GLOBAL ENVIRONMENT FACILITY
INVESTING IN OUR PLANET

GEF-6 Replenishment Meeting Gallery Walk

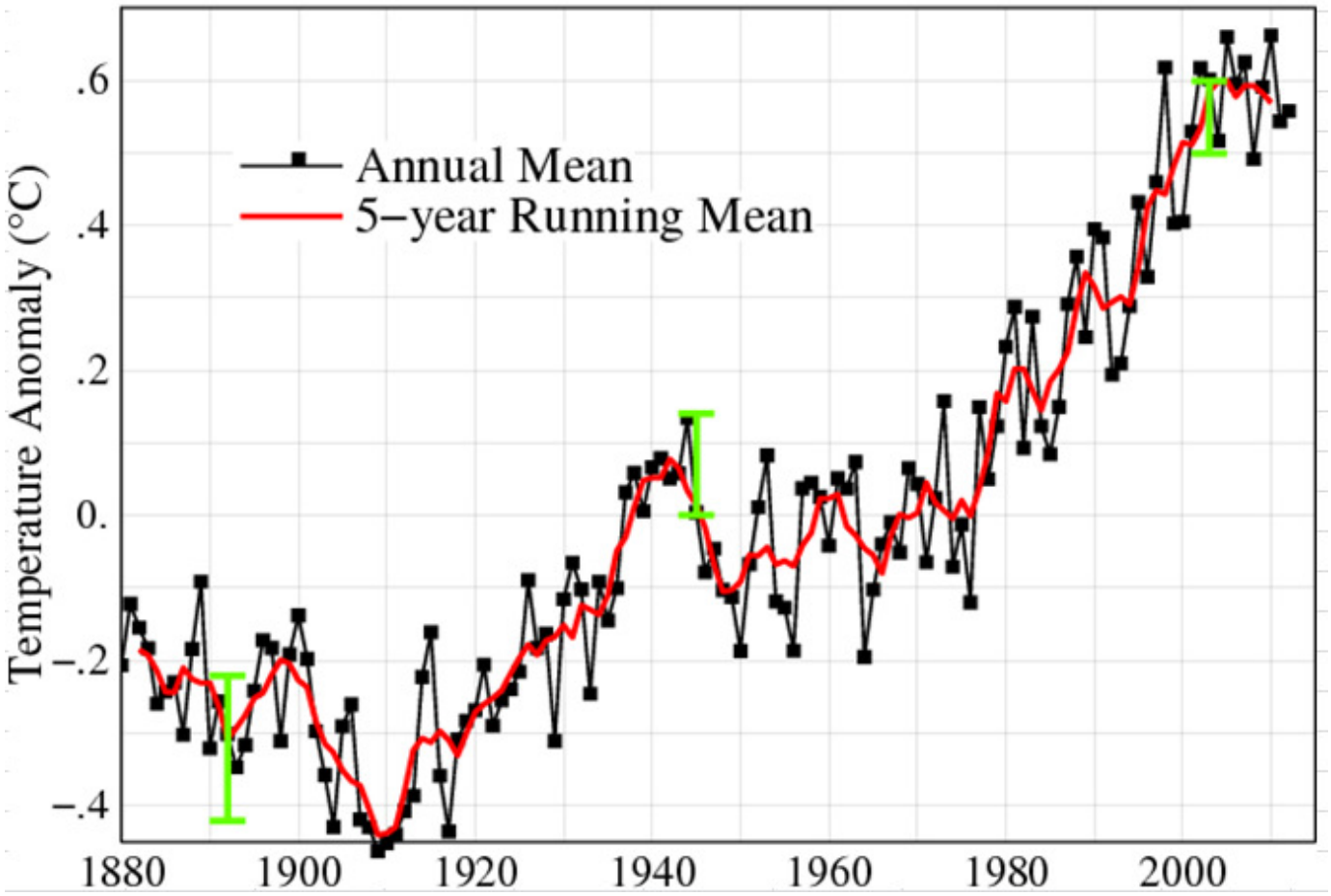
Discussion document
April 3, 2013

Contents

Our earth is getting warmer

Atmosphere

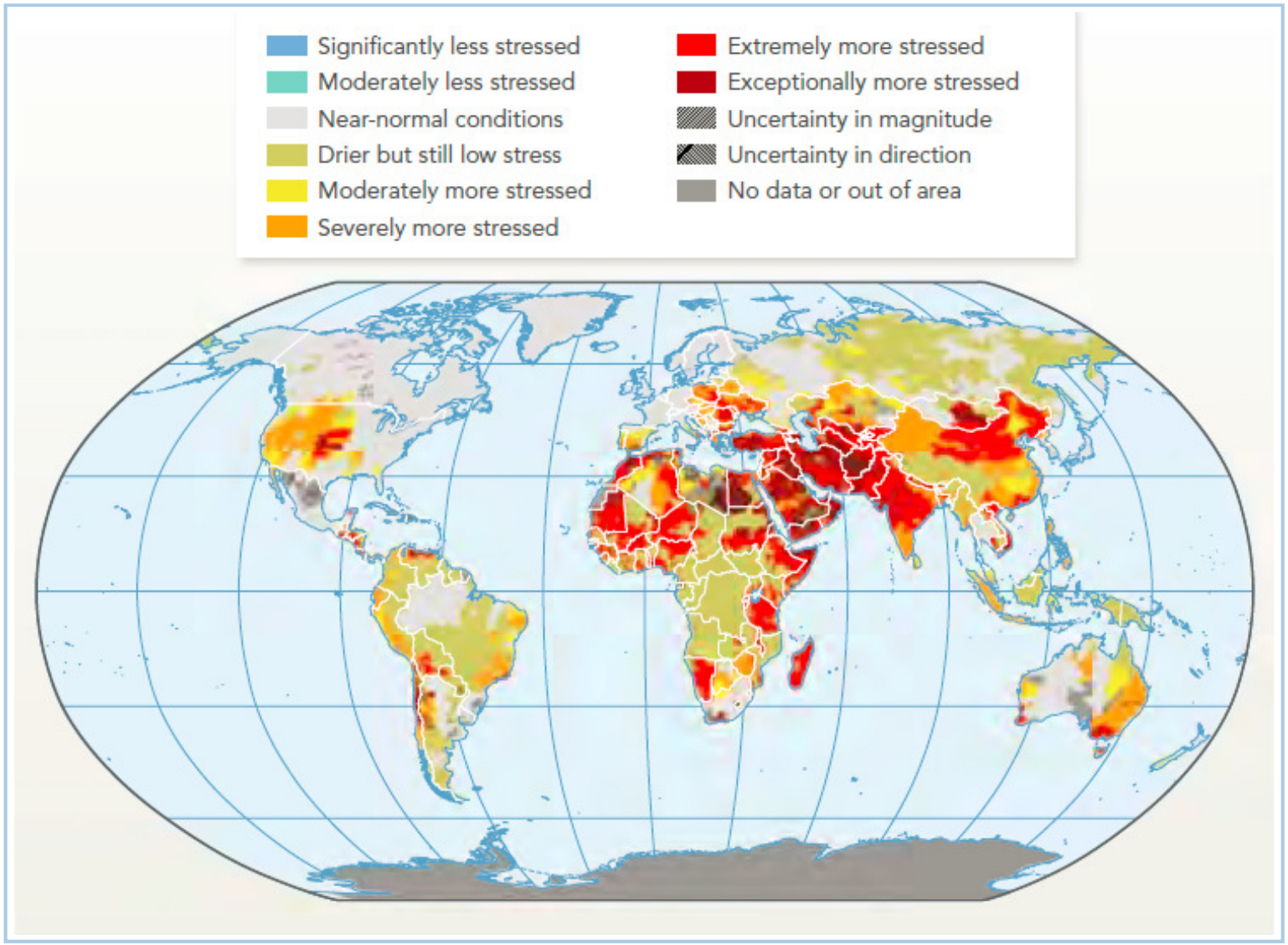
Global land-ocean temperature index[1]



1 Temperature anomaly measures the difference between the temperature in that year from a 1951-1981 baseline average

Source: National Oceanic and Atmospheric Administration

Many basins in Asia and Africa are predicted to face extreme water stress[1] by 2030

