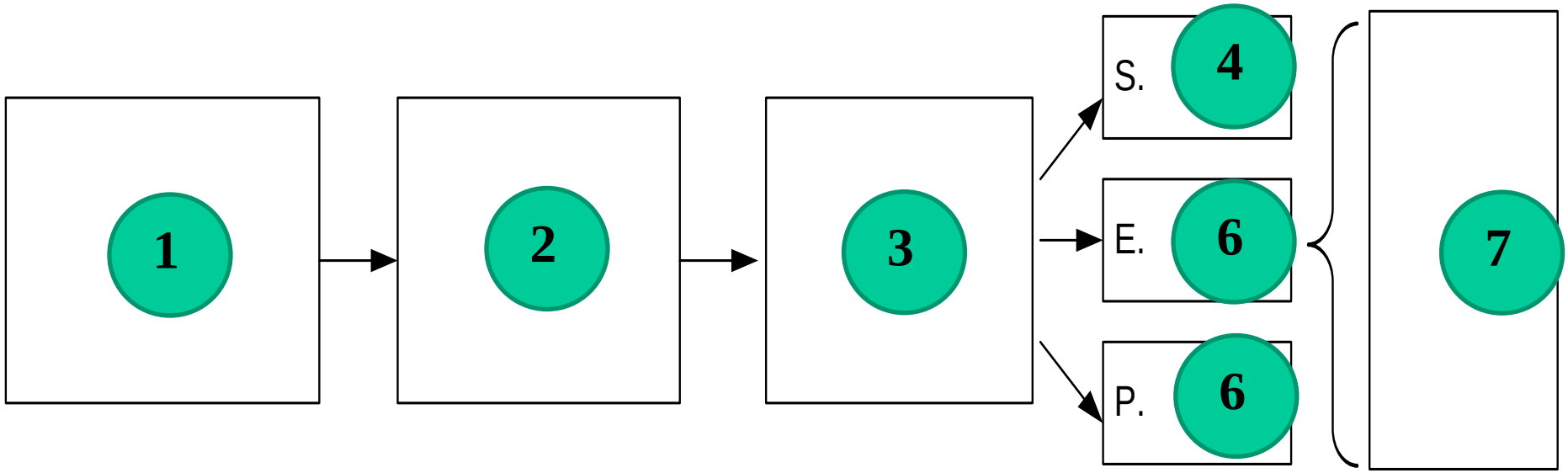
Ageing Population



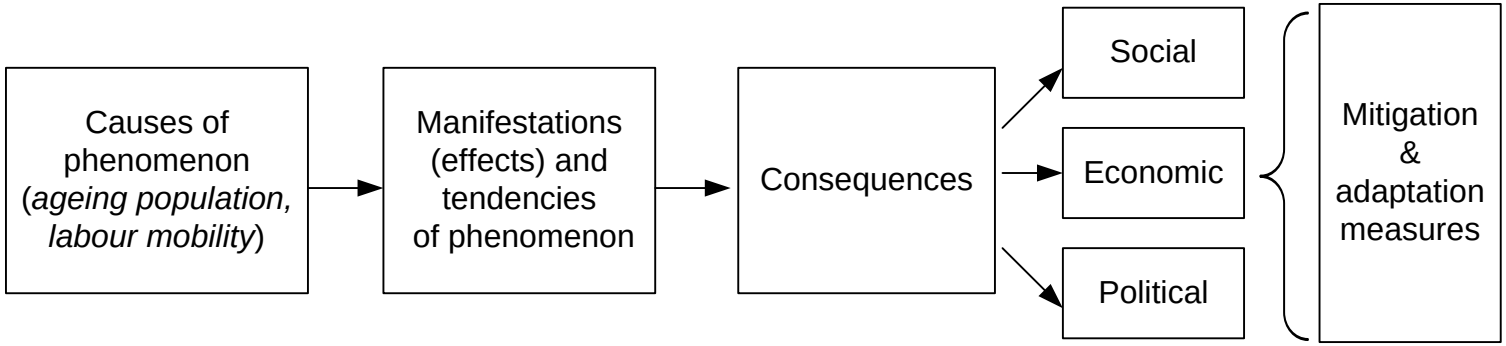


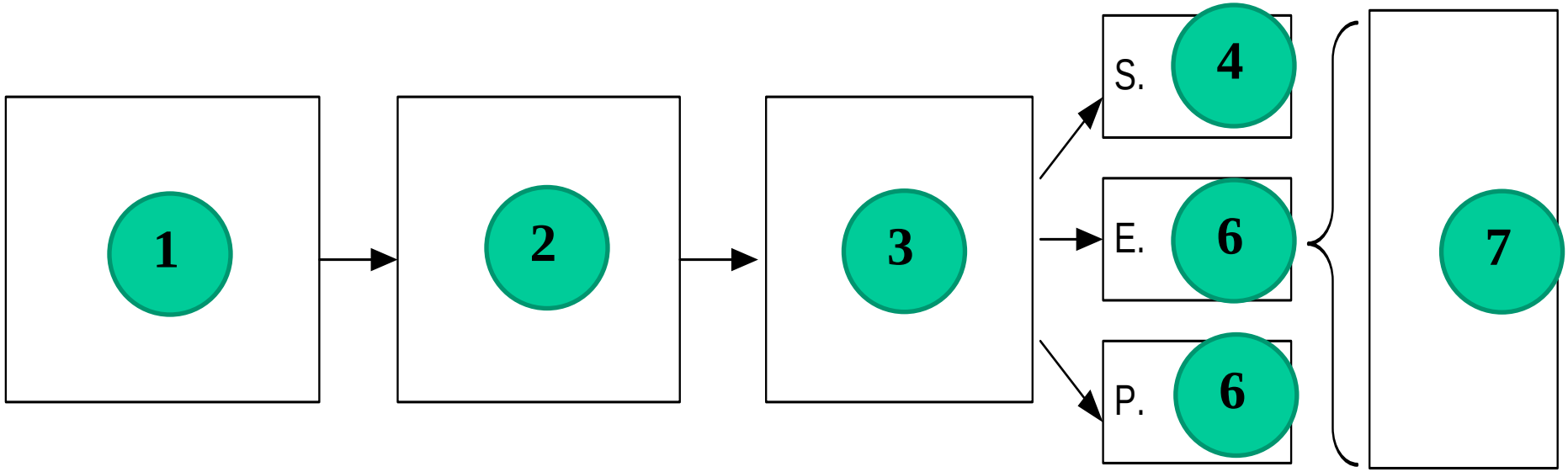
