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Global Future Trends

7 Global Megatrends 2030

18 City Innovations toward Bangkok 2030

7 Global Megatrends

Trend 1: Changing Demographics

Trend 2: Globalization & Future Markets

Trend 3: Scarcity of Resources

Trend 4: The Challenge of Climate Change

Trend 5: Dynamic Technology & Innovation

Trend 6: Global Knowledge Society

Trend 7: Sharing Global Responsibility

Source: Roland Berger Strategy Consultants 2011

Trend 1:
Changing Demographics

Glowing World Population

8.3 billion people will live on earth

Aging Societies

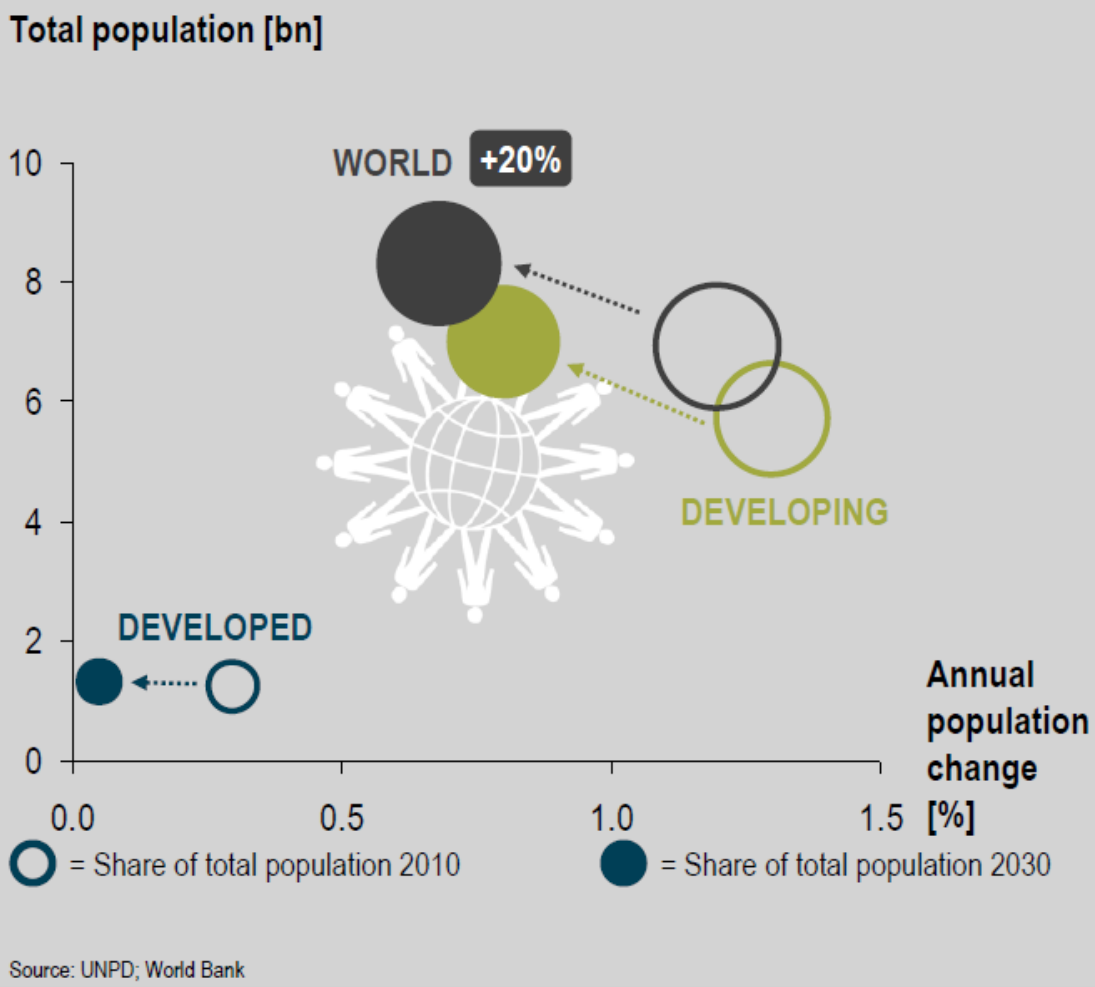
Median age will increase by 5 years to 34 years

Increasing Urbanization

59% of the world's population will live in cities

Source: Roland Berger Strategy Consultants 2011

Growing World Population



Source: UNPD; World Bank

Source: Roland Berger Strategy Consultants 2011

In 2020, the world population will **increase to 8,300 million** or **20% up** from today 7,000 million today.

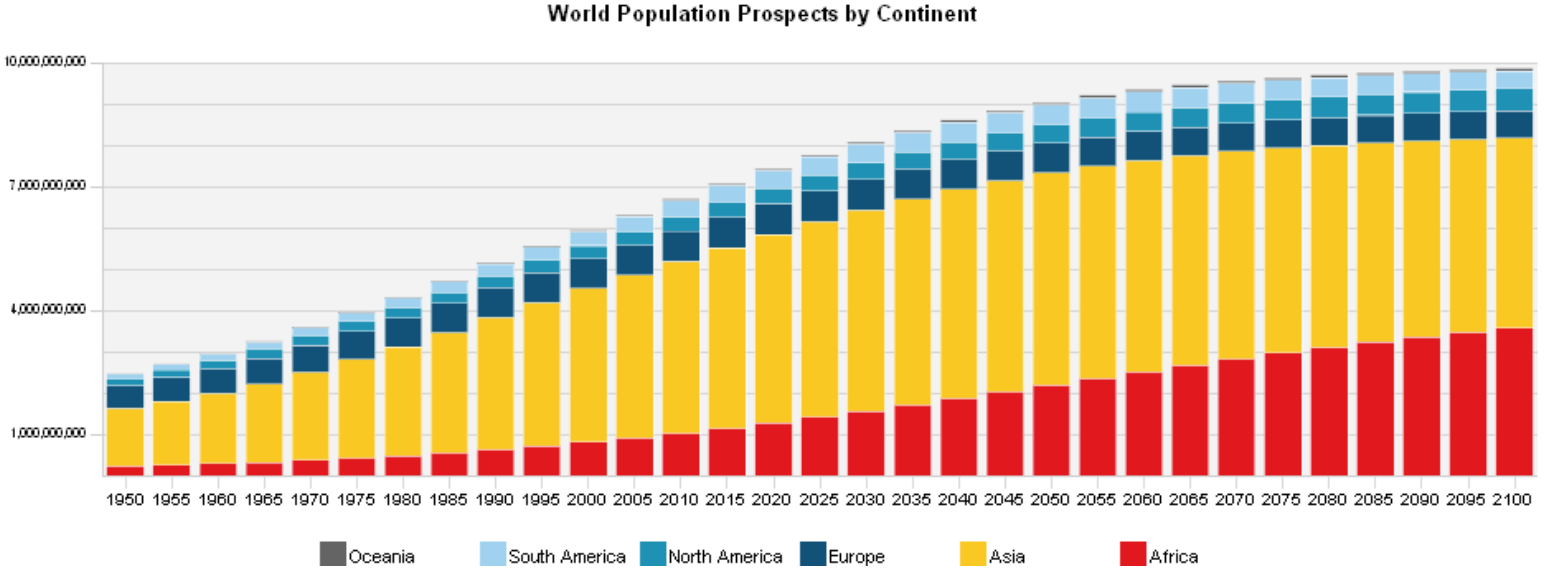
Growth is slowing down in both absolute and relative terms.

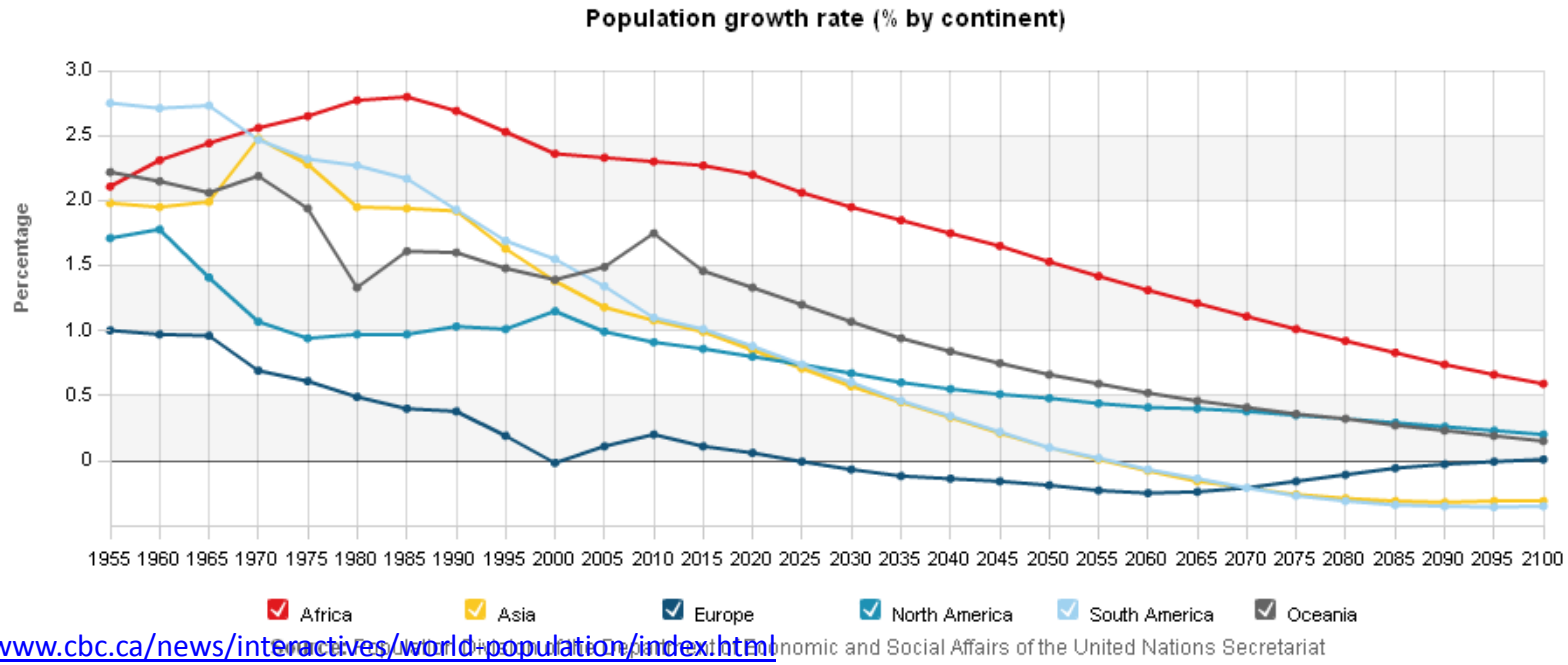
Developing countries will grow nearly **7 times faster** then developed countries.

Developing countries will **grow by 24%**, while **developed countries** will **grow by only 3.6%** between 2010 and 2030.

Growing World Population

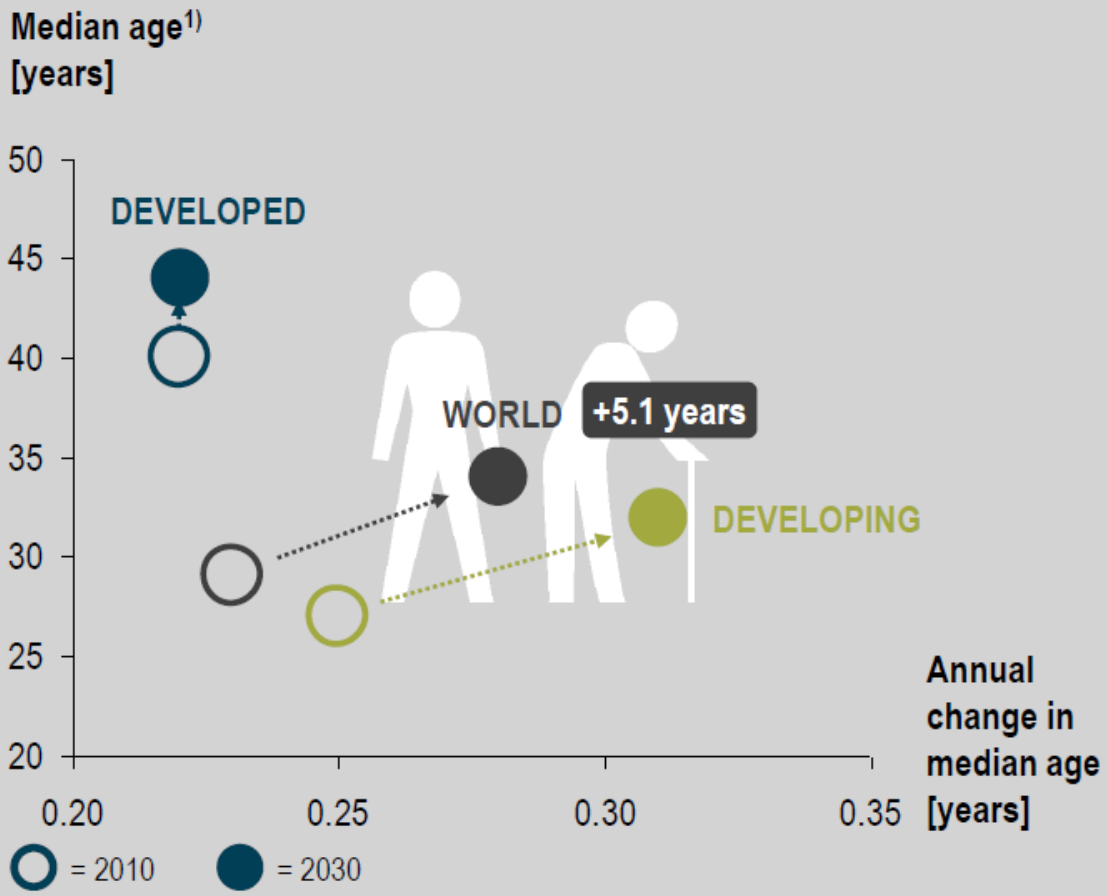
Trend 1: Changing Demographics





http://www.cbc.ca/news/interactives/world-population/index.html

Aging Societies



1) Median age is the population midpoint: 50% of the population is younger and 50% is older
Source: UNPD; World Bank

Source: Roland Berger Strategy Consultants 2011

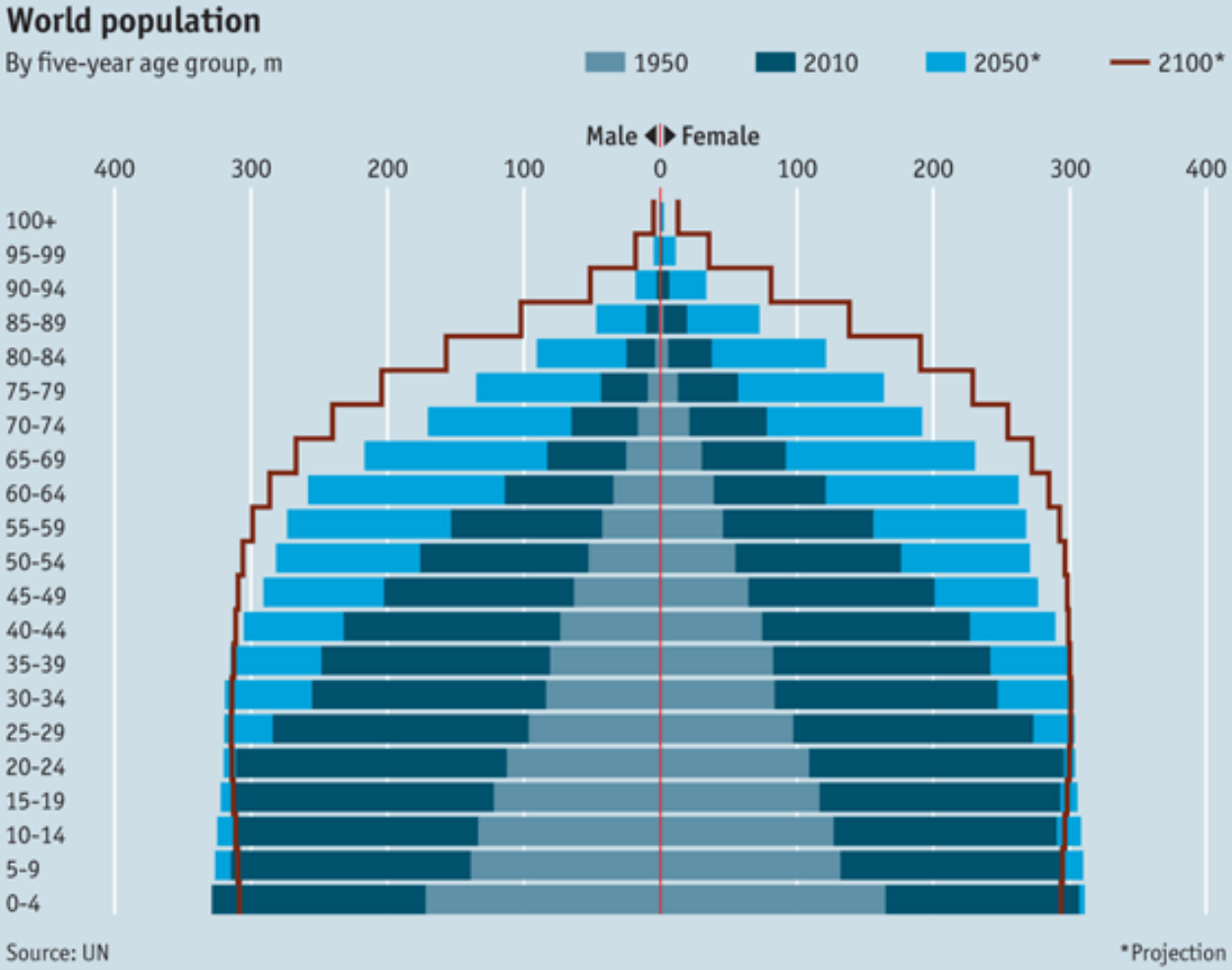
Globally, the **median age** will **move up by 5.1 years**, from 29 today to 34 in 2030.

By median age, the people in the **developed countries will be 12 years older** than the those in the developing countries in 2030. However, **the gap will narrow**.

The median age in the **developing countries** will **rise by 4.4 years**, reaching **44 years**.

The median age in the **developed countries** will **rise by 5.5 years**, reaching **32 years**.

Aging Societies



The **world's population reached 7 billion** at the end of **October 2011**.