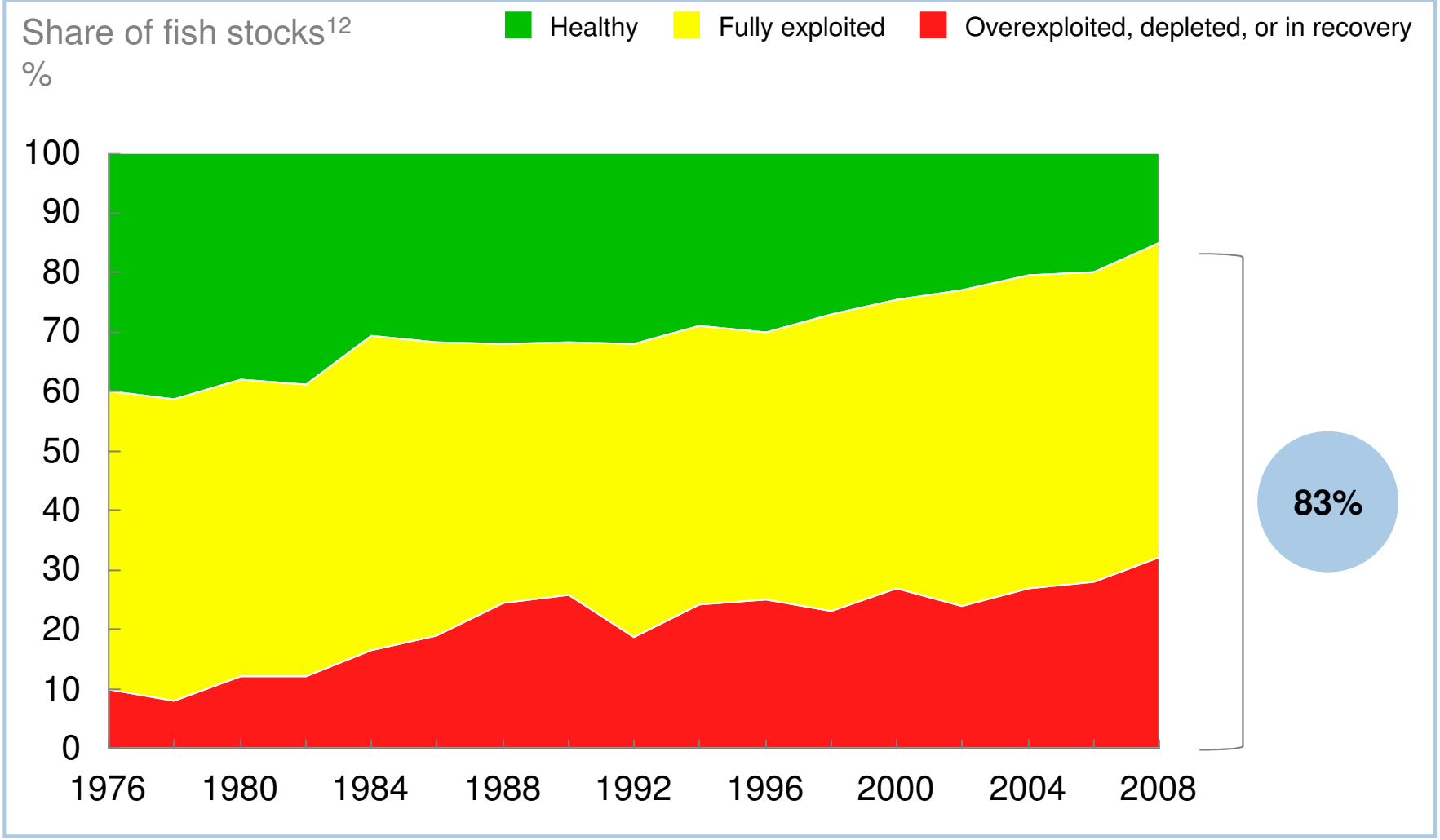


1 For each basin, high stress indicates large water deficit and low stress indicates low water deficit or water surplus

Source: National Intelligence Council, 'Global Trends 2030: Alternate Worlds,' 2012; World Resources Institute Aqueduct database

Over 80% of global fish stocks are either fully- or over-exploited

Oceans



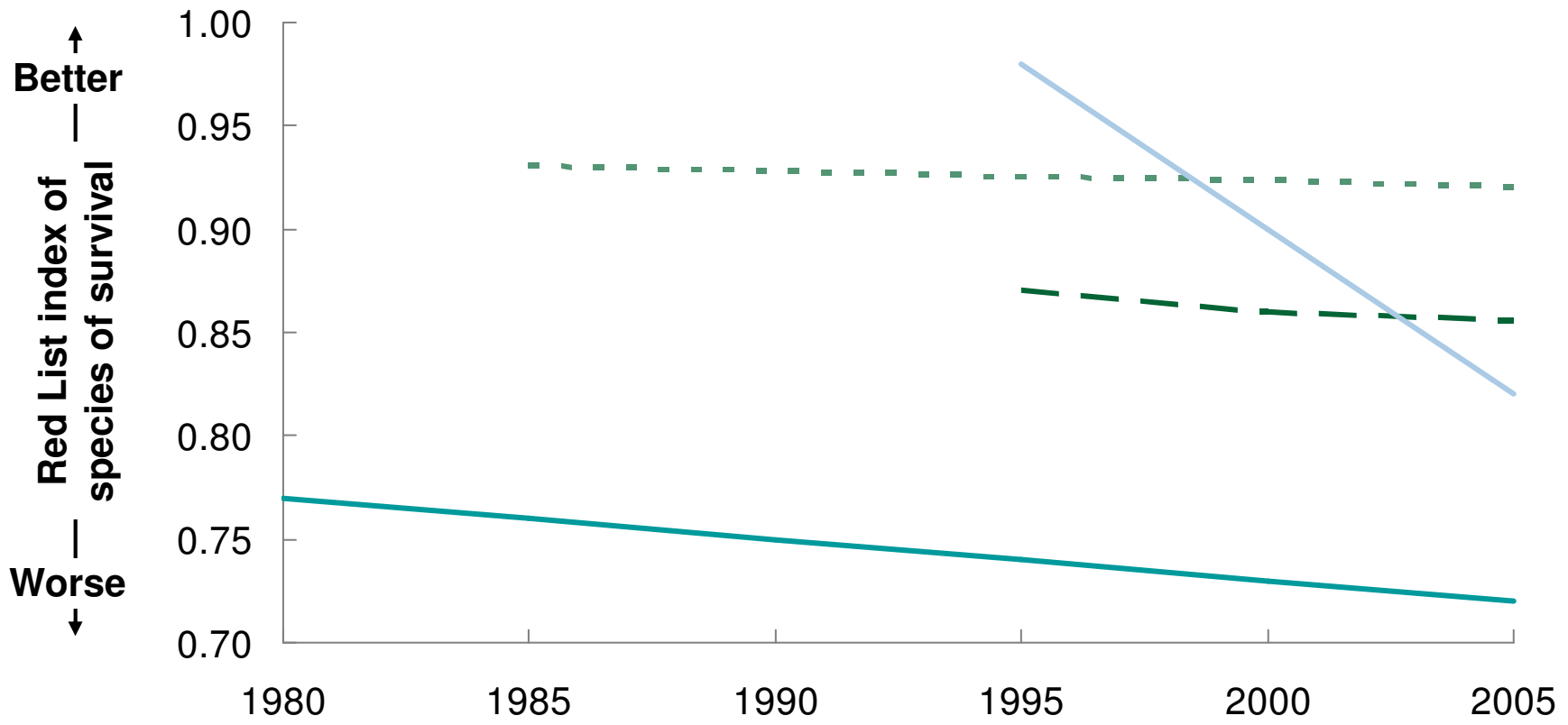
1 Based on the number of fish stocks classified in each of the three categories, not the volume of catch
2 'Fully-exploited' means that the current estimated fish stock is at 40-60% of estimated unfished stock size. Hence, 'over-exploited' means that the current stock is less than 40% of the estimated unfished stock size and healthy means that it is greater than 60%