Ageing Population





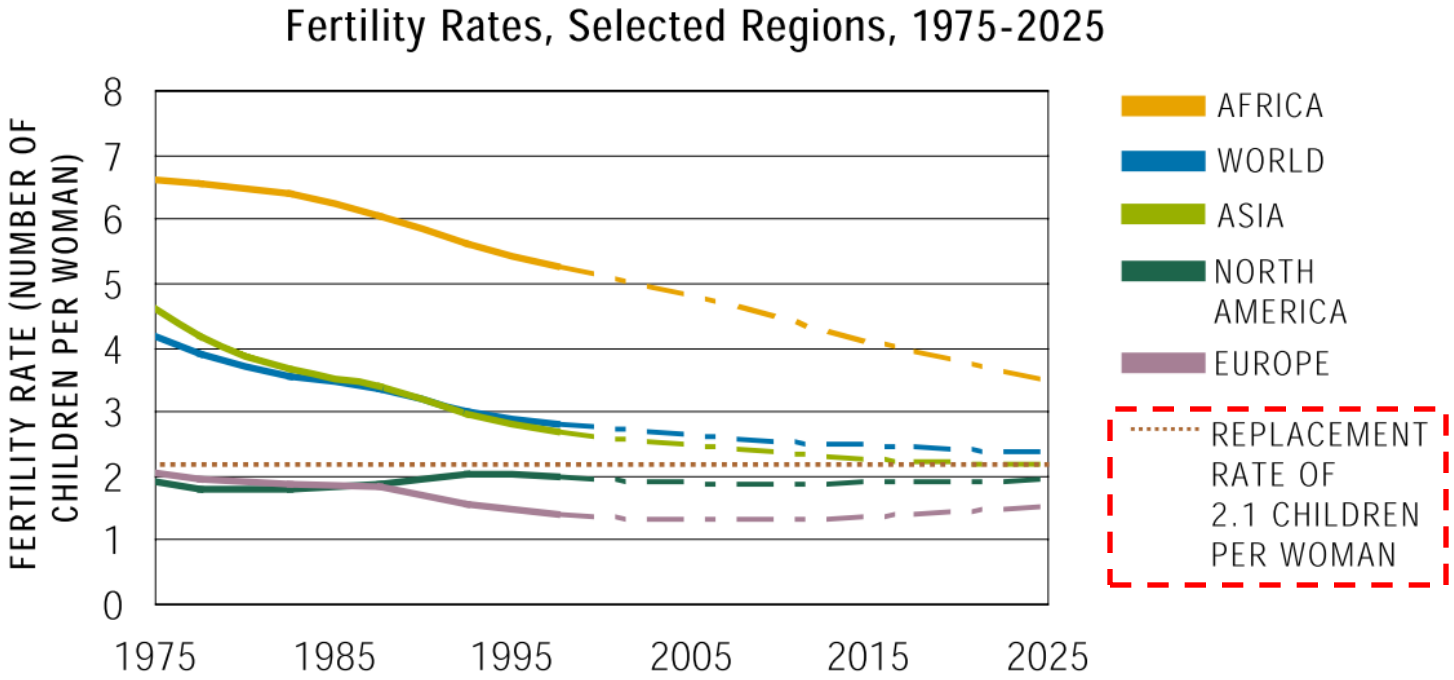
Population Growth in Poor Countries





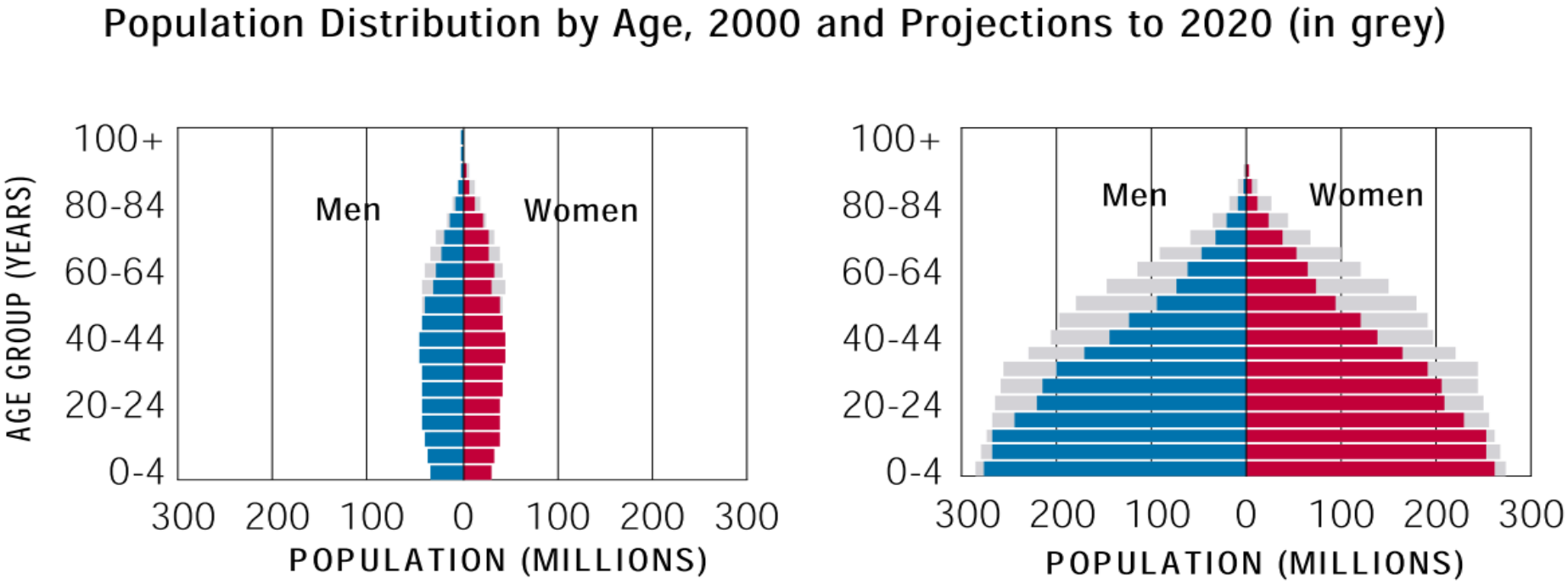
Fertility Trends

Fertility rates are low in the developed countries and falling rapidly in the developing regions.