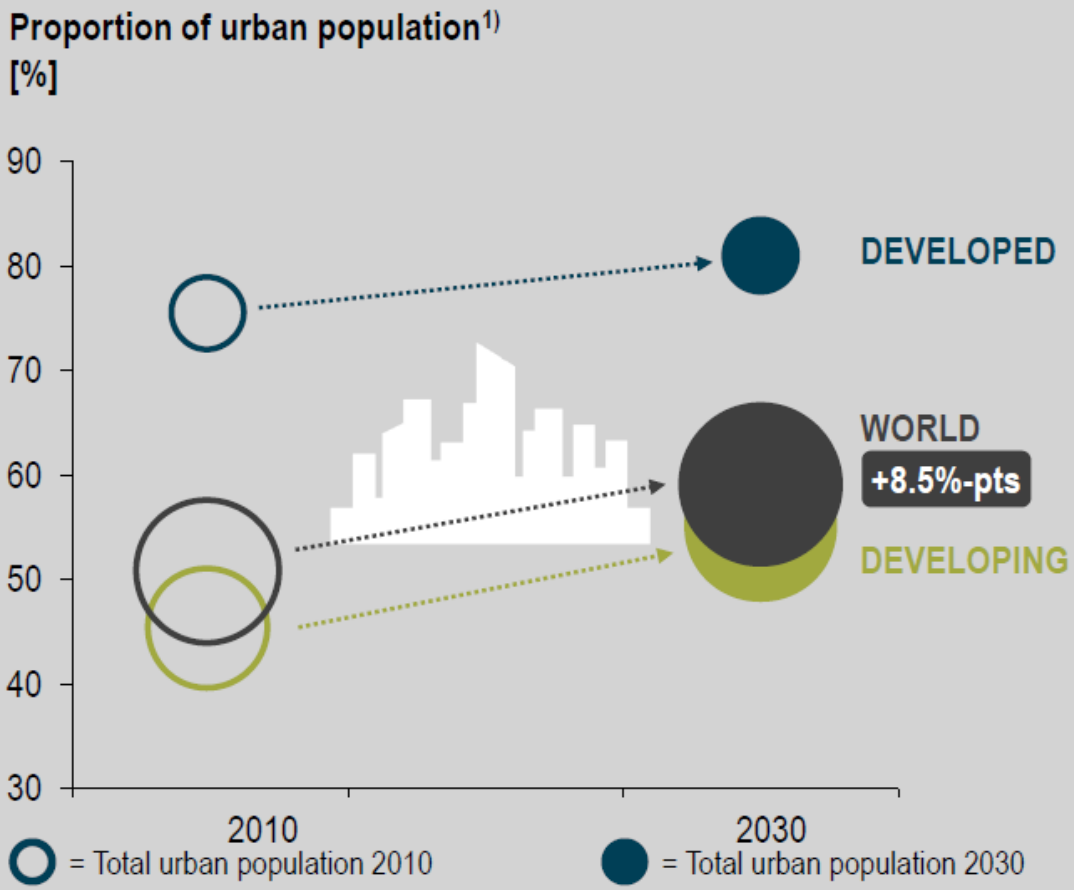
The global population will cross **10 billion by 2085**.

By 2011, **22.3% of people will be aged 65 or over**, up from 7.6% in 2010.

The **bulk of population growth** is expected to come from the **developing world**.

http://www.economist.com/blogs/dailychart/2011/05/world_population&fsrc=nwl

Increasing Urbanization



1) Urban population is defined primarily as inhabitants in localities of a certain minimum size. This minimum size ranges between 200 inhabitants (e.g. Denmark) and 10,000 (e.g. UK). The definitions used are generally those of national statistical offices
Source: UNPD; World Bank; UNFPA

Source: Roland Berger Strategy Consultants 2011

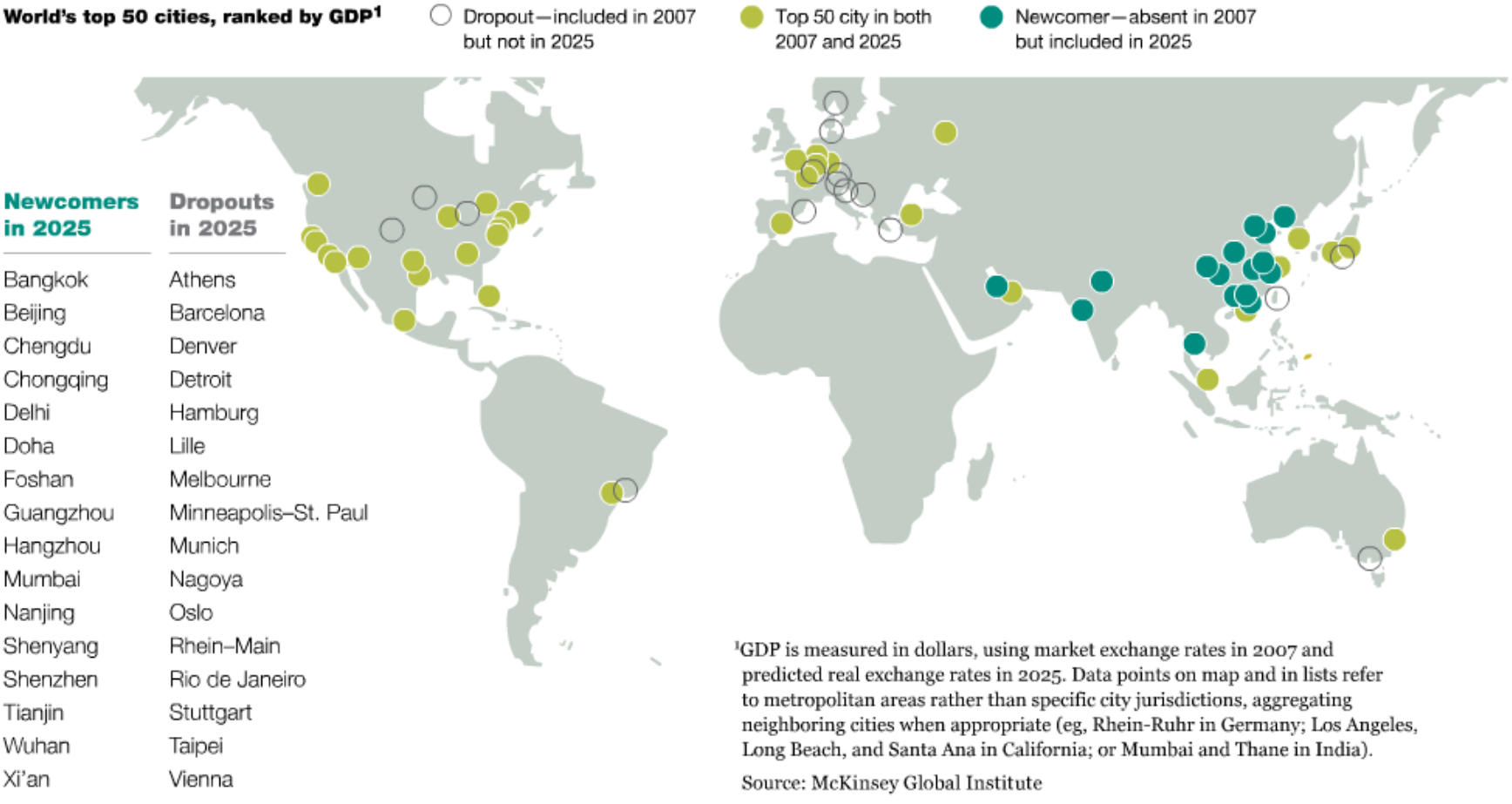
The **urban** share of the population will continue to **rise at high speed** and growth will even accelerate.

By 2030, **4,900 million** people, or **59%** of the world's population, **will live in cities**.

The **developed countries** will still have **a far larger share of urban population** then the developing countries in 2030. However, the **gap narrows**.

Over **90% of the increase in urbanization** is taking place in **developing countries**.

Increasing Urbanization



More than 20 of the world's top 50 cities ranked by **GDP** will be **located in Asia by the year 2050**, up from 8 in 2007. More than half of Europe's top 50 cities will drop off the list, as will 3 in North America.

http://www.mckinseyquarterly.com/Strategy/Growth/Urban_economic_clout_moves_east_2776?gp=1

Corporate Actions

1
Focus on Growth Regions

Companies need to **focus on countries with both a growing population and a growing income per capita**.

Countries that will increase their population by **more than 20 million people** and reach a **per capita GDP above USD10,000** in PPP will be **India, China, Nigeria, Indonesia, Brazil, Philippines, Egypt and Mexico**.

2
Market Potential of the Middle Class

In many developed countries, **people aged 60 and over** will become the **largest segment**.

Companies need to focus on the people in this segment by **understanding their need**.

A **60-year-old in 2030 will be more fit and healthier** than one today, so **consumption patterns** will be **defined by life expectancy or year left to live**.

3
Use cities as the future trend laboratories and find smart solution

Companies can use **cities as future laboratories**, since the main impulses and changes will come for them.

Product development should focus on **smart solutions within limited space**.

As **consumers** move into cities, their **demand change**.

The **new megacities** in developing countries **need to establish an appropriate infrastructure**.

Trend 2: Globalization & Future Markets

Ongoing Globalization

Exports and FDI will grow faster then GDP

BRIC: The New Powerhouses

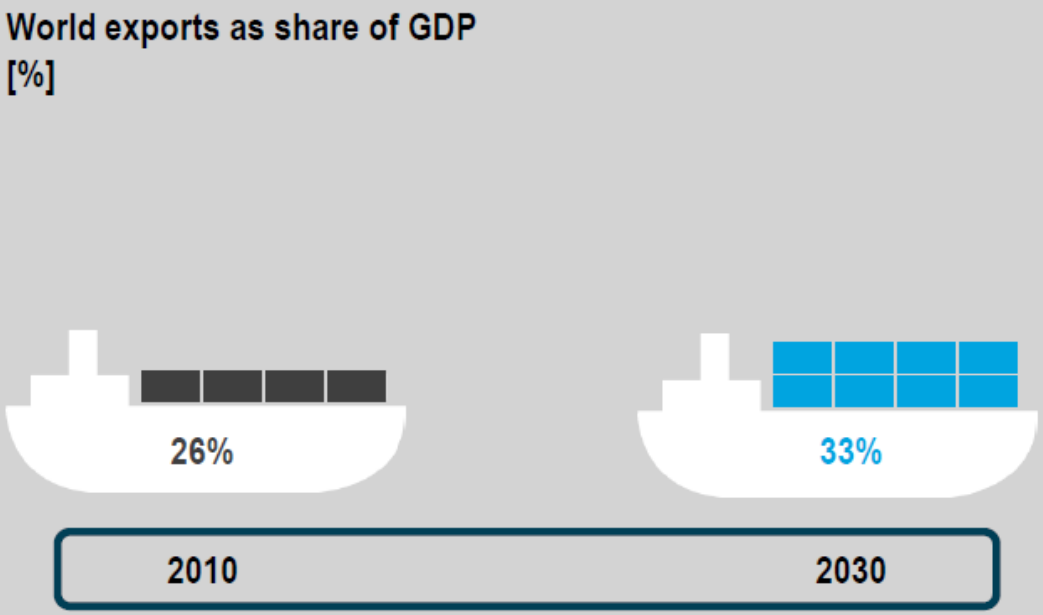
Their GDP will grow by 7.9% per annual

Beyond BRIC

The Next 11 will grow by 5.9% per annual - Strong growth for ASEAN 5

Source: Roland Berger Strategy Consultants 2011

Ongoing Globalization



Source: IMF; Goldman Sachs; Standard Chartered Bank; EIU; World Bank; Roland Berger

Source: Roland Berger Strategy Consultants 2011

Globalization will continue, with **exports and FDI growing faster than GDP**.

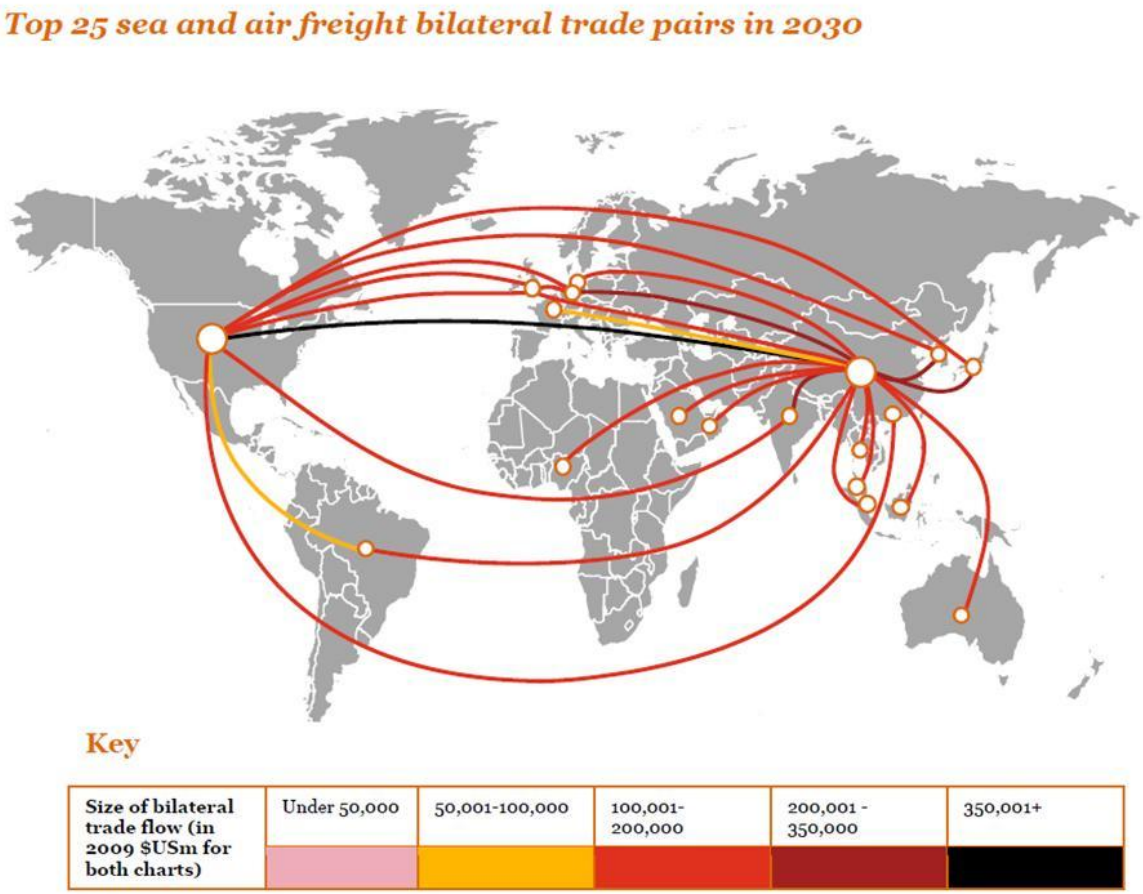
The **world's real GDP will grow by 4.0% p.a.** to around USD 135 trillion by 2030, up from USD 63 trillion today.

In 2030, **exports will account for 33% of GDP**, compared to 26% today and 17% in 1990.

In 2030, **developing countries** will account for **73% of global nominal exports**, compared to 53% today.

In 2030, **developed countries** will account for only **27% of global nominal exports**, compared to 47% today.

Ongoing Globalization



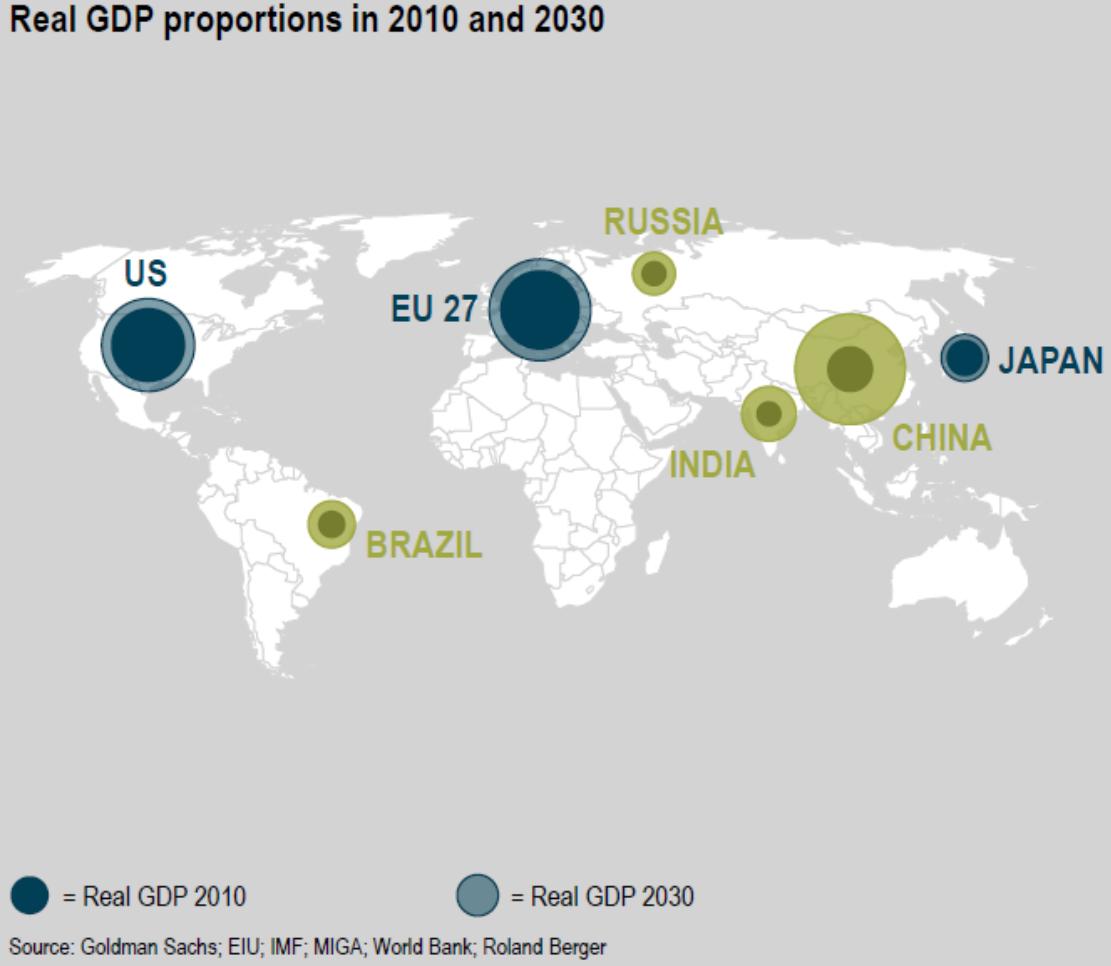
http://futuresgroup.wordpress.com/2011/04/20/1475/

China will overtake the US and dominated global trade in 2030, featuring in **17 of the top 25 bilateral sea and air freight trade routes**.

The **projections of bilateral trade relationships** lead to a number of key opportunities for transport and logistics firms:

1. Trade **within the Asia Pacific region**
2. Trade between **developed economies and emerging economies**
3. Trade **between emerging economies**
4. Trade between **China and Africa**

BRIC: The New Powerhouses



BRIC countries: Brazil, Russia, India, China

Source: Roland Berger Strategy Consultants 2011

The **BRIC countries** will generate **36% of global GDP** in 2030, compared to 18% today.