Source: FAO, 'The State of World Fisheries and Aquaculture,' 2010

We are experiencing biodiversity loss, especially in ocean ecosystems

Biodiversity

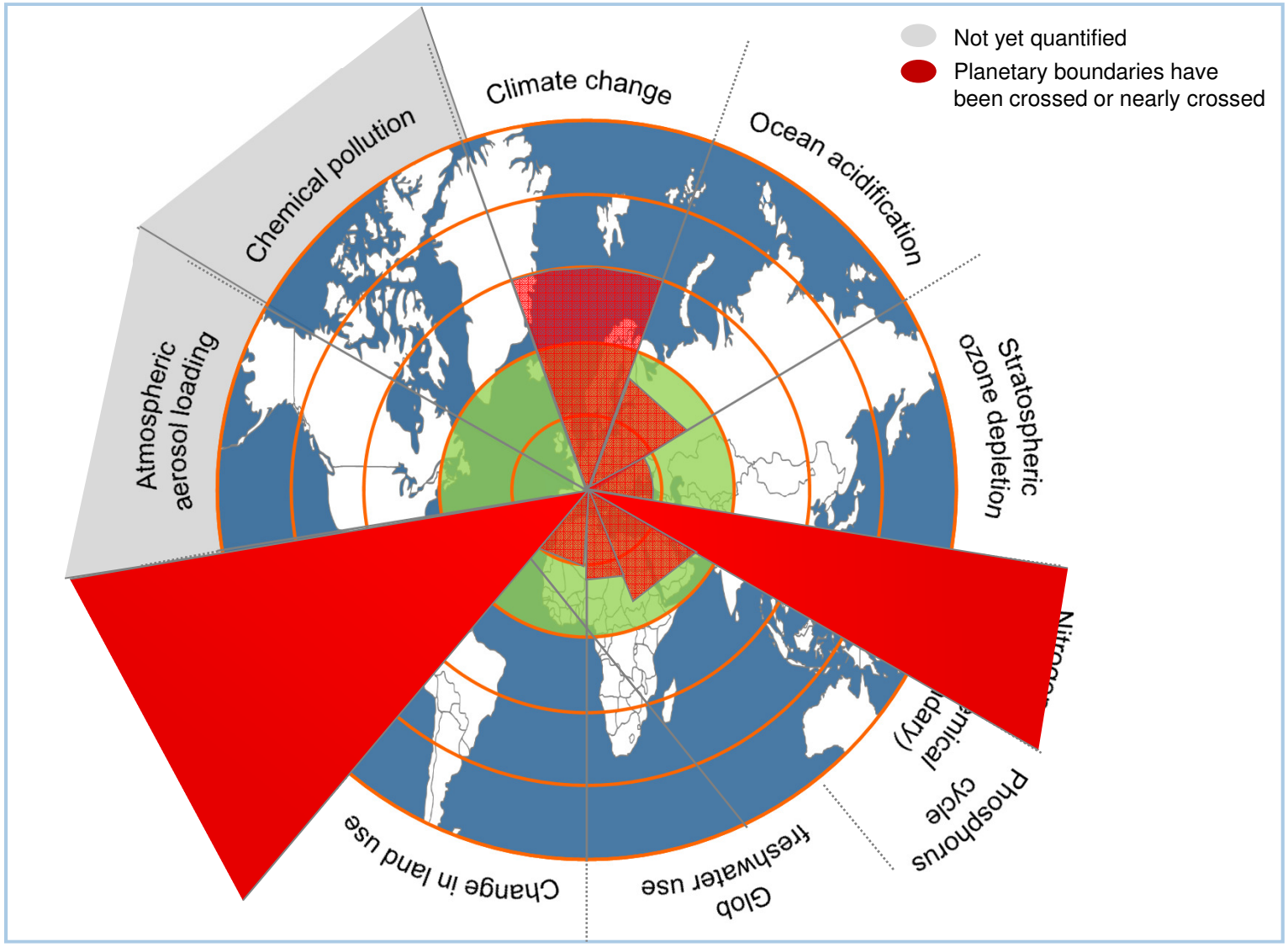
Species loss – Red list index[1]