Data source: UN Population Division

Population Explosion Explanation



Data source: UN Population Division

Correct questions to be asked while talking about **overpopulation**

Is there too much population?

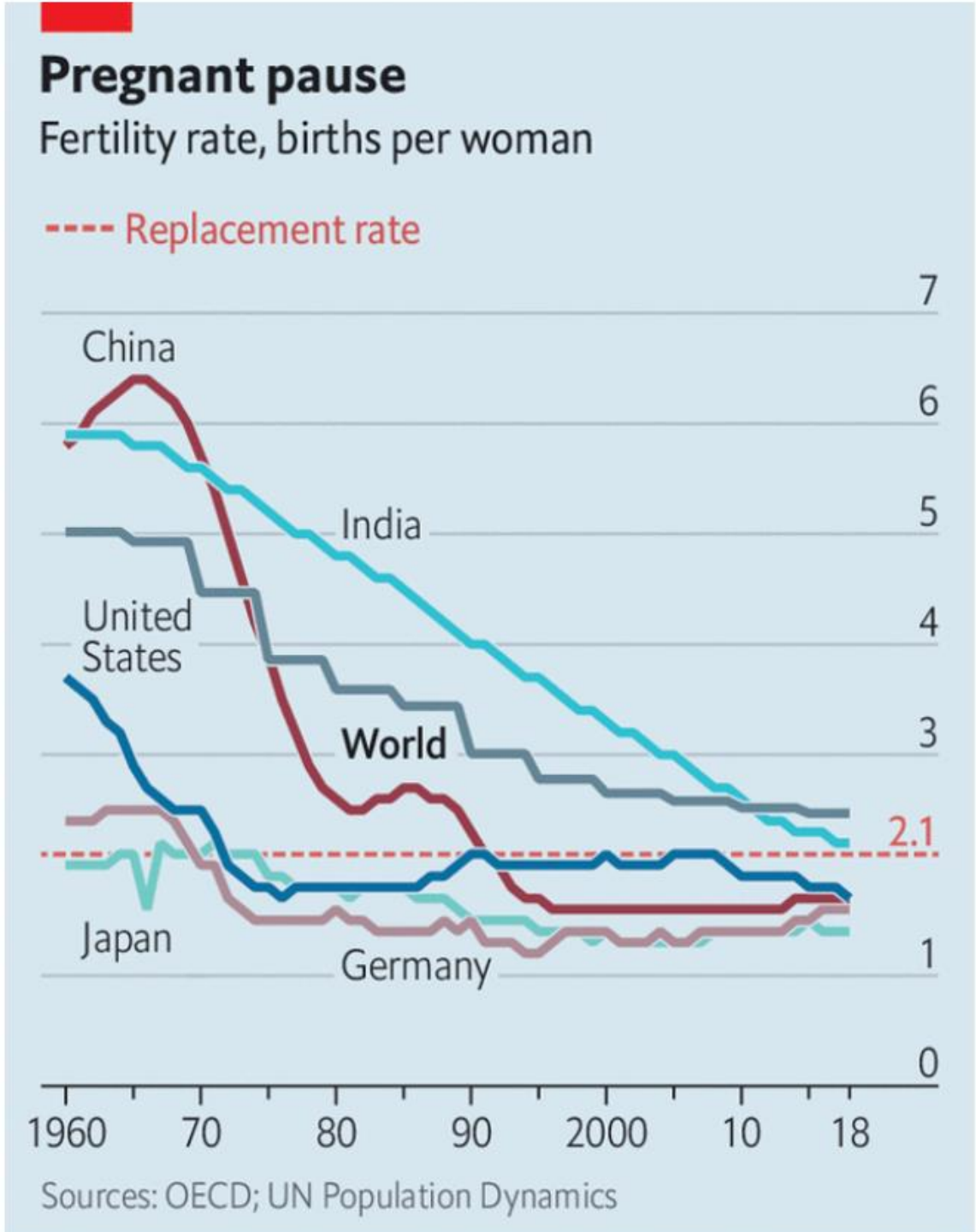
OR

Is there too much poor population?

Is there food overconsumption due to the overpopulation?

OR

Do rich people overconsume food?



https://www.economist.co
economics-of-falling-popu