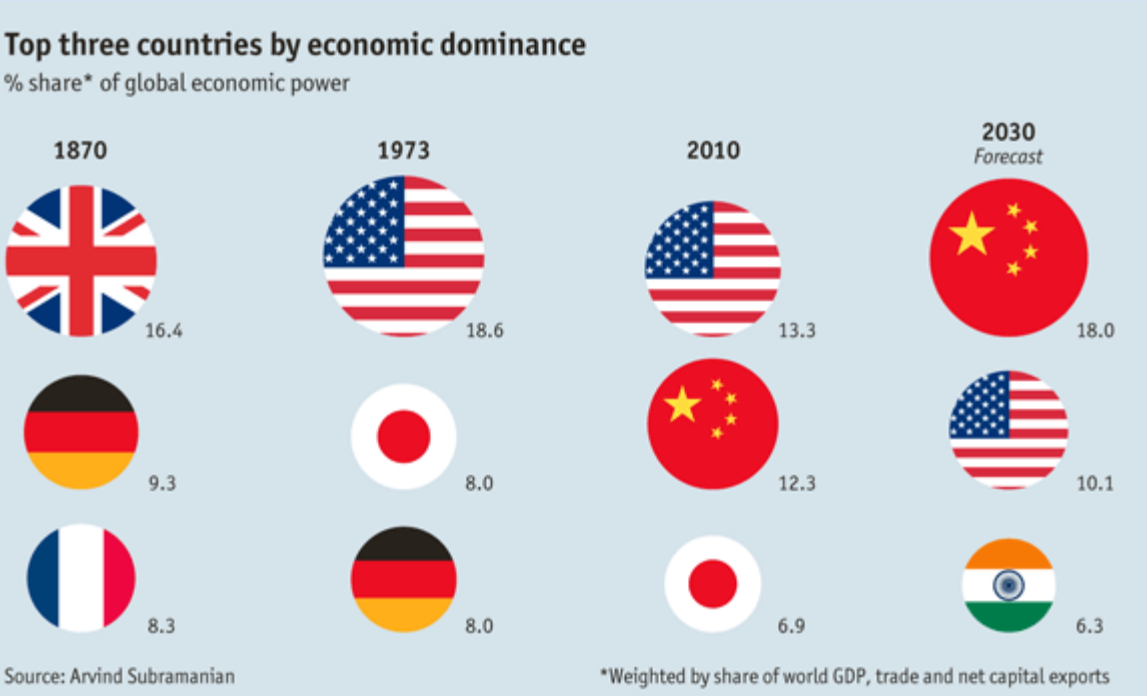
The BRIC 's **real GDP will grow by 7.9% p.a.** over the next 20 years, as well as their **real exports at 7.8% p.a.**

China's annual real GDP growth rate will be the strongest at **9.0%**, followed by **India (8.4%)**, **Brazil (5.5%)** and **Russia (5.3%)**.

The **BRIC's equity market cap could rise by 10.6% p.a.**, from USD 7.9 trillion to USD 59 trillion in 2030.

The **middle class** in the BRIC countries will **grow 150%**, from 800 million people today to **2,000 million** in 2030.

BRIC: The New Powerhouses



By 2030 **China's share of global economic power will match American's in the 1970s** and Britain's a century before.

Three forces that will dictate China's rise are **demography , convergence and gravity**.

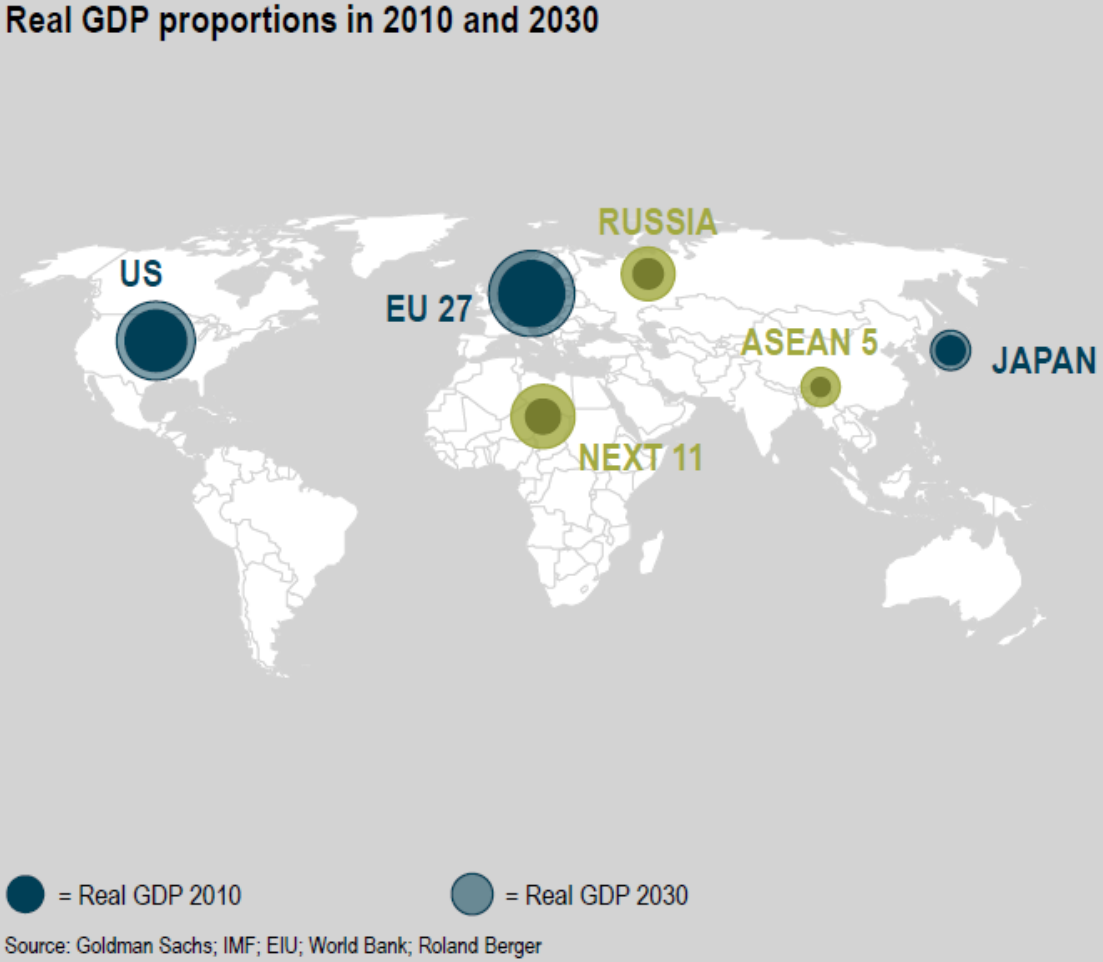
The global economy will remain **unipolar** but the one will be **China not America**.

According to the figure, **India's share of global economic power will match Japan's in 2010** by 2030.

http://www.economist.com/node/21528591

http://www.economist.com/blogs/dailychart/2011/09/global-economic-dominance

Beyond BRIC



1) Next 11: Bangladesh, Egypt, Indonesia, Iran, Mexico, Nigeria, Pakistan, Philippines, South Korea, Turkey, Vietnam
2) ASEAN 5: Indonesia, Malaysia, Philippines, Thailand, Vietnam

Source: Roland Berger Strategy Consultants 2011

The **Next 11** will have a real **GDP growth rate of 5.9%** p.a. over the next 20 years.

Real exports of the Next 11 will rise faster than the world average at **6.8%**.

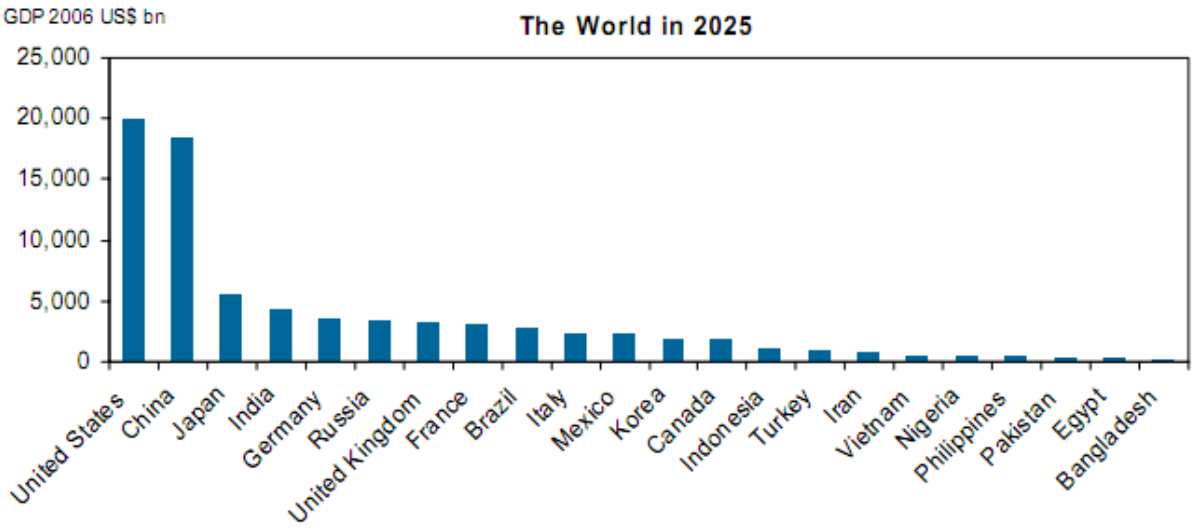
The **real GDP of ASEAN 5** will **grow by 6.6%** p.a., reaching about **4.0% of global GDP**.

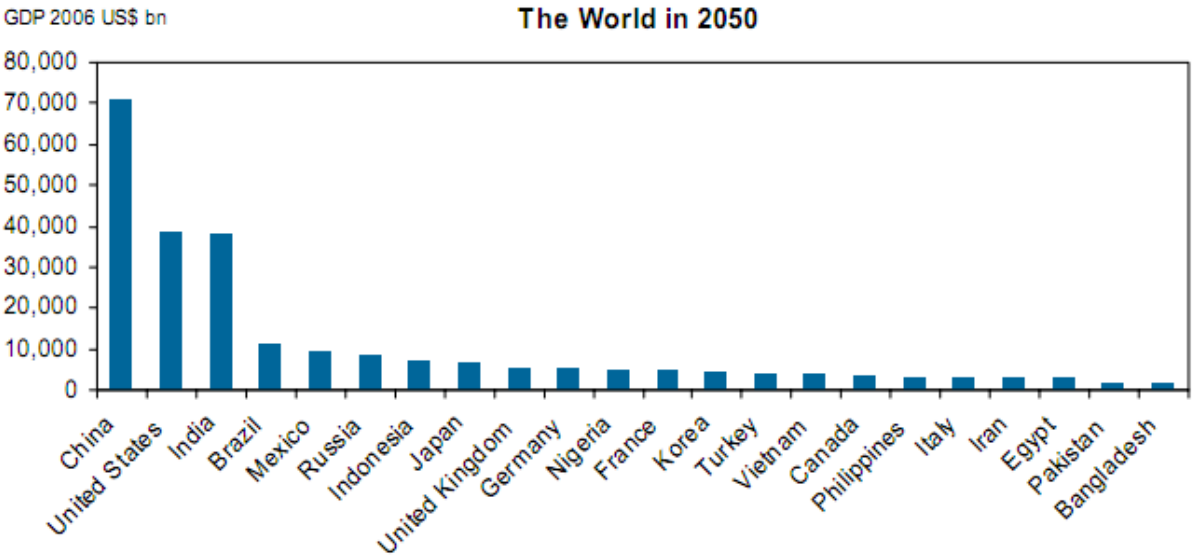
Real exports by ASEAN 5 will **grow by 6.4%** p.a. and will account for **4.8% of the world's exports**.

The **middle class in the Next 11** countries will **grow by about 120% up** to 2030 (730 million).

In **Asia**, about **330 million** new people will **enter the middle class** within the next 20 years.

Beyond BRIC





G7: Canada, France, Germany, Italy, Japan, United Kingdom and United States

http://www.chicagobooth.edu/alumni/clubs/pakistan/docs/next11dream-march%20'07-goldmansachs.pdf

China would still be the **largest economy in 2050**, followed by the US and India, and the **BRICs** are now all projected to be in **the top five**.

By 2050, the **N-11** could go a long way towards **catching the developed countries** - growing from just over **one-tenth of G7 GDP today to around two-thirds** over the next several decades.

The **N-11** generally have the capacity to deliver **continued strong growth**, with **average growth rates over the next 20 years of over 4%.**

Corporate Actions

1
Focus on Foreign Markets

Due to the **strong economic growth** in many developing countries, their **demand for international brands** is **rising fast**.

A **balanced country portfolio** is needed in order to **benefit from the new emerging markets**.

Companies need to **consider, analyze and evaluate political, social and cultural aspects** in addition to external economic developments to make sure they **enter the right markets**.

2
Market Potential of the Middle Class

As **engine of economic growth and consumption** of the middle class, companies should focus on countries with a **growing middle class**, especially in **Asia**.

The **special needs of the middle class within a country or culture** must be understand in order to **satisfy them successfully**.

The **new entrants** into the middle class are hungry for **well-known international brands, status symbols and variety of services**.

3
Scenario Techniques

As the **future cannot be predicted with great accuracy**, scenario techniques are becoming more important.

Selecting the most **appropriate scenario** gives companies great advantages as they can **react quickly, objectively and rationally**.

Besides **analyzing opportunities**, scenario techniques can be used to **reduce risk**.

Trend 3:
Scarcity of Resources

Energy

Global primary energy consumption will increase 26%

Water

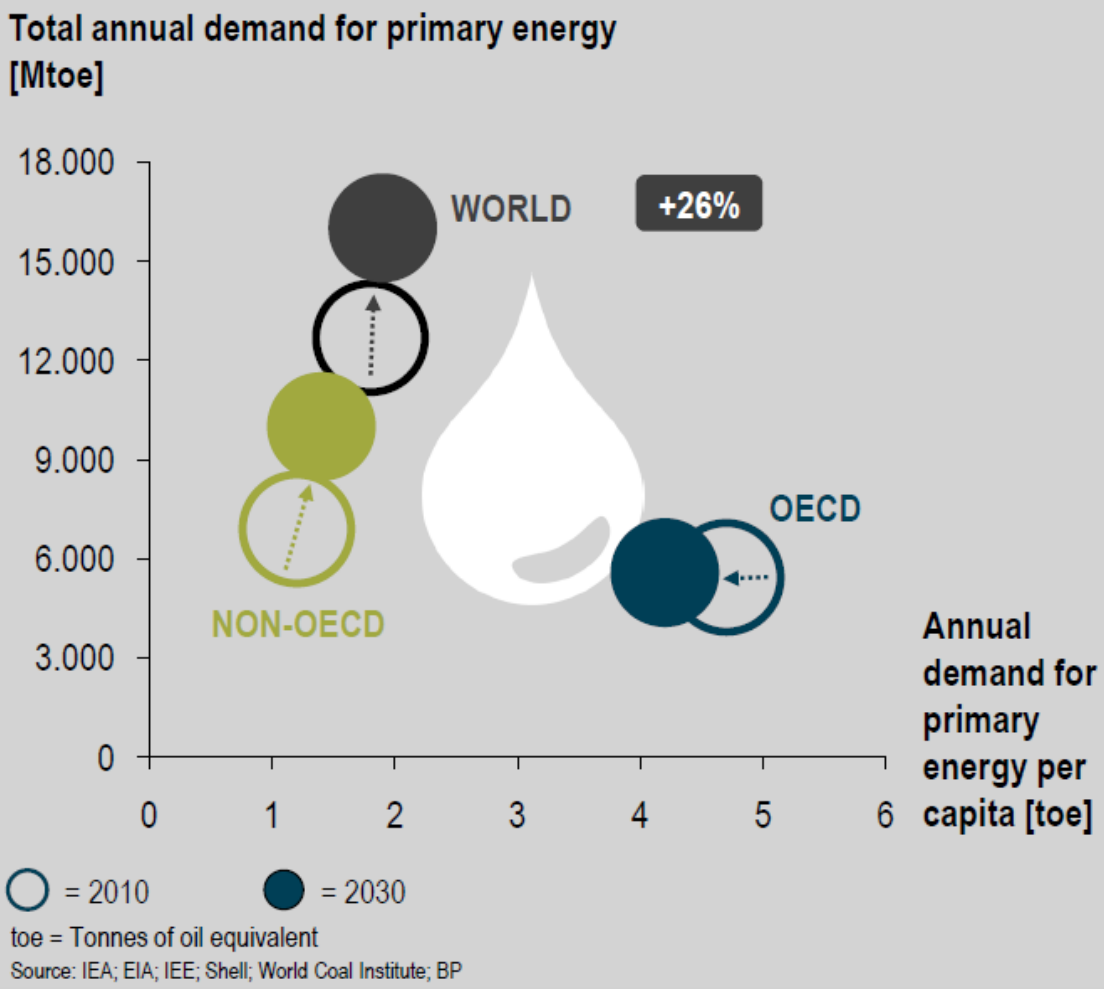
Half of the world's population will be living in areas of high water stress

Other Commodities

Some rare metals will run out - Rising food demand

Source: Roland Berger Strategy Consultants 2011

Energy



OECD countries: Australia, Austria, Belgium, Canada, Chile, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, South Korea, Luxemburg, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, Spain , Sweden, Switzerland, Turkey, United Kingdom, United States

Source: Roland Berger Strategy Consultants 2011

Both **total demand for energy** and **energy prices will rise up to 2030**. However, **oil will remain the most important resource**.

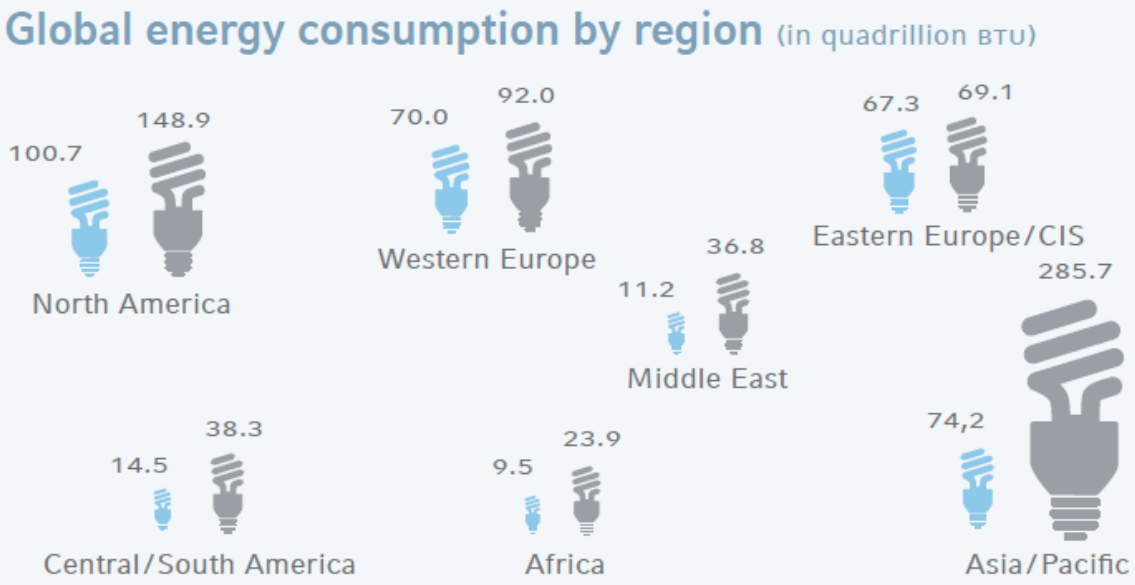
Total demand for primary energy will increase by 26% to 16,014 million tonnes of oil equivalent by 2030.

The **prices of oil and most other forms of energy** are **expected to rise** by 2030.

The **developing countries will consume 79% more primary energy** than the developed countries in 2030.

Primary energy consumption in the developing countries will grow about **15 time faster** then in the developed countries.

Energy



Global energy consumption has grown dramatically in the last few decades and will continue to increase significantly in the future. Demand in up-and-coming Asia is set to almost quadruple by 2030 compared to 1990.