1 A value of 1.0 indicates that all species are categorized as 'Least Concern' and hence none are expected to go extinct in the near future. Data based on 9,785 birds, 4,555 mammals, 4,414 amphibians, and 704 coral species

Source: Hilton-Taylor et al, 'Wildlife in a Changing World – An Analysis of the 2008 IUCN Red List of Threatened Species,' 2009

Key Earth systems are near or beyond boundaries after which abrupt global environmental changes cannot be excluded

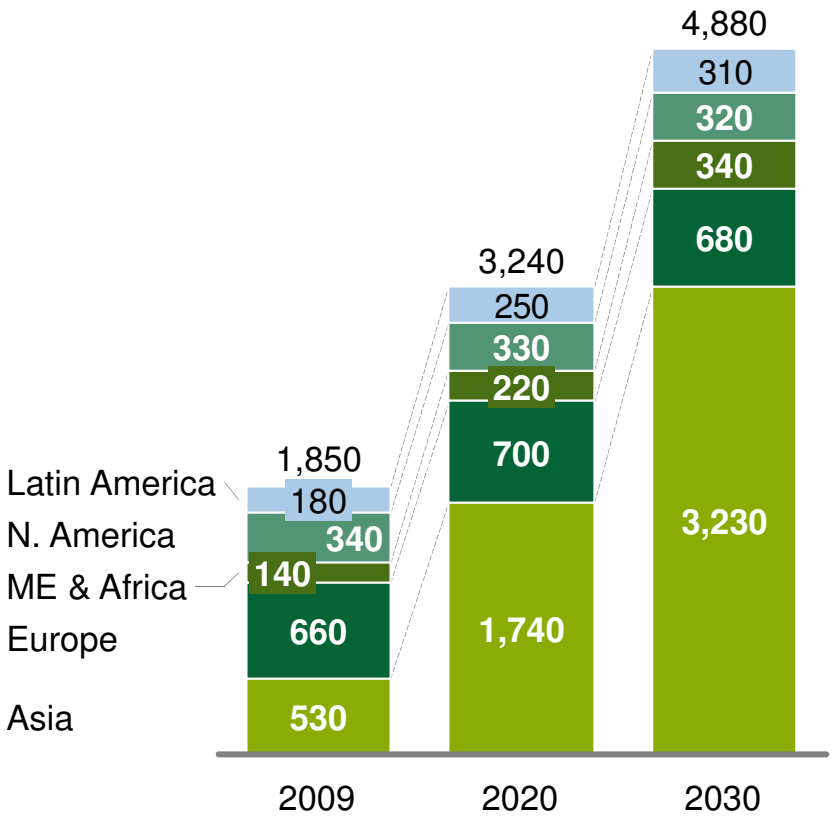


Source: Rockstrom et al, "A Safe Operating Space for Humanity," Nature (2009)

An additional 3 billion people are expected to join the global middle class and an additional 1 billion to be living in cities in the next two decades…