Source: IEO, International Energy Outlook 2008; BTU = British Terminal Unit

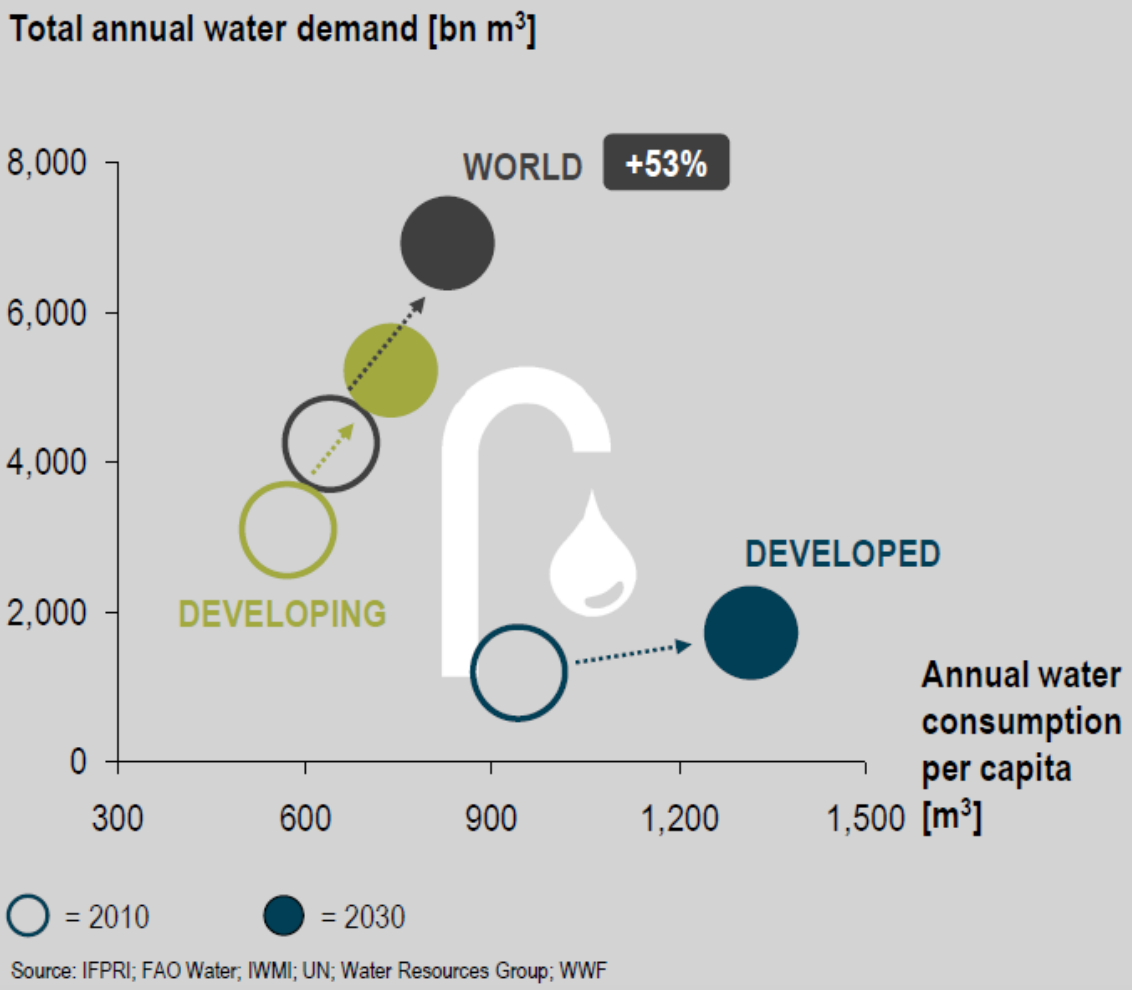
http://www.sustainability2008.bayer.com/en/Focus-Issues.pdfx

With population growth particularly rapid in developing and emerging nations, **local infrastructures and the ecological equilibrium** are being put under **increasing pressure**.

Changes in consumption patterns and the **massive demand for energy** caused by the **global spread of urbanization** are putting more **pressure on natural resources**.

Energy consumption in Asia alone will **increase almost fourfold** in the period from 1990 to 2030.

Water



Source: Roland Berger Strategy Consultants 2011

Annual global water requirements would grow by 53% from 4,500 billion m^3 now to 6,900 billion m^3 in 2030.

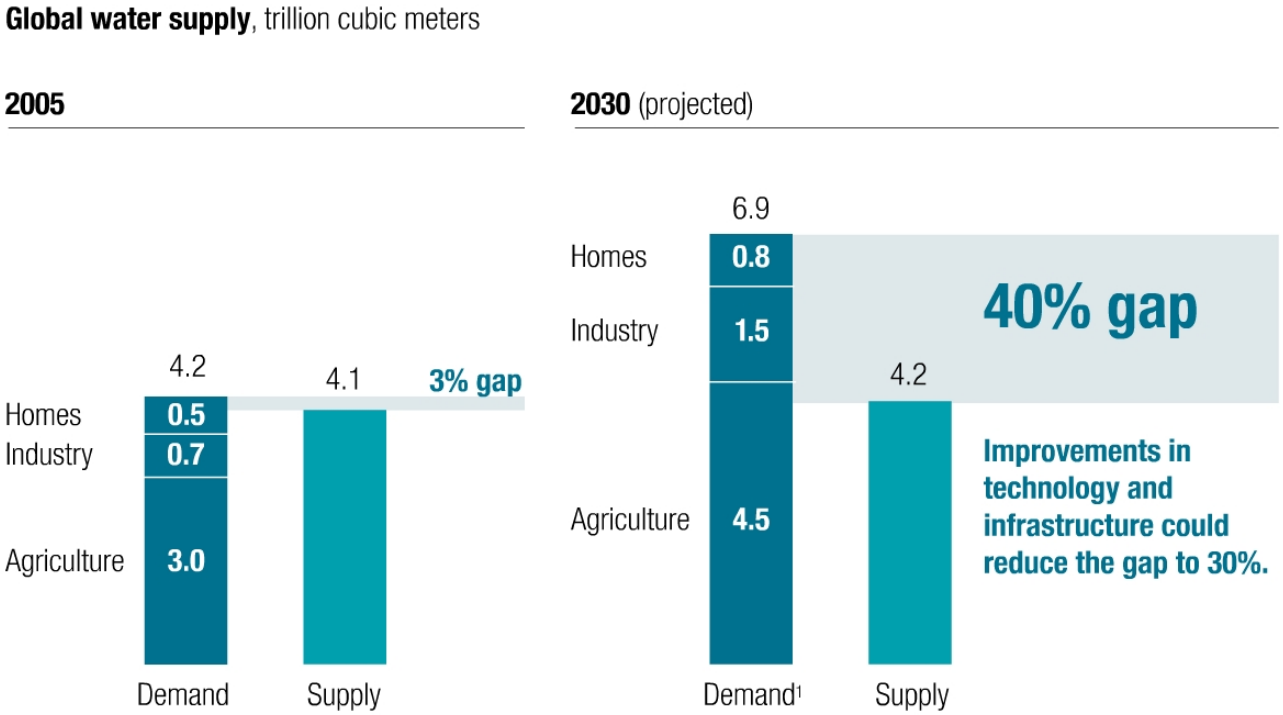
Demand for water in agriculture is expected to rise by 40% by 2030 due to a rising population and changing dietary habits.

Access to safe water resources will improve **and reach 86% of people in 2015**.

Total water demand in the **developing countries** will **increase 18% faster** than in the developed countries by 2030.

Water consumption in the developing countries is predicted to **rise by 58% up to 2030**.

Water



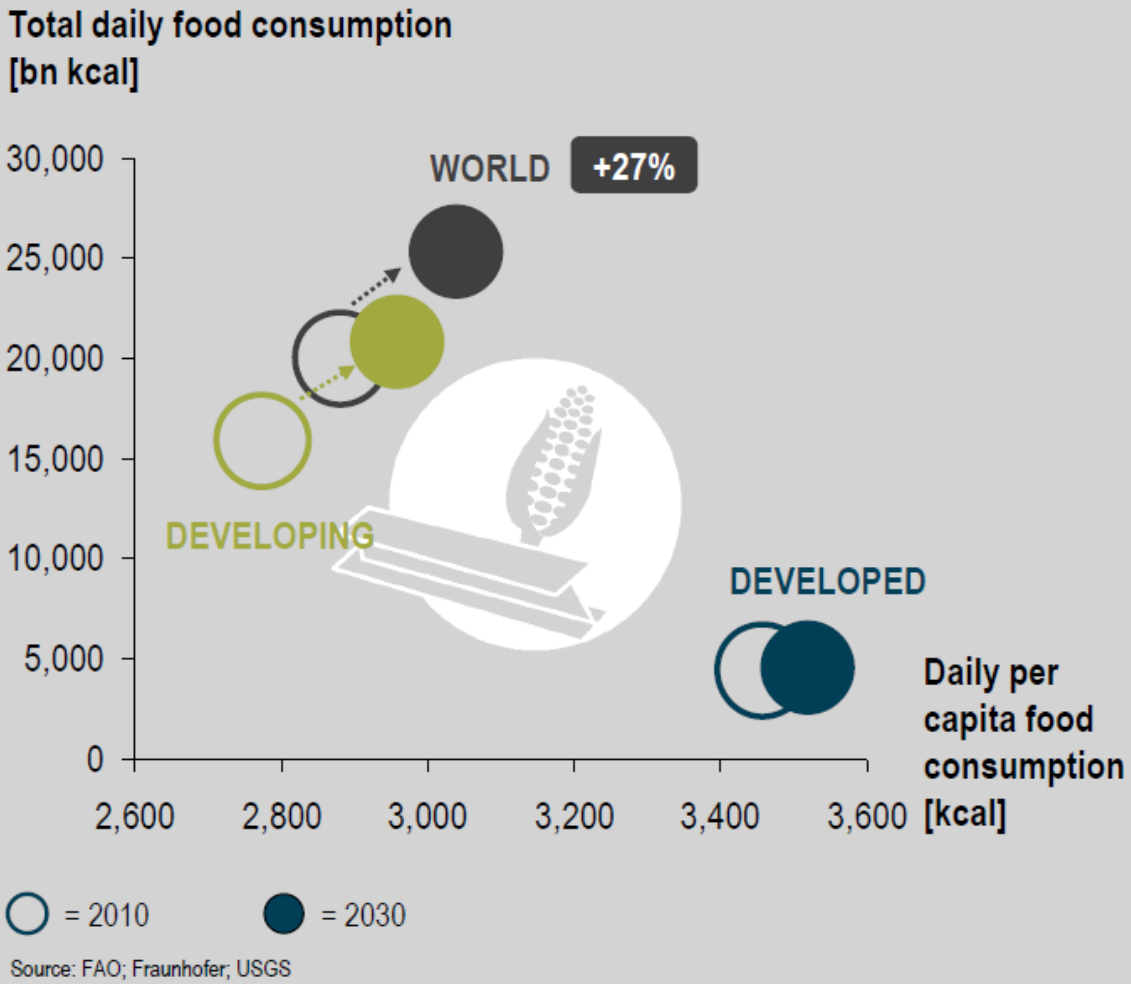
Water demand will grow to **6,906 billion m³ by 2030** assuming no improvement in technology or water efficiency, or a **rise of 65%** between 2005 and 2030.

The **fastest growth** will be in **water demand by industry**, but **agriculture** (where demand will rise by 50 %, to support hungry growing populations) will still capture **two-thirds of water demand**.

The world's **water supply** will remain essentially constant in 2005-2030, at **4,222 billion m³**. The shortfall in the year 2030 will be huge: almost 2,700 billion m³ or **40% gap**.

http://aquadoc.typepad.com/waterwired/2010/08/world-water.html

Other Commodities



Source: Roland Berger Strategy Consultants 2011

Demand for food will rise due to growing population and growing per capita food consumption.

Raw materials account for more than **1/3 of all goods traded worldwide**.

Iron is the **most commonly used metal worldwide** (95% in terms of weight).

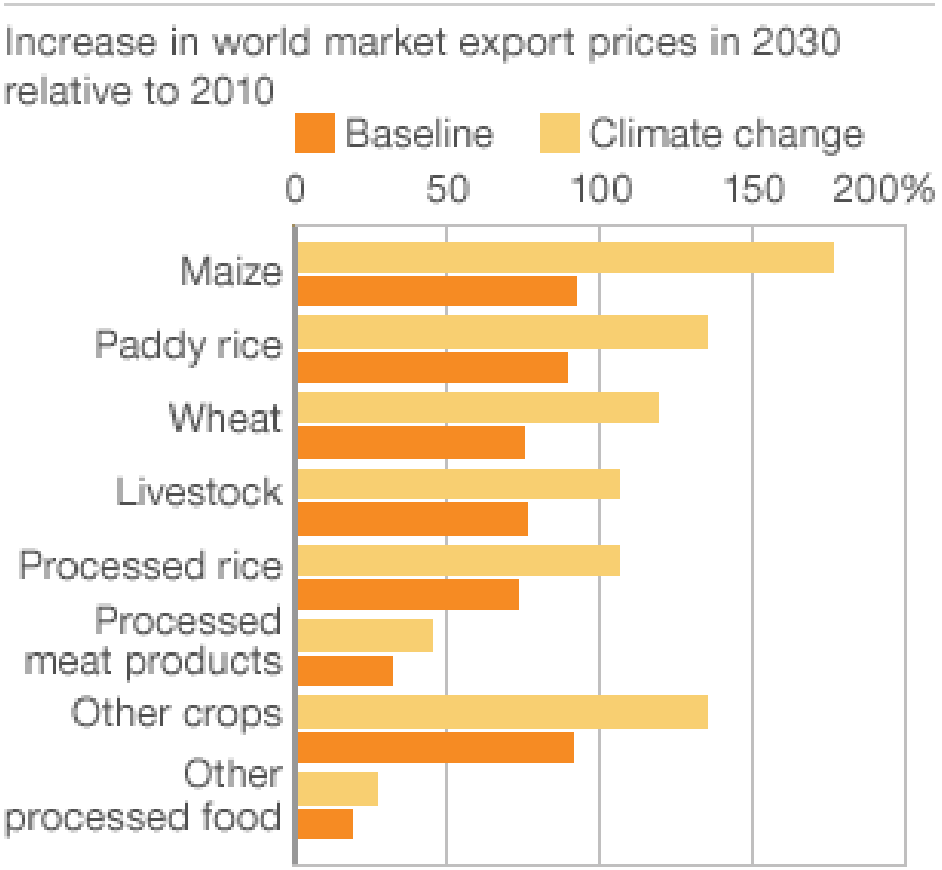
Some metals and minerals that are important for current and future technologies are **very limited**.

Demand of food in developing countries will **significantly rise**.

In 2030, **an average person will consume 2,960 kcal a day**, an **increase of 6.6%**.

Other Commodities

Real food price changes predicted over the next 20 years



Source: D. Willenbockel (2011) 'Exploring Food Price Scenarios Towards 2030', Oxfam and IDS

http://warnewsupdates.blogspot.com/2011/05/food-prices-will-double-in-20-years.html

Demand for food will **rise 70% by 2050**.

The **prices of some staple foods** will **more than double by 2030** unless world leaders reform the global food system.

The current 900 million **people who experience hunger** could **rise within 20 years** unless the world's food system is overhauled.

Corporate Actions

1
Reduce Consumption

Reducing the consumption of necessary input materials is the first way to cope with scarce resources, which **requires leveraging energy, and resources-saving technologies**.

Resources should be **saved in the production process** and in the **product itself**.

Competition for water intensify among the agricultural, industrial and domestic sectors. So, companies should **reduce water consumption** as well as **avoid pollution**.

2
Reduce Dependency

To reduce the dependency on a specific resource, companies should try to **use substitute resources** that are less scare.

Diversifying the product portfolio and **supplementing it with services** is another strategy .

Rising the potential number of suppliers reduces the dependency on single raw material suppliers.

Companies should **hedge resource prices** or integrated **automatic price adjustment**.

3
Appeal to Consumers

Consumers will become increasingly **aware of resource scarcity**.

Resource-saving production processes should be highlighted and used for **marketing purpose**.

Companies should **appeal to consumers and other stakeholders via PR, investor relations**, etc. to build and **image of responsible resource use**.

Trend 4:
The Challenge of Climate Change

Increasing CO_2 Emission

World CO_2 emissions will increase 16%

Global Warming

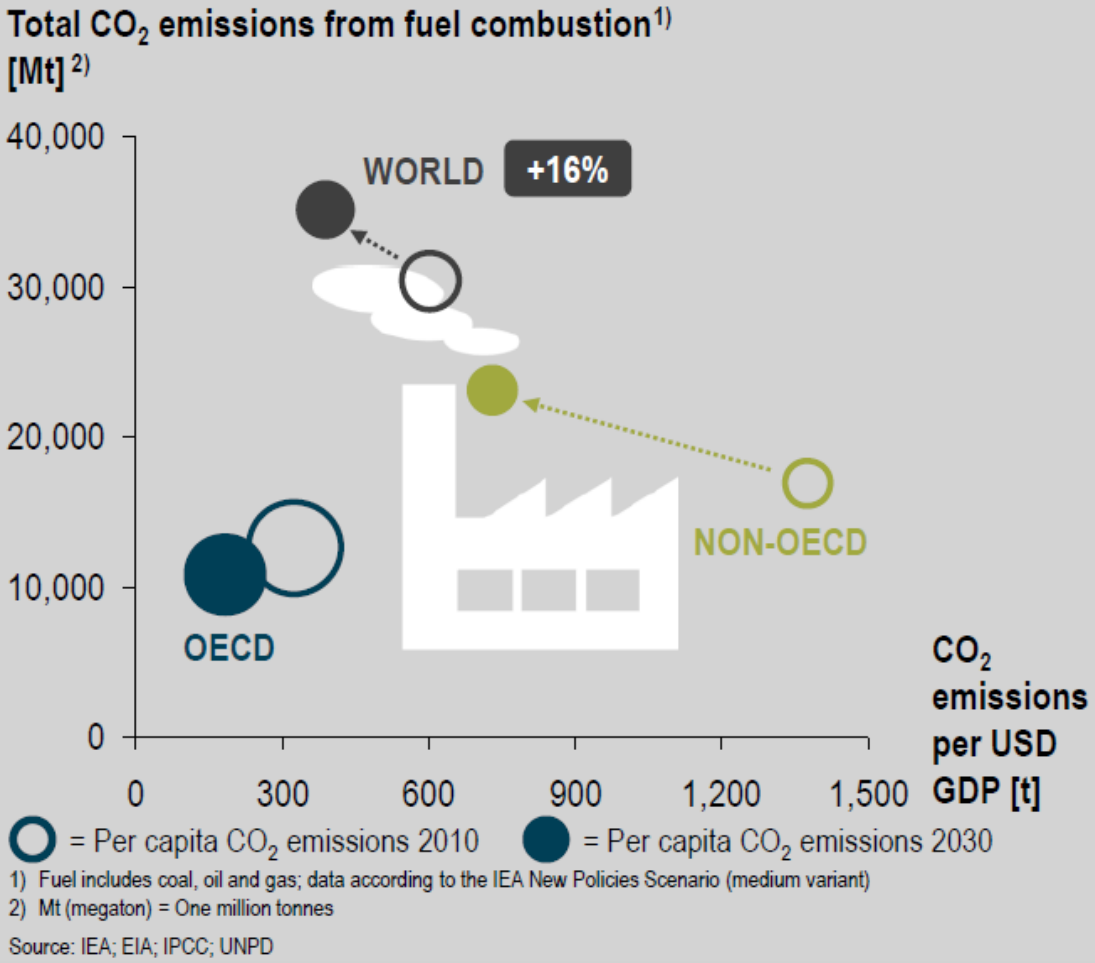
The average global temperature will rise 0.5-1.5°C

Ecosystem at Risk

Declining biodiversity and extreme weather

Source: Roland Berger Strategy Consultants 2011

Increasing CO_2 Emissions



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Source: Roland Berger Strategy Consultants 2011

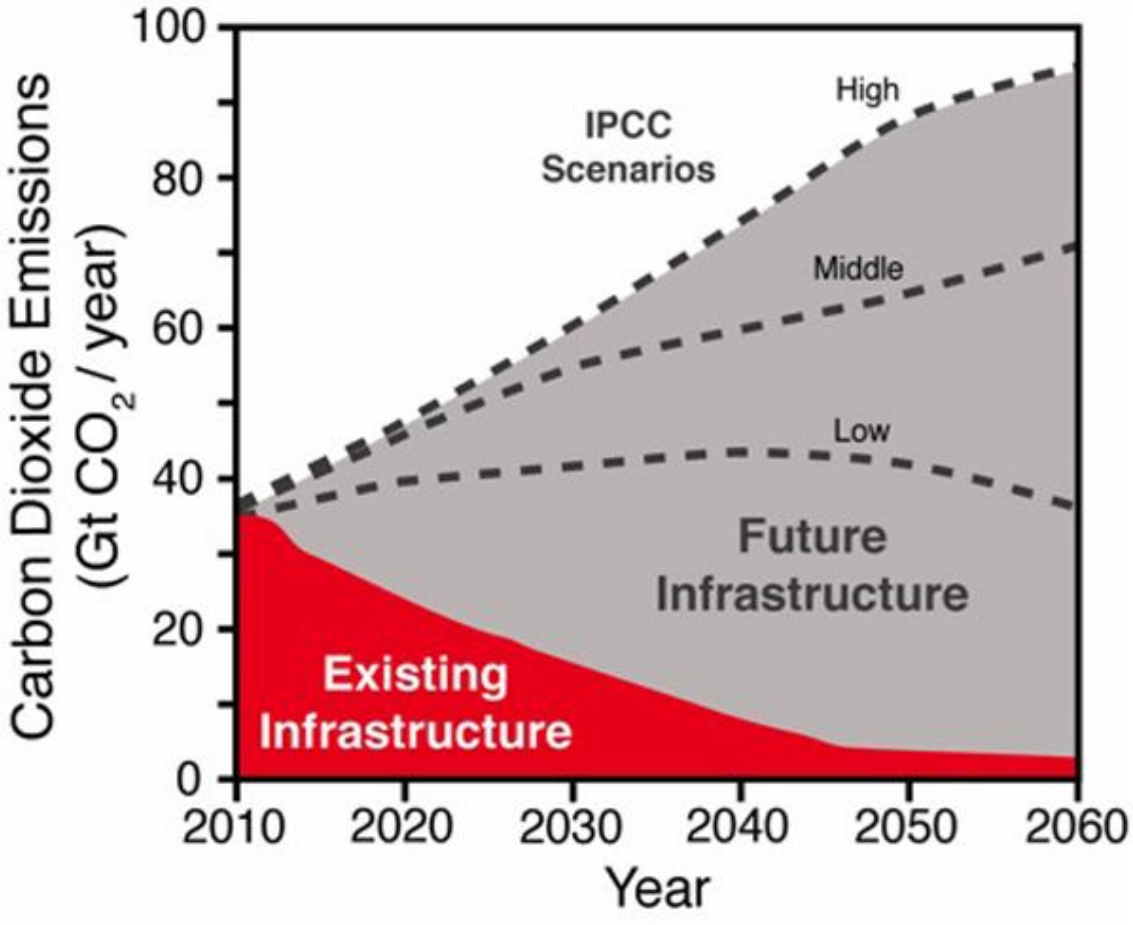
By 2030, **world CO_2 emissions from fuel combustion** (coal, oil and gas) will **increase 16%** to 35,053 megatons (Mt) and therefore **slow down compared to the past 20 years** (+44%).

CO_2 emissions from fuel combustion of **OECD countries** will be **reduced by 14%**, while **non-OECD countries** will **increase their emission by 38%** over the next 20 years.

OECD countries will **decrease their emission by 0.7%** p.a., account from **32% of the world's emission**.

Non-OECD countries will **increase their emission by 1.6%** p.a., account for **68% of the world's emission**.

Increasing CO_2 Emissions

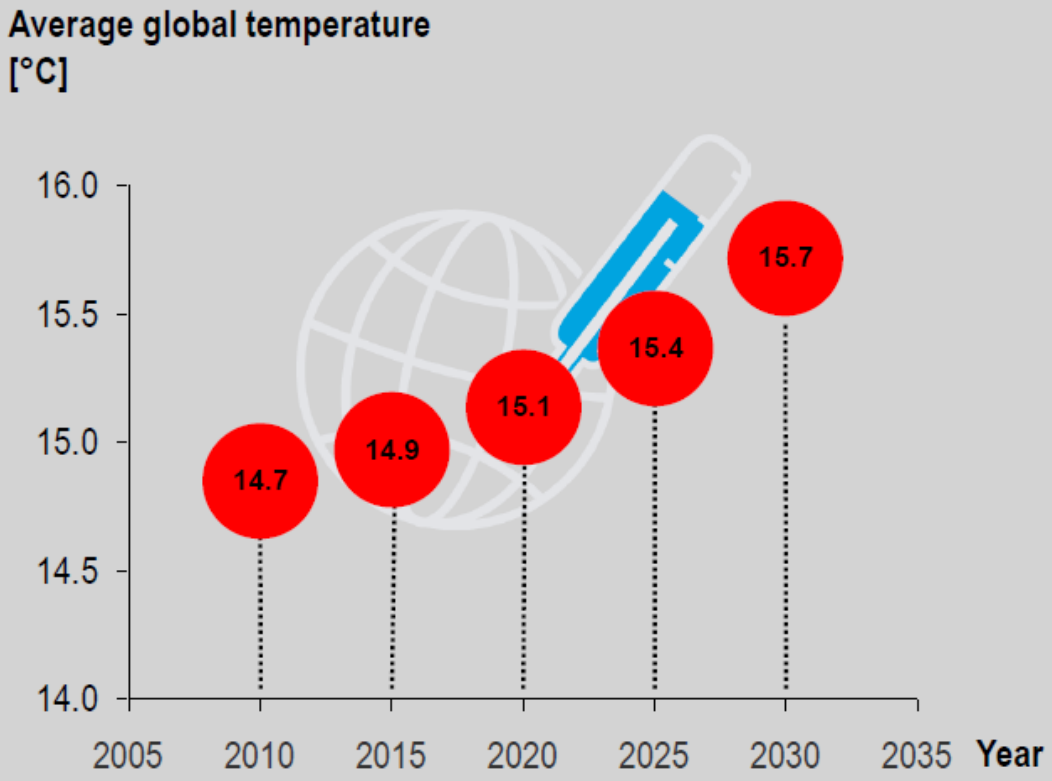


Slowing climate change requires overcoming inertia in **political, technological, and geophysical systems**.

Atmospheric **concentrations of CO^2 would stabilize at less than 430 ppm** and the **increase of global mean temperatures** since preindustrial time would be **less than 1.3°C**.

http://dge.stanford.edu/labs/caldeiralab/Caldeira_research/Davis_Caldeira2.html

Global Warming



Source: CDIAC; GGISS; IPPC; EIA; Stern Report; NIC; UNFCCC

Source: Roland Berger Strategy Consultants 2011

The **average global temperature** will **rise 0.5-1.5°C** between now and 2030.

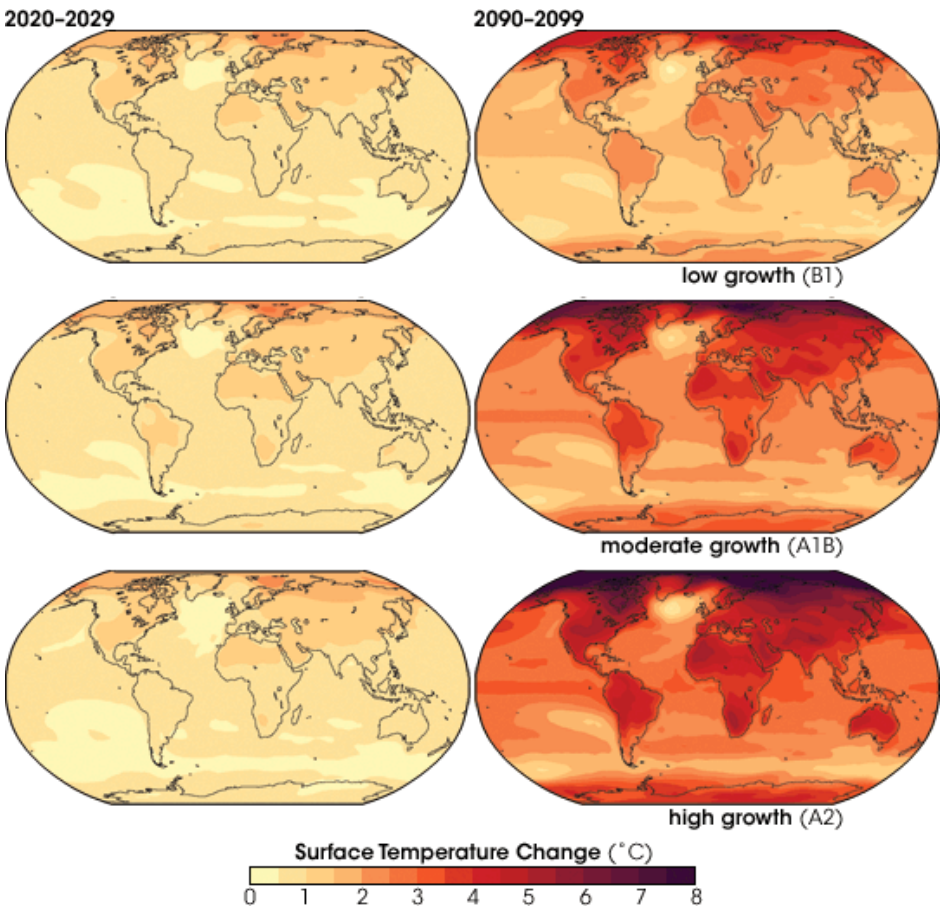
Temperature increase varies greatly between regions and even within countries.

Developing countries will suffer more from the negative consequences of temperature increase as they have fewer resources to adapt: socially, technologically and financially.

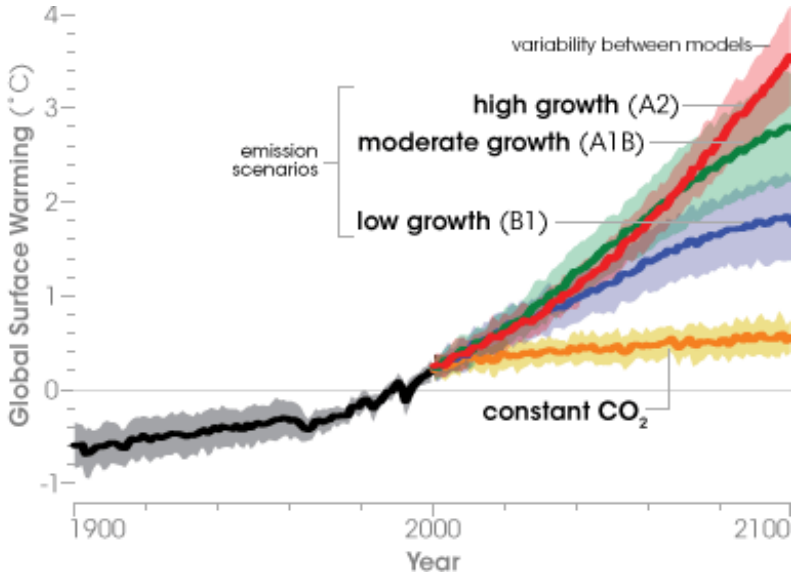
By 2030, **developing countries will require USD 2,800-6,700 million to adapted climate change**.

Global Warming

The **average surface temperature** of the Earth is likely to **increase by 1.1 to 6.4°C** by the **end of the 21st century**, relative to 1980-1990, with a best estimate of 1.8 to 4.0°C.



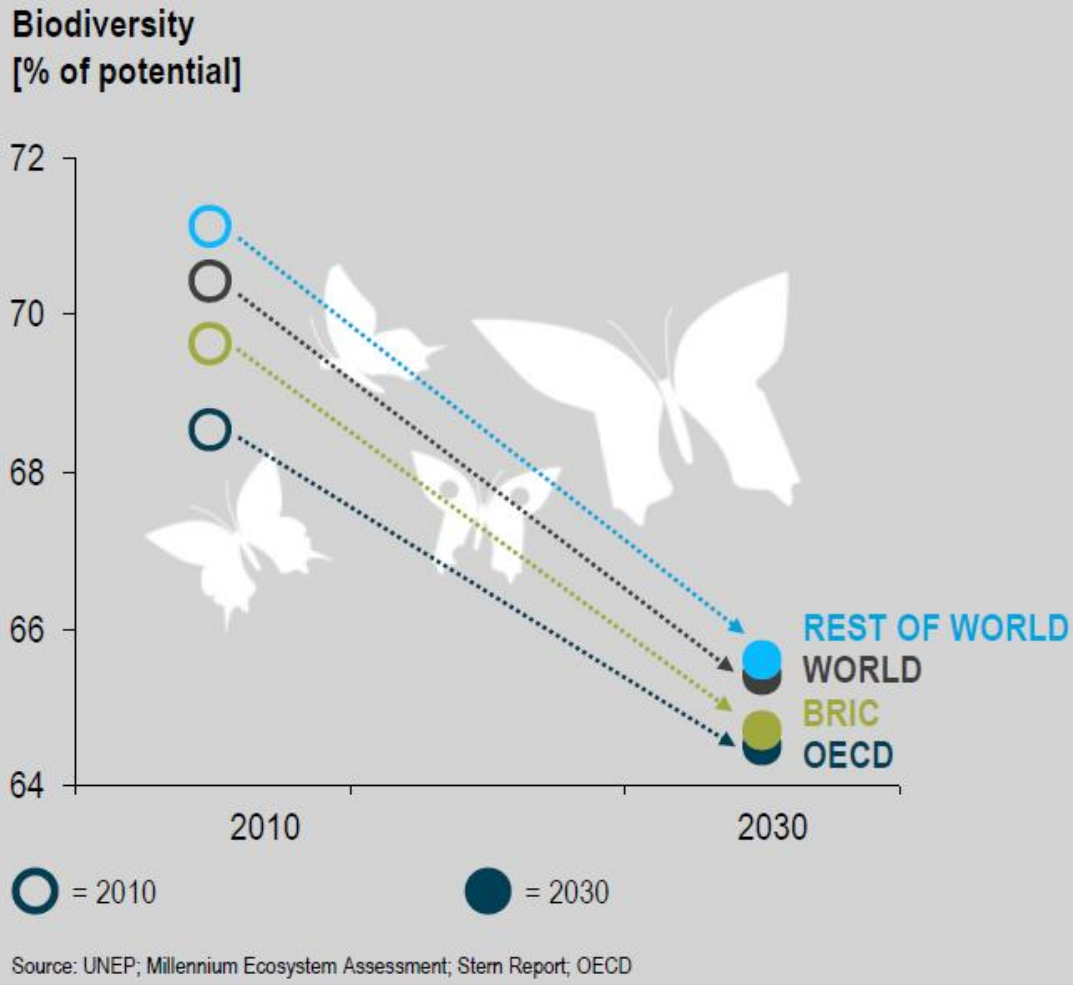
http://www.epa.gov/climatechange/science/futuretc.html



Land areas will warm more than oceans in part due to water's ability to store heat.

Most of **North America; all of Africa, Europe, northern and central Asia; and most of Central and South America** are likely to warm **more than the global average**. The warming will be **close to the global average** in **South Asia, Australia and New Zealand, and southern South America**.

Ecosystem at Risk



Source: UNEP; Millennium Ecosystem Assessment; Stern Report; OECD

BRIC countries: Brazil, Russia, India, China

OECD countries: Australia, Austria, Belgium, Canada, Chile, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, South Korea, Luxemburg, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, Spain , Sweden, Switzerland, Turkey, United Kingdom, United States

Source: Roland Berger Strategy Consultants 2011

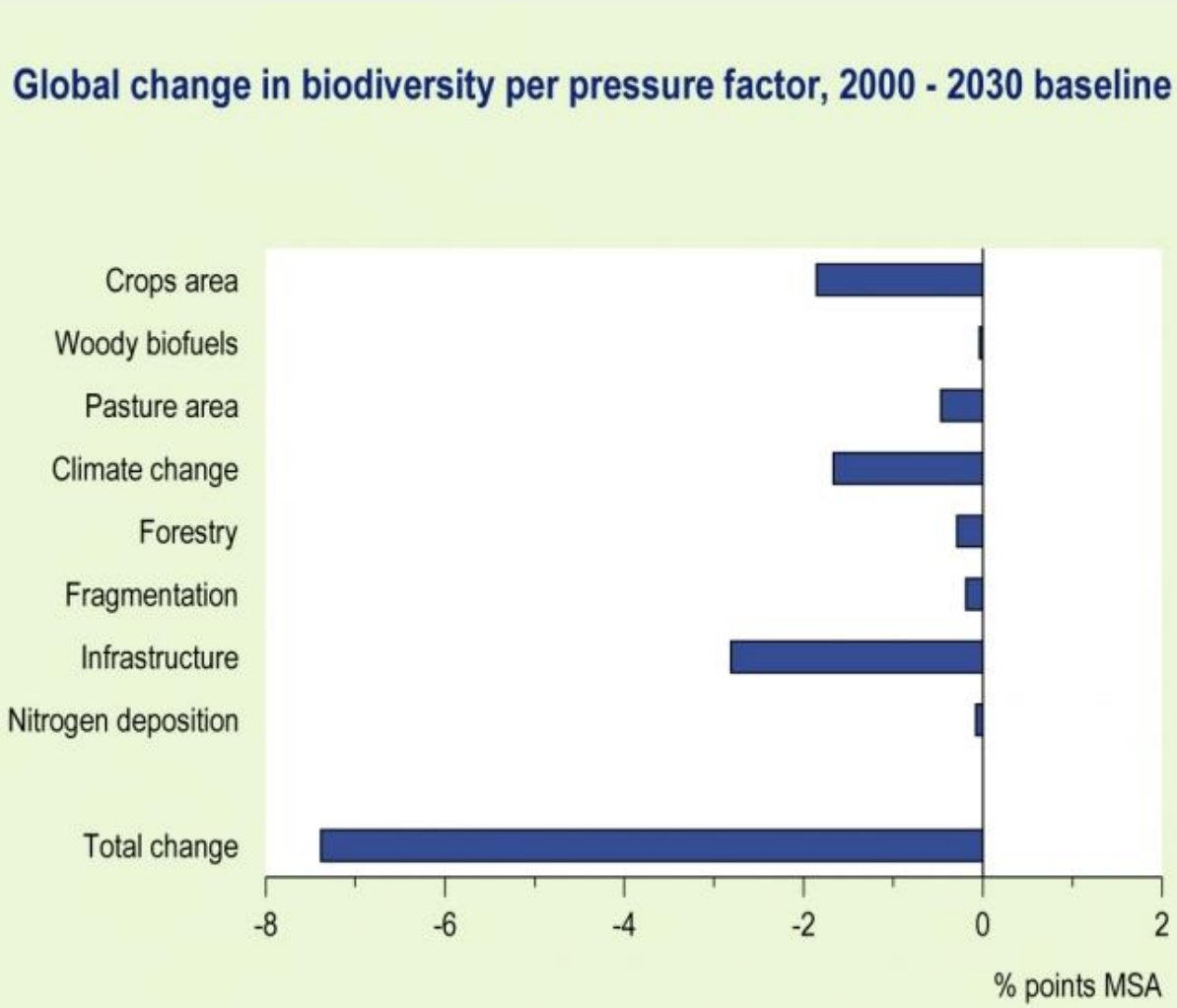
The **world's biodiversity** will be **reduced by 5% points**, from currently 70% of its original potential to 65% in 2030.