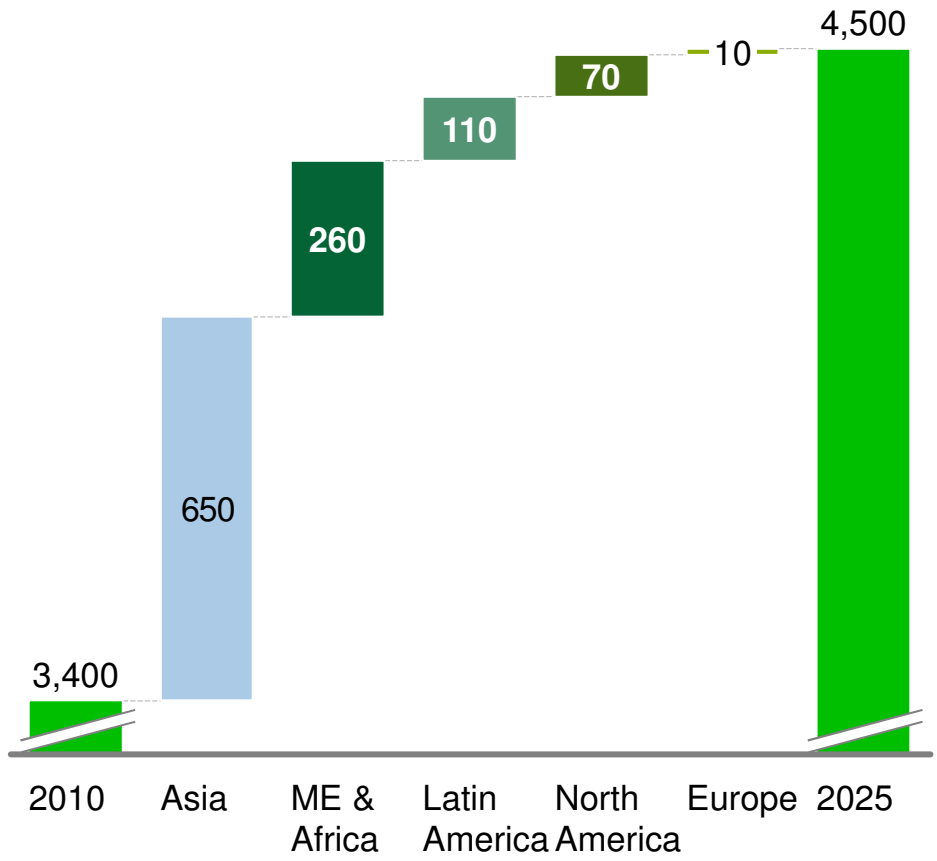
90% of the new global middle class[1] by 2030 will be in Asia…