The four factors with the greatest impact on **loss of biodiversity** by 2030 will be **land use change for agriculture, infrastructure, climate change and forestry**.

A temperature **increase of 2.0°C will put 20-30% species at a much higher risk of extinction**.

By 2030, **60% of coral reefs could be lost** through fishing, pollution, diseases, invasive alien species and coral bleaching.

Ecosystem at Risk



http://www.globio.info/assessments-with-globio/global-regional-assessments/78-oecd-environmental-outlook-to-2030

Biodiversity continues to decline at a relentless pace.

The **major causes** of the loss are **agricultural land-use, expanding infrastructure and climate change**.

Corporate Actions

1
Seize New Business Opportunities

New business opportunities will arise from climate change in term of **products emissions brokering** and **reputation/brand value**.

New **eco-friendly products or technologies** will open up business opportunities and dominate the markets.

Companies need to clearly **communicate their achievements** in term of **environmental friendliness**.

Companies could set up **carbon funds** and engage in **emissions trading schemes**.

2
Reduce CO_2 Emissions

Companies need to **reduce their CO_2 emissions** in order to comply with **legal requirements** and **improve their reputation**.

Companies should focus on **reducing the amount of energy resources used**.

Production and logistics should be **optimized** within the value chain.

3
Manage Climate Risk

Companies should focus on the potential **risks arising from climate change** and **include them in future business planning**.

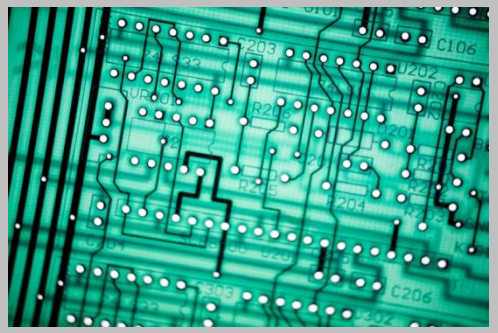
The right **insurance policies** must be found and rising **risk premiums** budgeted for.

The **risk of legal action**, **business disruption** caused by extreme weather events or long-term physical changes need to be considered and the right action taken.

Trend 5:
Dynamic Technology & Innovation

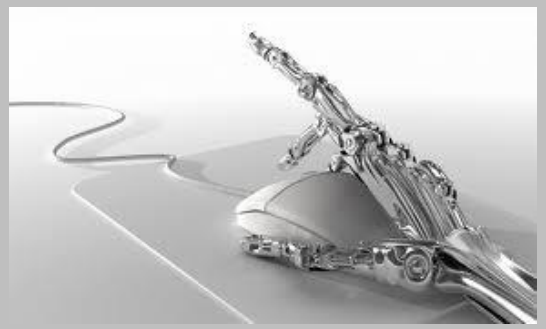
Technology Diffusion

Technology will spread at high speed throughout the world



Power of Innovation

Innovations will change our lives - Robotics, Internet of things

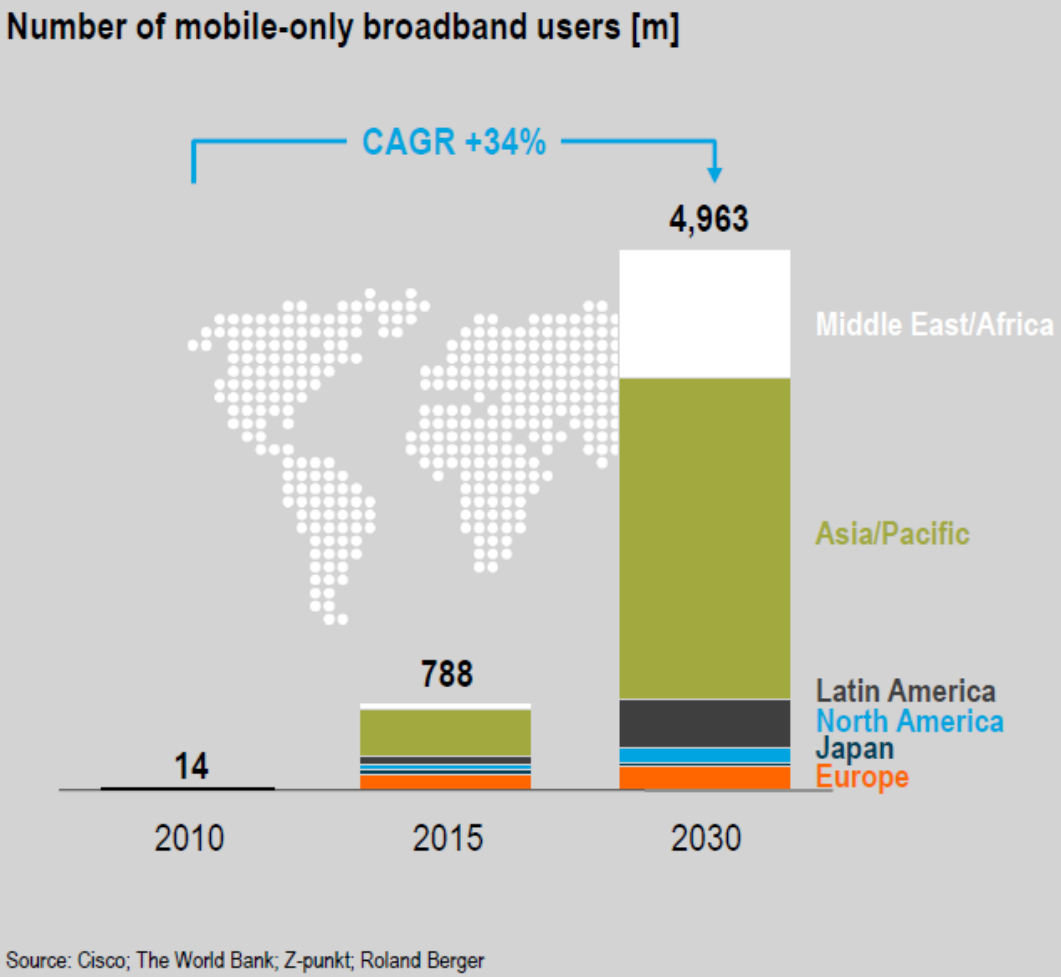


The Age of Life Sciences

Challenged by demographics, boosted by R&D

Source: Roland Berger Strategy Consultants 2011

Technology Diffusion



Source: Cisco; The World Bank; Z-punkt; Roland Berger

CAGR = Compound Annual Growth Rate (%)

Source: Roland Berger Strategy Consultants 2011

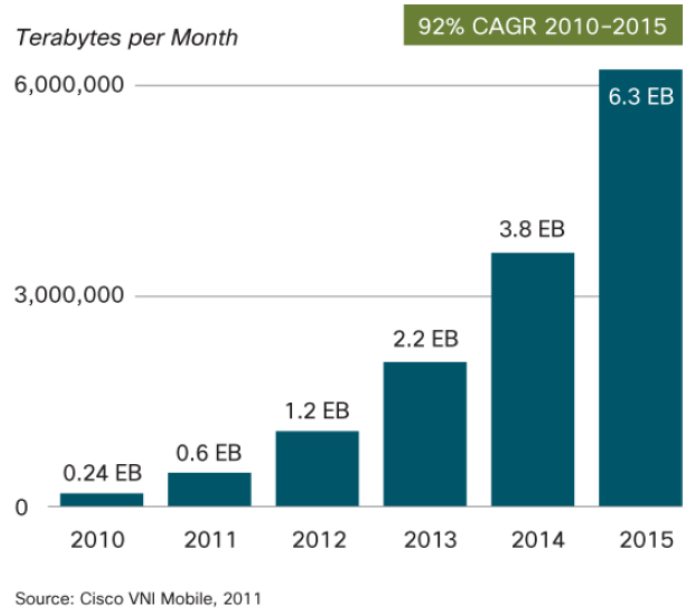
Technology diffusion will continue and even **speed up** by 2030.

The number of **mobile-only internet users** is still only 14 million today, but it is expected to **grow 34%** p.a. by 2030, connecting 60% of the world's population to mobile broadband.

Technological progress increased 40 to 60% faster in developing countries then in developed countries between 1990s and 2000s.

The **technology gap** between the developed and developing countries will **narrow**.

Technology Diffusion

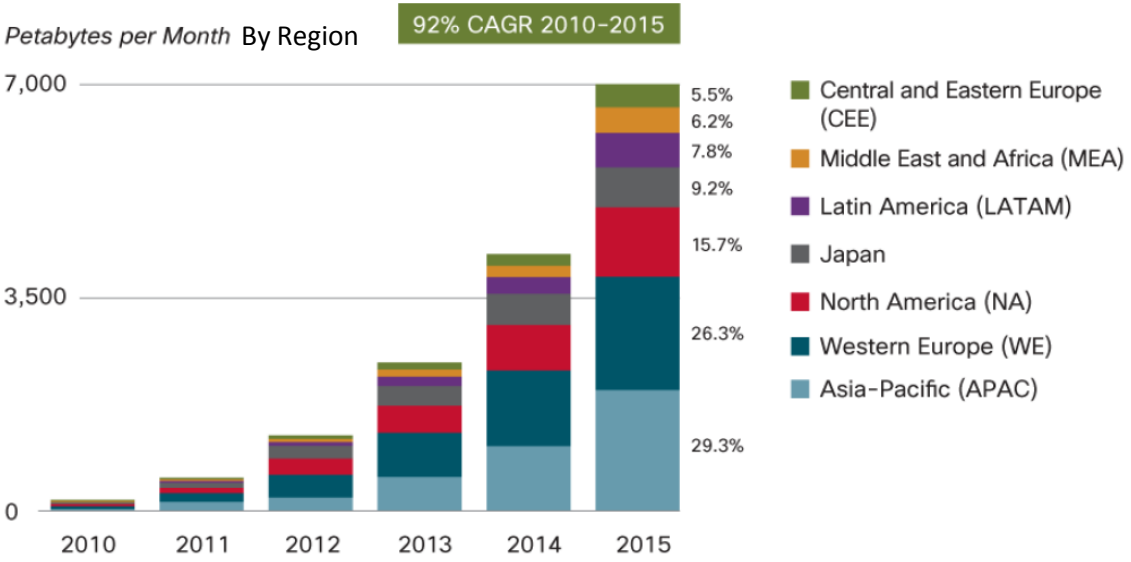


Source: Cisco VNI Mobile, 2011

Overall **mobile data traffic** is expected to **grow to 6.3 exabytes per month by 2015**, a 26-fold increase over 2010. Mobile data traffic will grow at a **CAGR of 92% from 2010 to 2015**.

Western Europe and Asia Pacific will account for **over half of global mobile traffic** by 2015.

Middle East and Africa will experience the **highest CAGR of 129%**, increasing 63-fold over the forecast period.

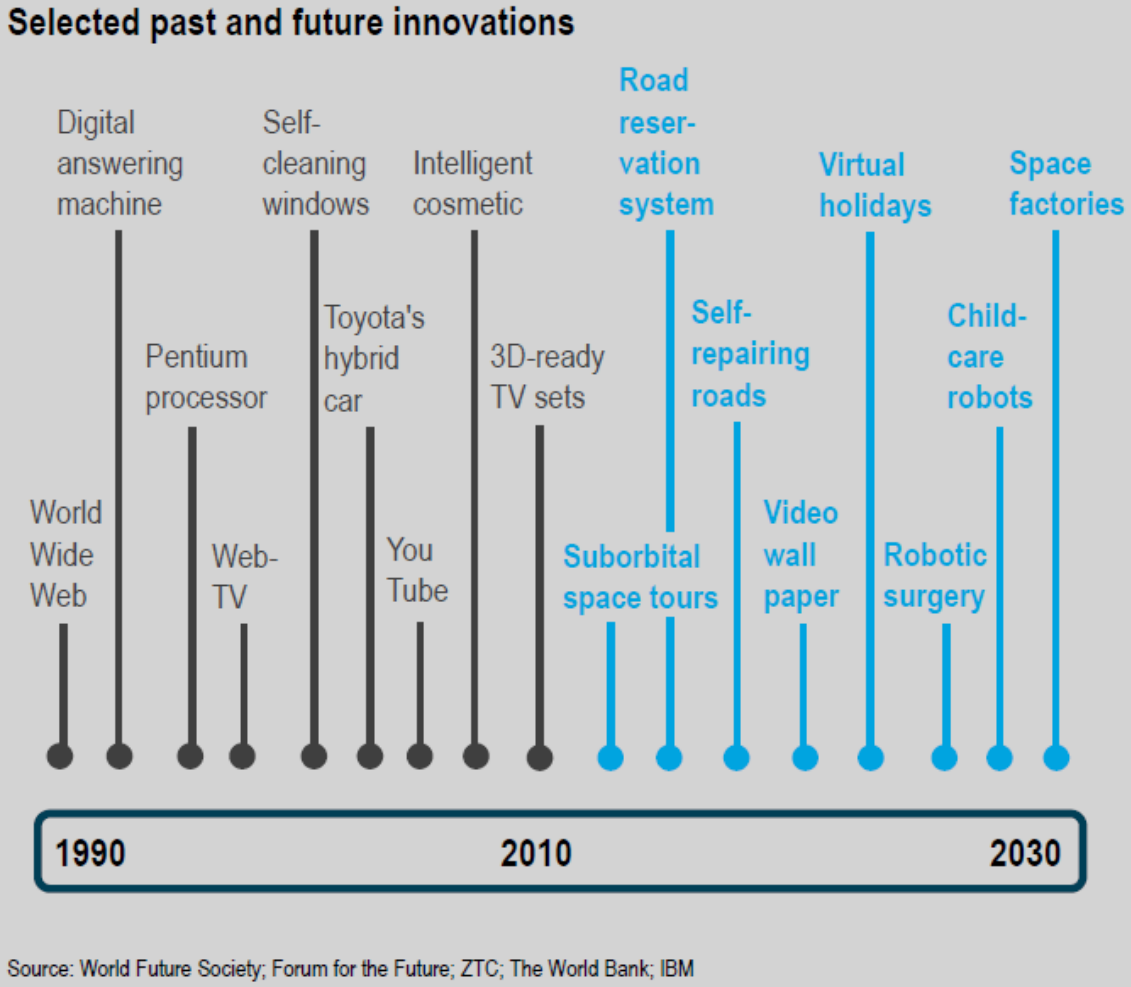


Source: Cisco VNI Mobile, 2011 CAGR = Compound Annual Growth Rate (%)

The **emerging market regions** (Central and Eastern Europe, Latin America, and Middle East and Africa) will have the **highest growth** and will represent an increasing share of total mobile data traffic, from **12% at the end of 2010 to 20% by 2015**.

http://www.cisco.com/en/US/solutions/collateral/ns341/ns525/ns537/ns705/ns827/white_paper_c11-520862.html

Power of Innovation



Source: Roland Berger Strategy Consultants 2011

The **basic innovations** of the next 20 years are **not easily predicted**.

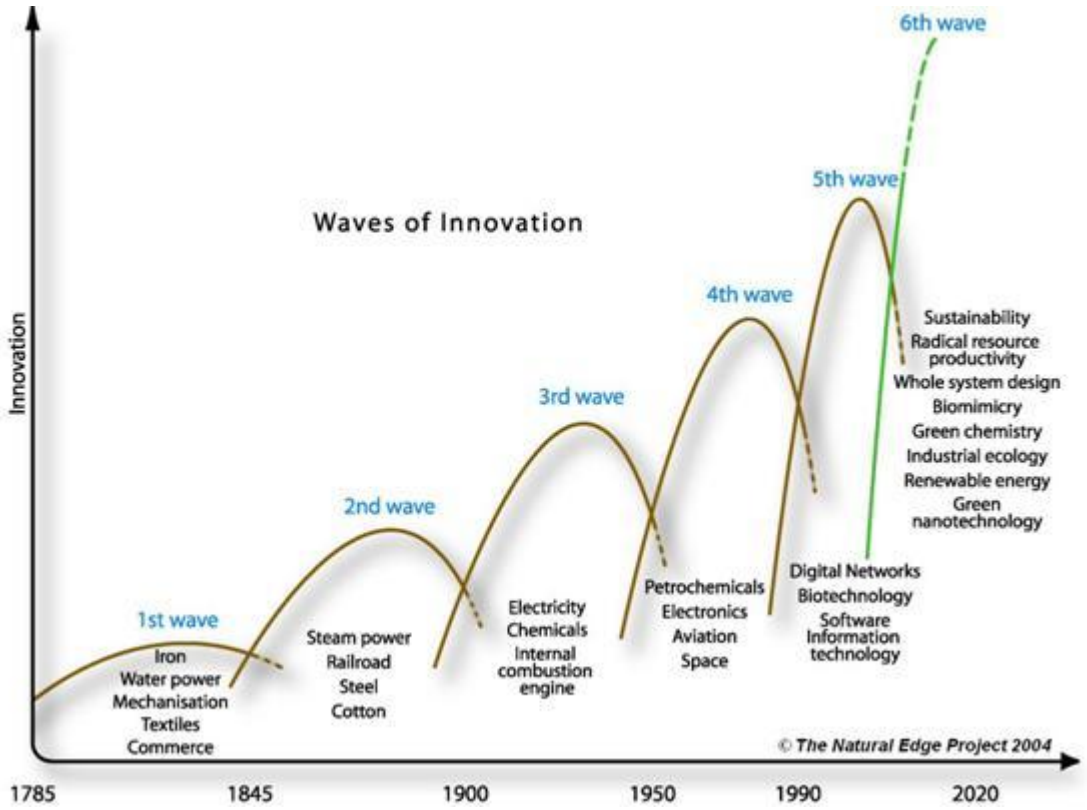
By 2030, **Renewable energy** will **replace fossil carbon**.

Robotics will dramatically change our lives by **carrying out tasks that humans normally do themselves today**.

ICT will still influence our private and business lives with innovations such as **cloud computing and virtual realities**.

By 2030, **some developing countries** will become **major competitors of the latest technologies and innovations from developed countries**.

Power of Innovation



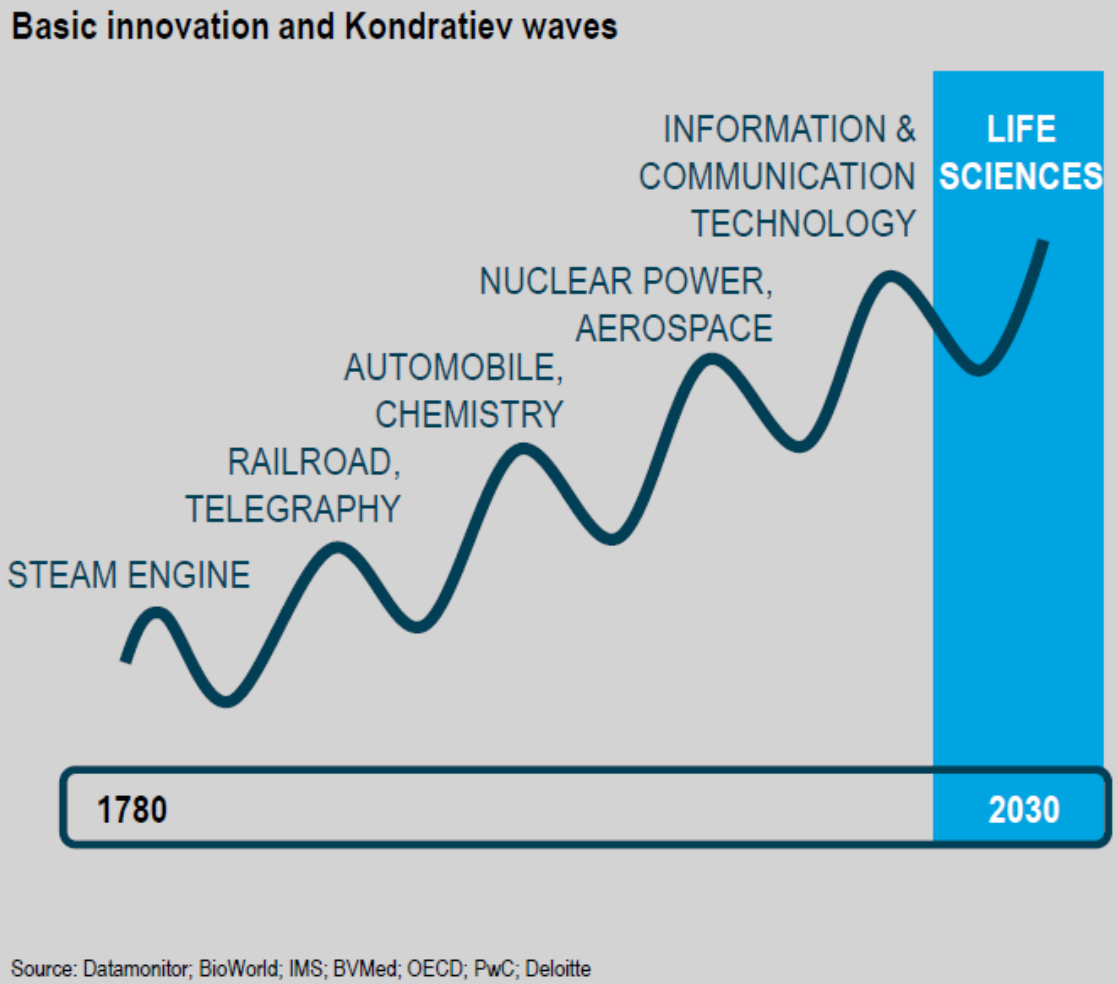
http://www.naturaledgeproject.net/Keynote.aspx

Innovation is increasingly been seen as central for **business, research and government**.

Nations and firms are increasingly aware of the importance of being **ahead of the next 'wave' of innovation**.

If the last wave of innovation, **ICT**, was **driven by market needs** such as reducing transaction costs, there is significant evidence that **the next waves of innovation** will be **driven by the twin needs to simultaneously improve productivity whilst lightening our environmental load on the planet**.

The Age of Life Sciences



Source: Roland Berger Strategy Consultants 2011

The theme of the **next basic innovation cycle** leading up to 2030 will be **Life Sciences**. The **last cycle** (1990-2010) was driven primarily by **ICT**.

Life Sciences comprises different fields of sciences, the most important ones are **biotechnology, medicine and pharmaceuticals**.

The **gap between healthcare in rich and poor countries** expected to **narrow** by 2030. The **medical situation in the developing countries** will **improve**.

Biotechnology is expected to have a greater impact on developing countries then developed one by 2030.

The Age of Life Sciences

Automation and Robotics

The introduction of **automation and robotics into the drug discovery process** has greatly enhanced the ability to **explore and identify new drug** candidates.

Bioinformatics

Bioinformatics uses statistical and computing techniques to **advance the scientific understanding of living systems**

Biomarkers

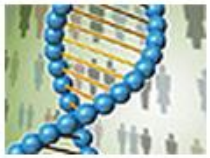
Biomarkers are substances in the body, often in the blood, other body fluids or tissues, that **tell the state of health and how body might respond to treatment**.

Molecular Targeting

The idea behind **molecular targeting** is to **design drugs that specifically attack diseased** or cancerous cells, proteins or other molecules involved in the disease.

Nanotechnology

The science of all things small - **nanotechnology** holds promise in **revolutionizing the way biopharmaceuticals can be delivered to patients**.



Personalized Medicine

A **personalized medicine** discipline focused on **developing medicines and tailoring therapies** based on new knowledge of the human genome.

http://www.innovation.org/index.cfm/FutureofInnovation/NextWaveofInnovation

Corporate Actions

1
Establish Cooperative Partnerships & Networking

Companies need to **strengthen their R&D positions**, especially mid-sized one.

An ideal way to extend R&D activities without investing heavily is to **establish cooperative partnerships & networks**.

Another option is to **outsource innovation** to business partners that work together in networks.

2
Watch the Latest Technology Trends

Companies need to become more **sensitive to the relevance of technology trends** and implement this **awareness within their organization**.

Companies need to **identify and go with the right market trends**.

Companies need to **widen their perspective** from analyzing trends within their company to external sources such **social media**.

3
Think Divergently & Convergently

The **creation of innovations** demands two opposing skills - the ability to think **convergently and divergently** simultaneously.

Companies need to make sure the **divergent thinking is given its due**.

Companies need to **make their organizations aware** of the necessity of viewing divergent and convergent thinking as inextricably intertwined and **implement internal structures** to enable both type of them.

Trend 6:
Global Knowledge Society

Know-How Base

55% of the people worldwide will have completed at least secondary education

Gender Gap

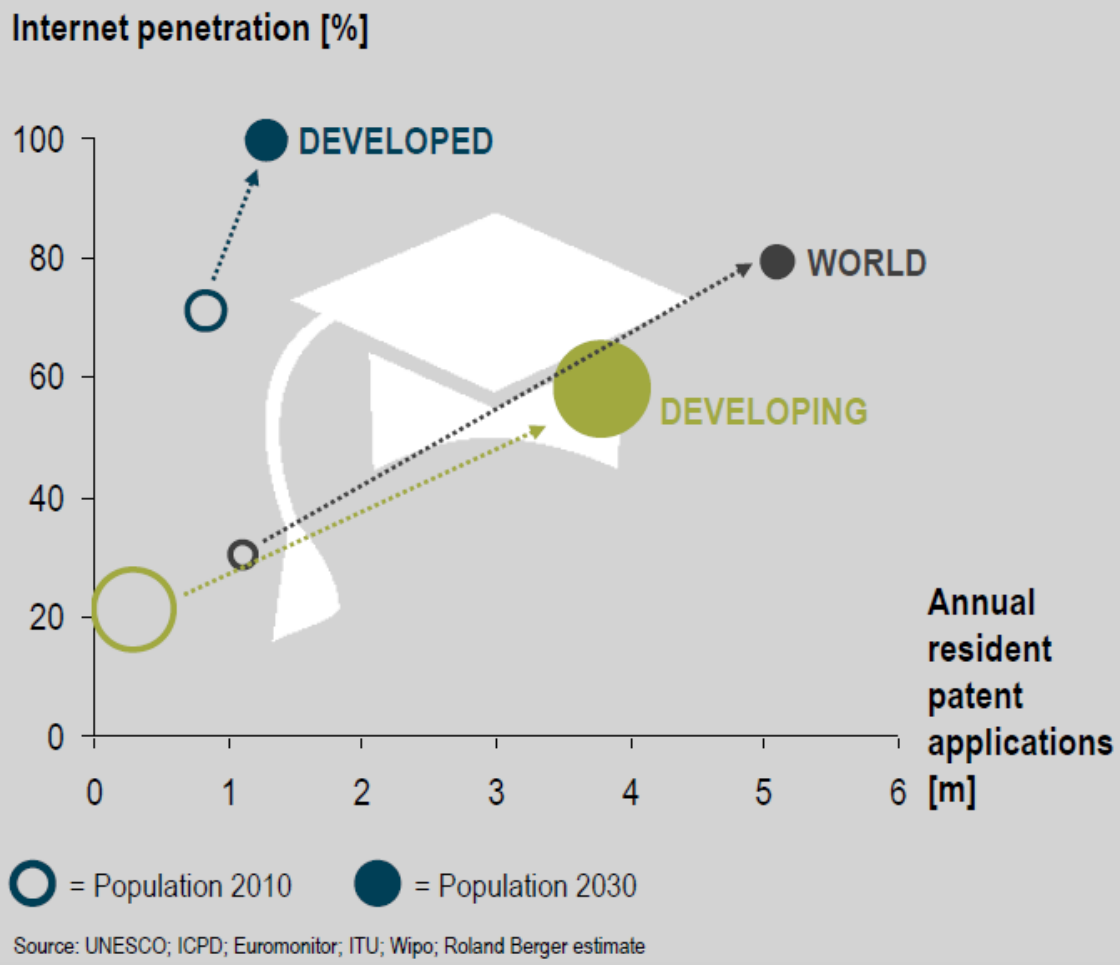
Differences between men and women expected to narrow

War for Talent

The demand for qualified people exceeds the supply

Source: Roland Berger Strategy Consultants 2011

Trend 6: Global Knowledge Society



Source: Roland Berger Strategy Consultants 2011

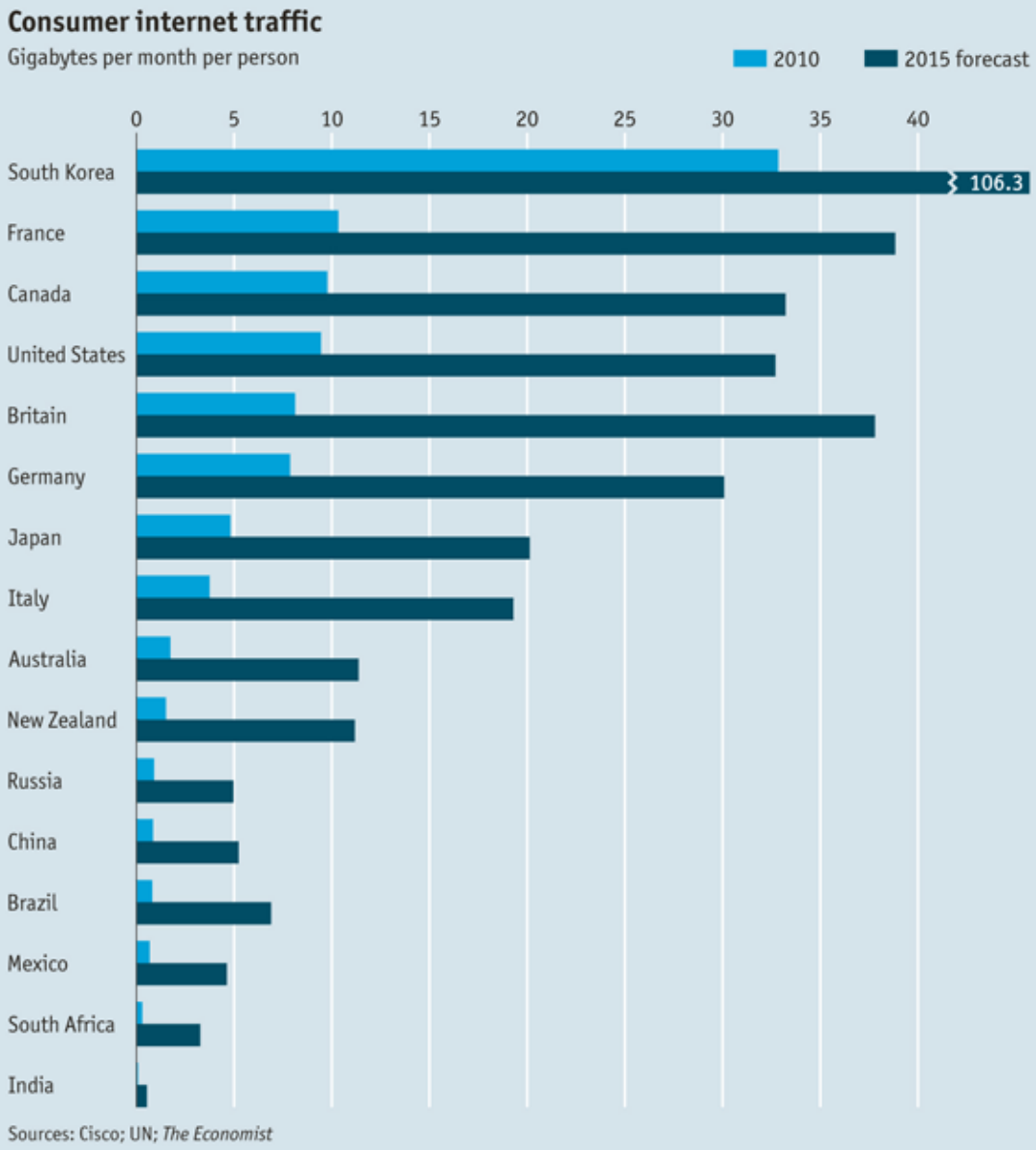
The **cross-linking of knowledge via the internet** will **increase significantly** up to 2030, which will mainly come from developing countries.

Internet users will consume an average **3 GB of data per day**.

By 2030, **social media** could **replace many of the traditional types of media** and will be deeply integrated into corporate IT.

By 2030, **91% of the world's population** will **complete primary education** compared to 88% today.

Up through 2030, the **knowledge gaps between developed and developing countries** will **narrow**.



http://www.economist.com/blogs/dailychart/2011/06/conusmer_internet_traffic

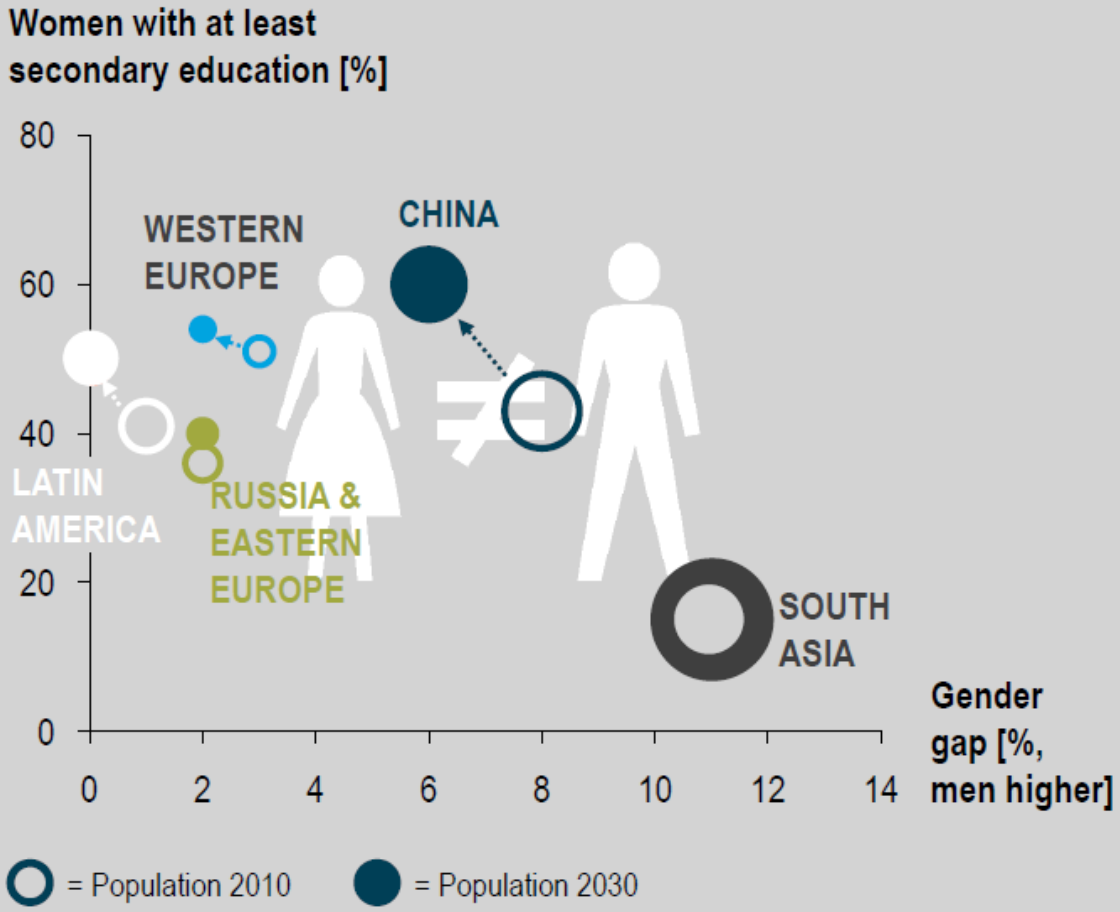
Internet traffic, the world's biggest maker of networking gear predicts, will quadruple and reach **80.5 exabytes per month** (80 exabytes would fill 20 billion DVDs) by 2015.

That year, for the first time, **Asia will generate more traffic** (24.1 exabytes per month) **than North America** (22.3 exabytes per month)—although America still beats China (6.9 versus 5.6 exabytes per month).

South Korea is and will be the world's **most data-hungry country**.

As for **China**, it drops down the list and will be **overtaken by Brazil**, but remains way ahead of India.

Gender Gap



Source: Roland Berger Strategy Consultants 2011

The **gender gaps in education and employment** will continue to **narrow up** to 2030.

By 2030, differences in **secondary education** will have fallen moderately, with **48% of men** and **40% of women** completing secondary education.