Millions of people, in the global middle class



…with over a billion new urban citizens by 2025, mostly in Asia and Africa

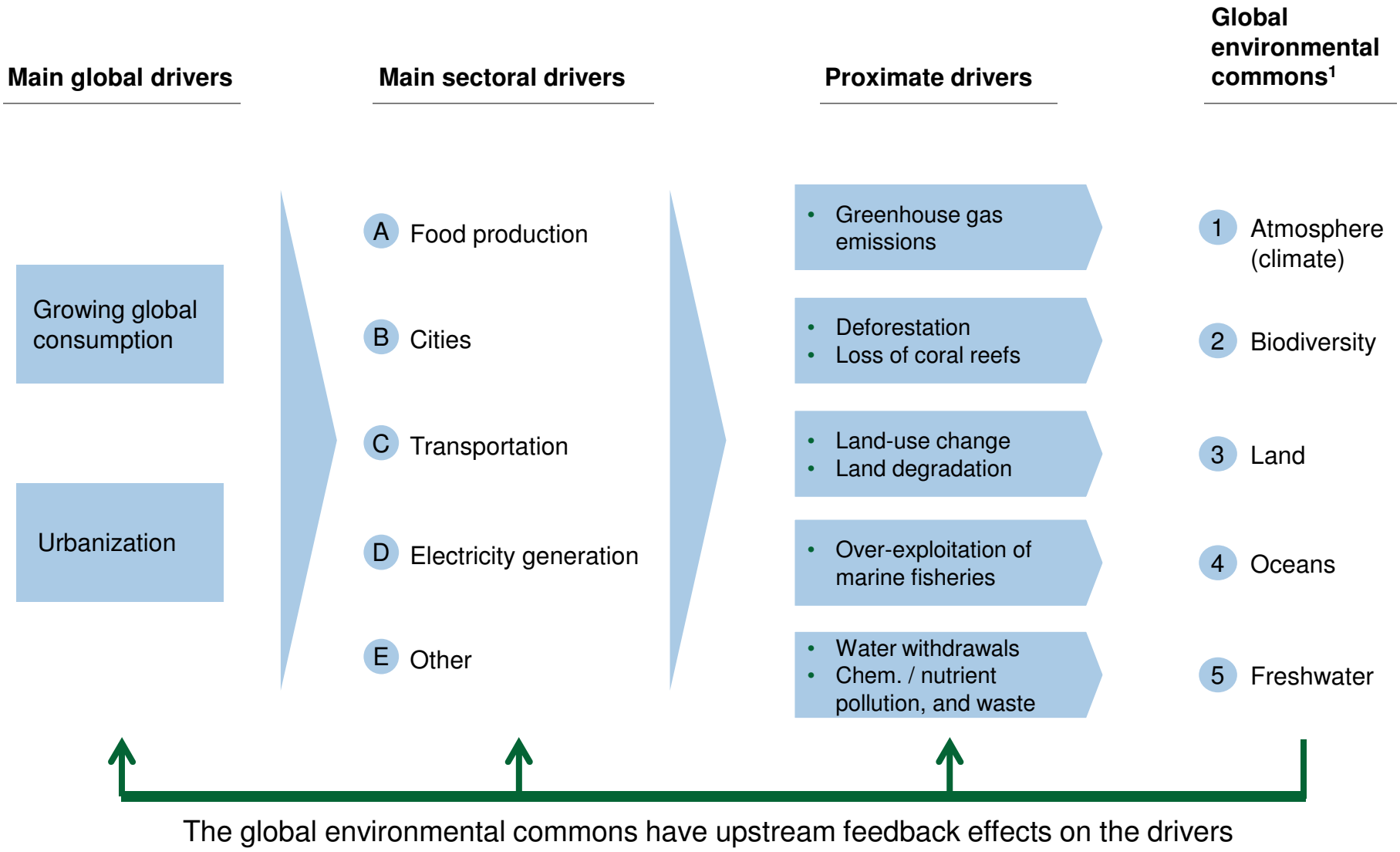
Millions of people, living in cities



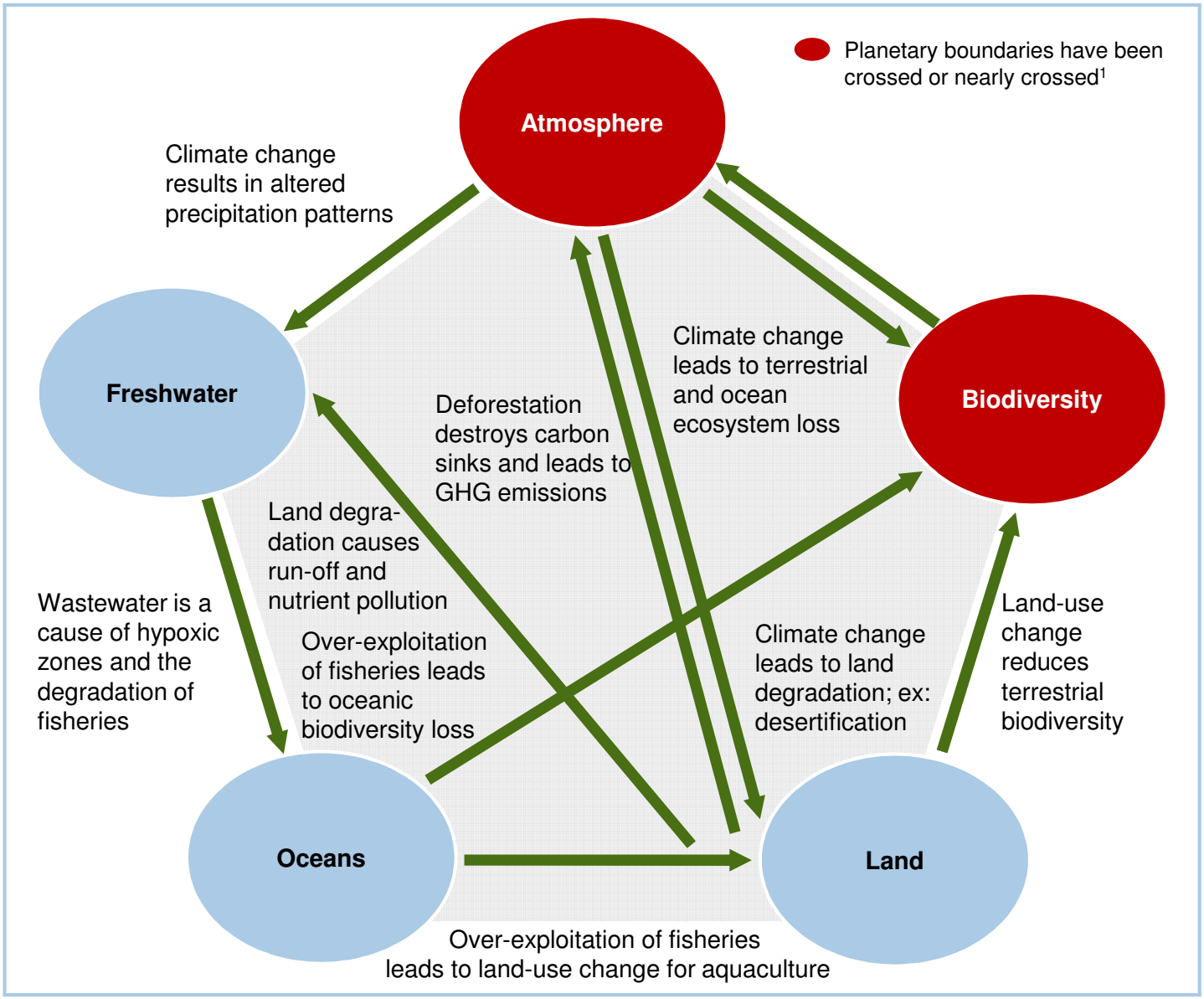
1 Based on daily consumption per capita ranging from $10 to $100 (in purchasing power parity terms)

Source: OECD,'The Emerging Middle Class in Developing Countries,' 2010; McKinsey, 'Continuing Urbanization and the Rise of Megacities,' 2010

Global consumption is affecting the environment through key sectoral drivers, reflecting increasing food, energy, and resource needs