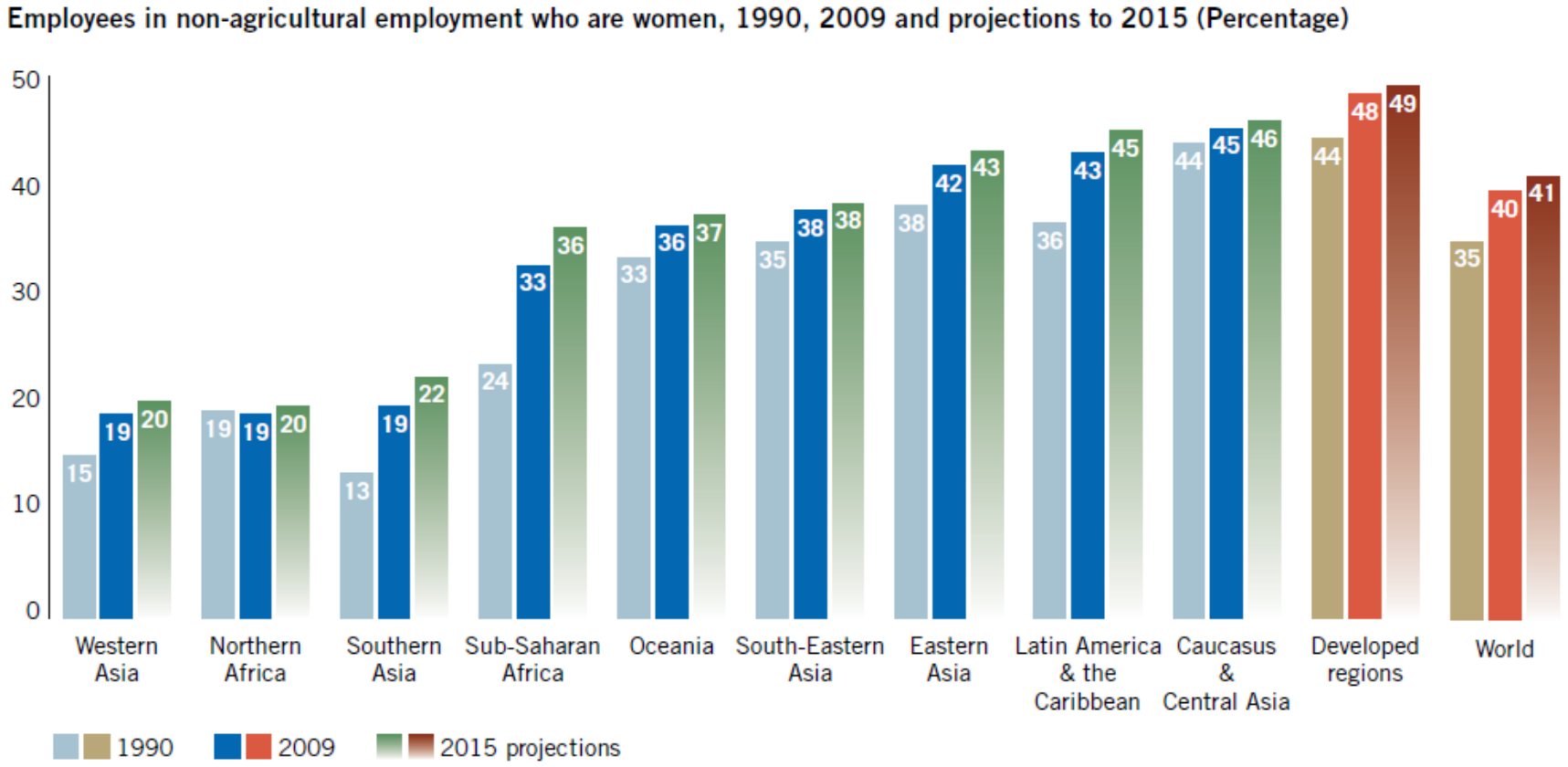
The **percentage of women in higher education will increase** only slightly.

More **women will have higher-qualified jobs**, but will **still lag behind men** in both developed and developing countries.

Up to 2030, the **literacy gap** between men and **women in developing countries will fall**, but with **regional variations**.

Gender Gap

Trend 6: Global Knowledge Society

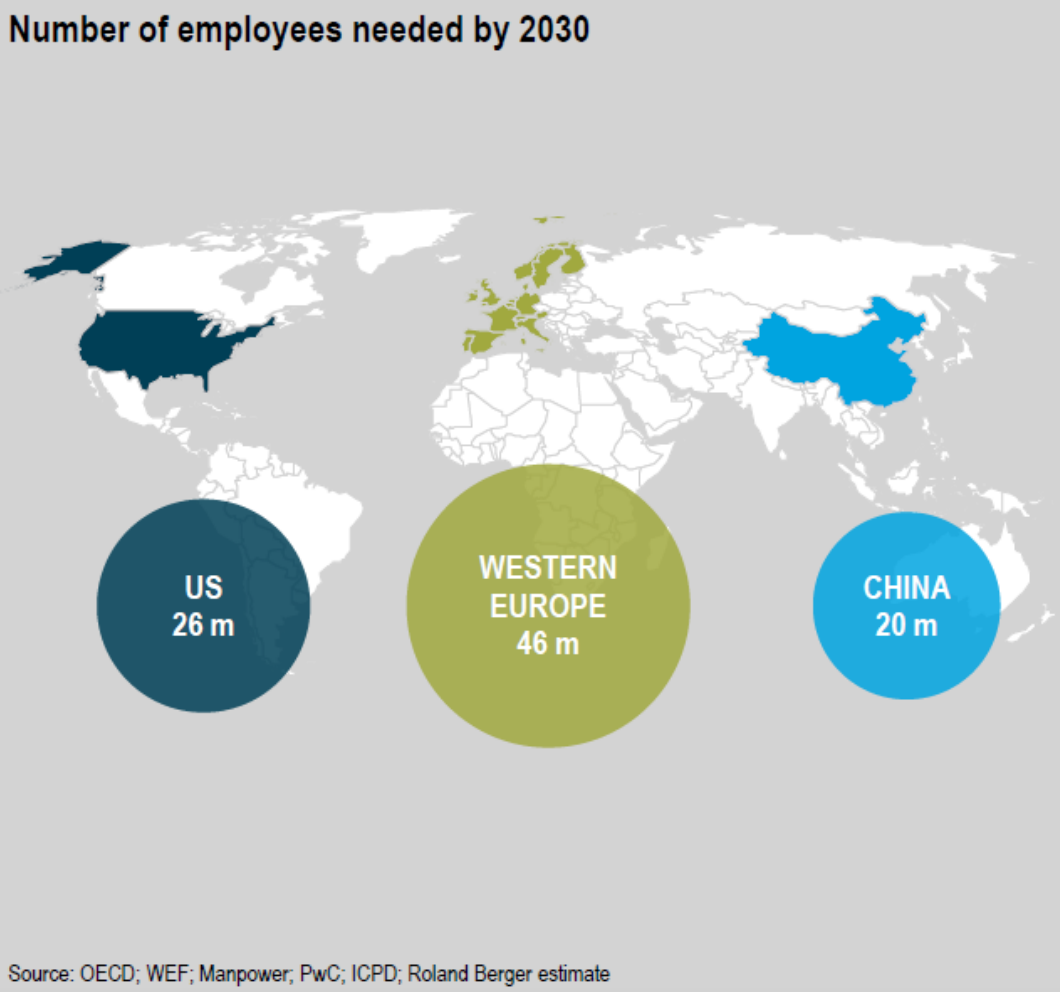


Wide gaps remain in women's access to paid work in **at least half of all regions**.

Worldwide, the share of women in non-agricultural paid employment **increased from 35 per cent in 1990 to almost 40 per cent in 2009**. Progress has slowed in recent years, however, due to the financial and economic crisis of 2008-2009.

http://www.beta.undp.org/content/dam/undp/library/MDG/english/MDG_Report_2011_EN.pdf

War for Talent



Source: Roland Berger Strategy Consultants 2011

The **war for talent** will **intensify up to 2030** in both developed and developing countries.

By 2030, the **globalization of the labor market** will trigger a **migration of human capital**. (Brain gain VS Brain drain)

The **talent** of tomorrow has to **work even more internationally** then the today's employees.

Many **developed countries** will experience a **decline in their working-age populations**, while most of the **developing countries** will continue to see **significant growth in their working-age population**.

War for Talent

Exhibit 1: Significant talent gaps expected by 2020 and beyond
In countries with no talent shortage trend, employability is the challenge

Note: Colour codes based on compound annual growth rates of talent supply and demand by 2020 and 2030
Source: The Boston Consulting Group analysis

In the **Northern hemisphere**, the expected talent gaps will be caused mainly by **demographic shifts - notably, the retirement of baby boomers**. **Southern hemisphere** countries, except for Australia, report **no shortage trends in numbers of people**, given their expected economic growth combined with higher birth rates and population sizes. However, **talent gaps are still anticipated** in these countries due to **lower skills levels**. **BRIC countries** will also be impacted by **slower workforce increases**, but may be able to compensate with high productivity growth.

http://www.weforum.org/reports/global-talent-risks-report-2011

Corporate Actions

1 Knowledge Management

Companies need to establish a **system that combines knowledge** from different areas in an **efficient, up-to-date network**.

Social networks, semantic web technologies and open innovations will play an important role in **sharing and generating knowledge**.

2 Attract Women

The **shrinking population**, **rising highly educated women** and **growing knowledge society**, will highlight companies' need and opportunity **to attract qualified female employees**.

It is essential for companies to create **working models that are suitable and attractive to women**. The main aspects to be considered are **flexibility, career opportunities and child care**.

3 Global Hiring Strategy

Hiring strategies are not anymore restricted to companies' home markets, instead, they must **attract talent from all over the world**.

Recruiting via **social networks** provides a **high-quality, low-cost way** to recruit high potential candidates.

The hiring strategy should be **supplemented by and optimized employee retention strategy**.

Trend 7: Sharing Global Responsibility

Shift to Global Cooperation

Nations will share more responsibility

Growing Power of NGOs

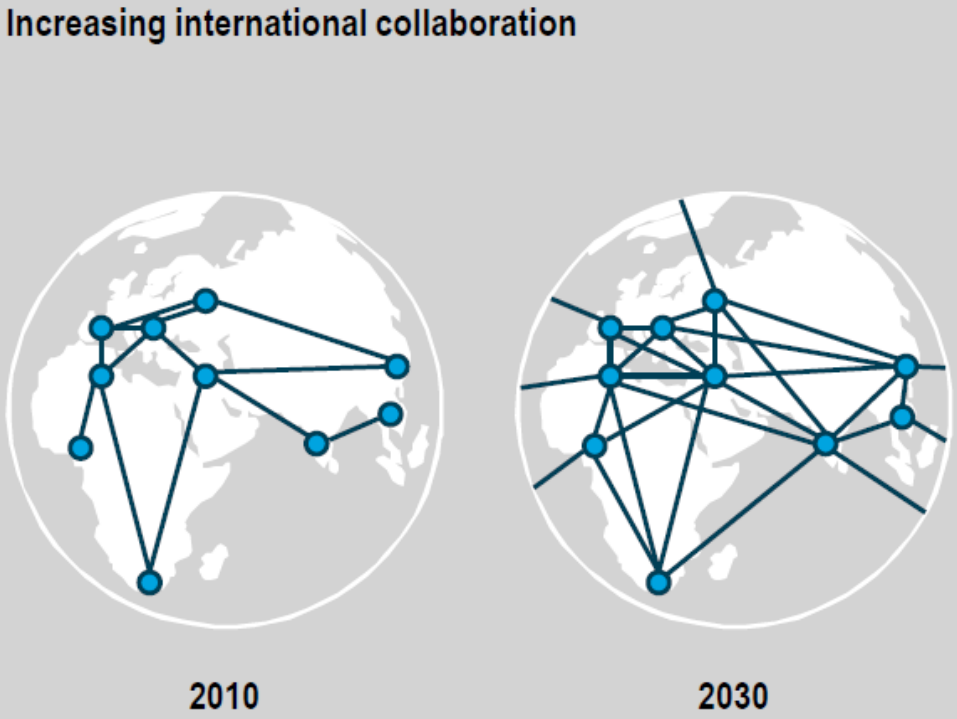
Number of NGOs will grow significantly

Increasing Philanthropy

More donations, but philosophy of giving will change

Source: Roland Berger Strategy Consultants 2011

Shift to Global Cooperation



Source: National Intelligence Council; Federal Agency for Civic Education

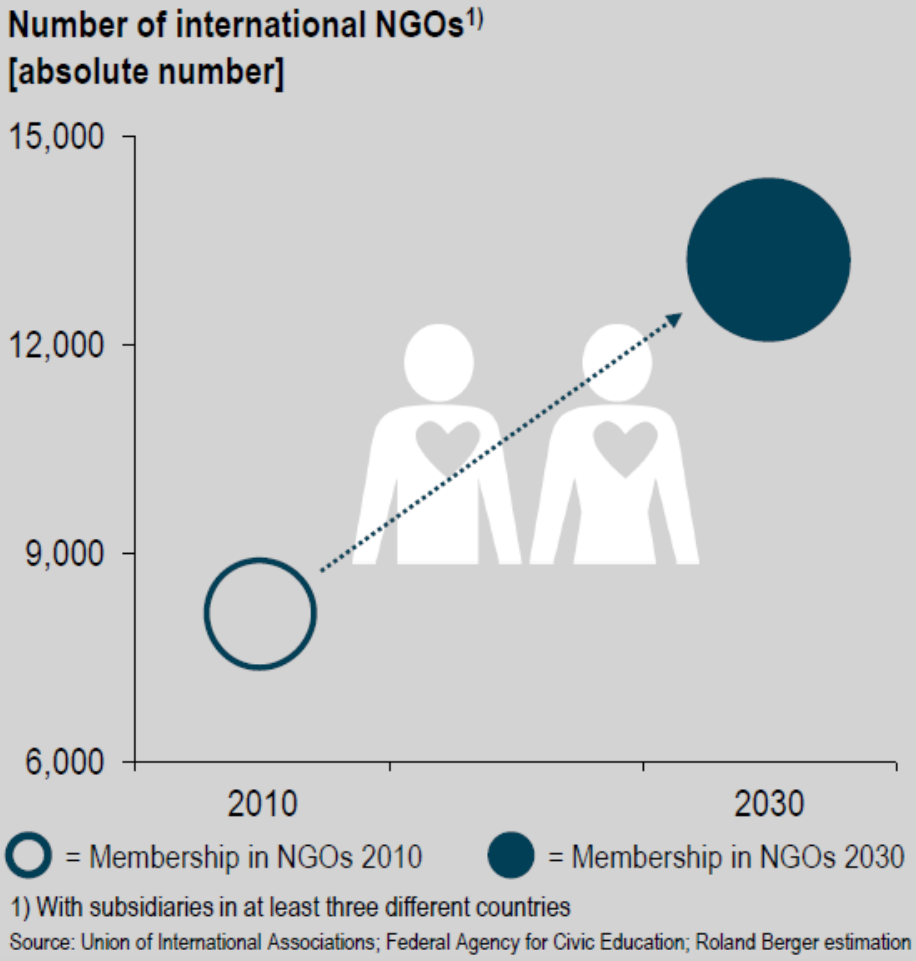
Source: Roland Berger Strategy Consultants 2011

Future problems, including international crises and serious risks of environmental pollution, will lead to a **greater awareness of global responsibility**.

Existing international organizations such as the UN, WTO, IMF, and the World Bank, will have to **react and increasingly adapt to the views of developing countries**.

The challenge up to 2030 will be to **consolidate the different viewpoints of developed and developing countries**.

Growing Power of NGOs



Source: Roland Berger Strategy Consultants 2011

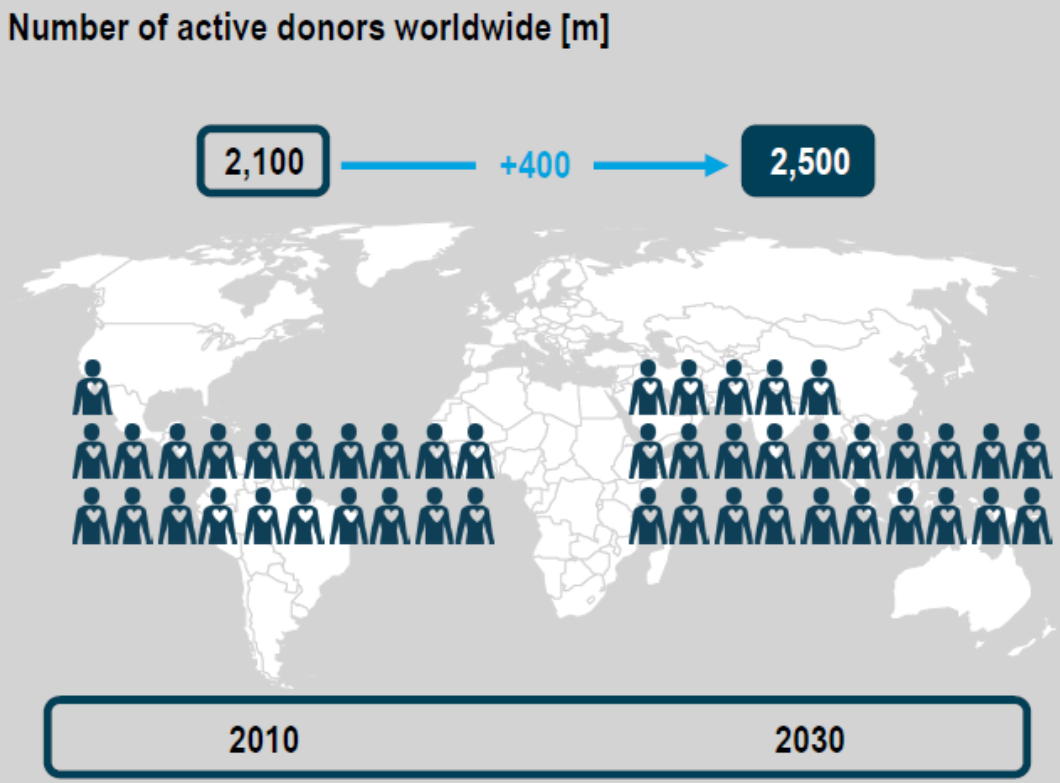
Non-government organizations (NGOs) like Amnesty International, Greenpeace, Worldwide Fund for Nature, Transparency International, Human Rights Watch and Oxfam **will grow significantly up to 2030**.

NGOs will continuously increase the influence of global civil society and raise awareness of issues such as environmental protection, social justices and human rights.

The **nonprofit sector** will gain in **importance in both developed and developing regions**.

By 2030, the number of **domestic NGOs will grow mainly in developing region**.

Increasing Philanthropy



Source: Federal Agency for Civic Education; Hudson Institute; Charities Aid Foundation; Center for Global Prosperity; Roland Berger estimation

Source: Roland Berger Strategy Consultants 2011

Philanthropy will grow further on a global level up to 2030.

Between now and 2030, the **philosophy of giving will change** further - **away from conventional** (supporting major nonprofit institutions) **to venture and catalytic philanthropy** (supporting social business with financial, intellectual or human capital).

The **dependency of developing countries on donations** from developed regions will remain an **important issue** up to 2030.

Private donations from developed countries will show **strong growth rates** up to 2030.

Corporate Actions

1
Use Business Opportunities Resulting from Global Cooperation

Increasing cooperation between nations gives companies a **platform to improve their global footprint**.

To remain competitive, enterprises must **redefine their global footprint**.

To **expand international business relations**, companies must optimize their **involvement in industrial, ecological, or social associations**.

2
Introduce an Ethical Management Approach focusing on all Stakeholders

Ethical management integrates three keys topics that are ideally combined in a **closely interlinked management approach**: **corporate governance, corporate responsibility and ethical leadership**. The approach has advantages of **positive effect on risk management and reputation**, strengthens **employer branding and loyalty**, enhances **customer satisfaction** and drives **product and technology innovations**.

3
Optimize Cooperation with the Nonprofit Sector

Companies should use the **competitive advantage of collaborating with NGOs**. Businesses have always allied with nonprofits in the field of **fundraising and public donations**, for the **betterment of the businesses and the charity**.

Conversely, a **business can benefit from an NGO's know-how**, especially in the fields of **sustainable management or innovation exchange**.

Green + Google + Gray Bangkok 2030

http://trendsoutheast.org/2011/all-issues/issue-14/infographic-18-city-innovation-towards-bangkok-2030/

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