There are many linkages among the global environmental commons



1 Rockstrom et al, "A Safe Operating Space for Humanity," Nature (2009)

Source: Team analysis

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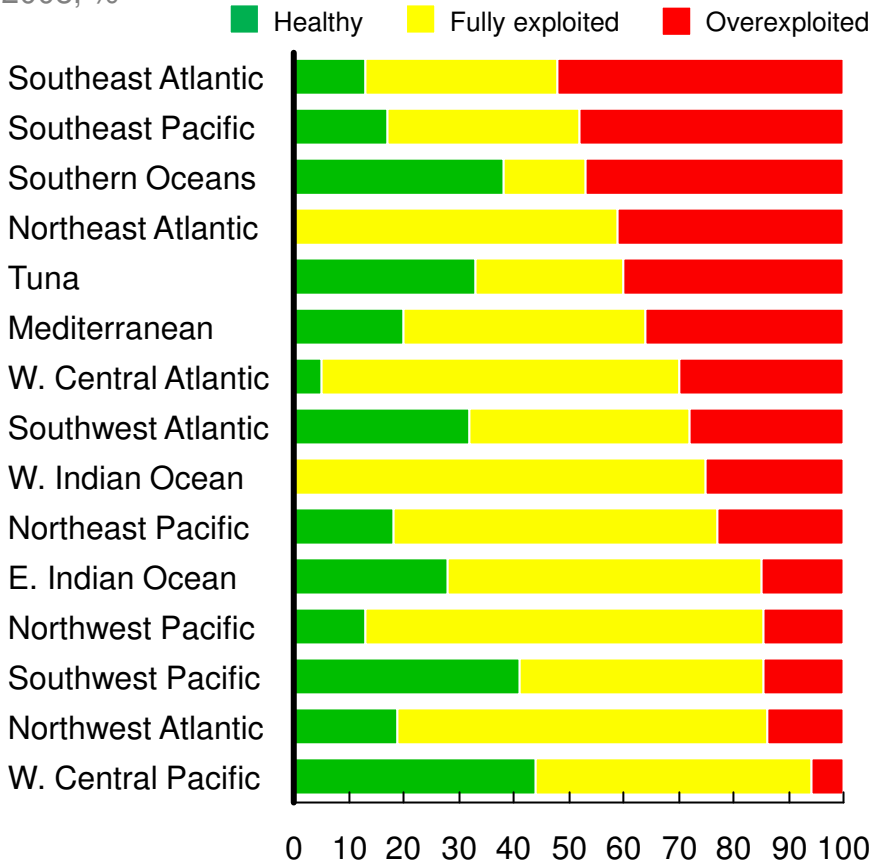
No marine fish stocks are even 50% healthy so aquaculture has been growing to meet the growth in fish demand

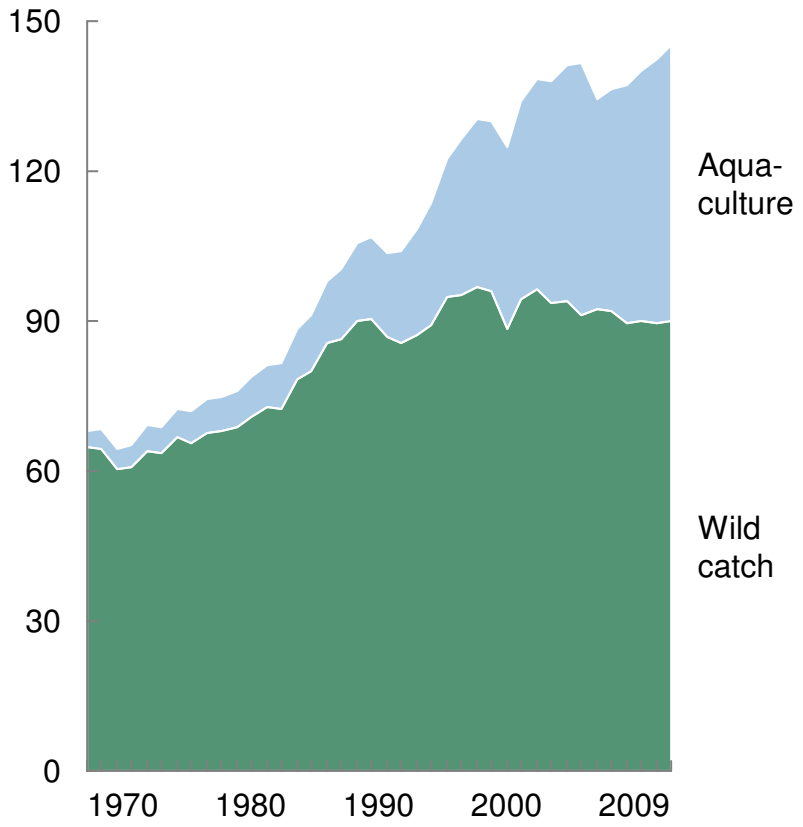
Many fish stocks are fully- or over-exploited…

Share of marine fish stocks[1,2]
2008, %



… and aquaculture has grown to meet demand

Millions of tons



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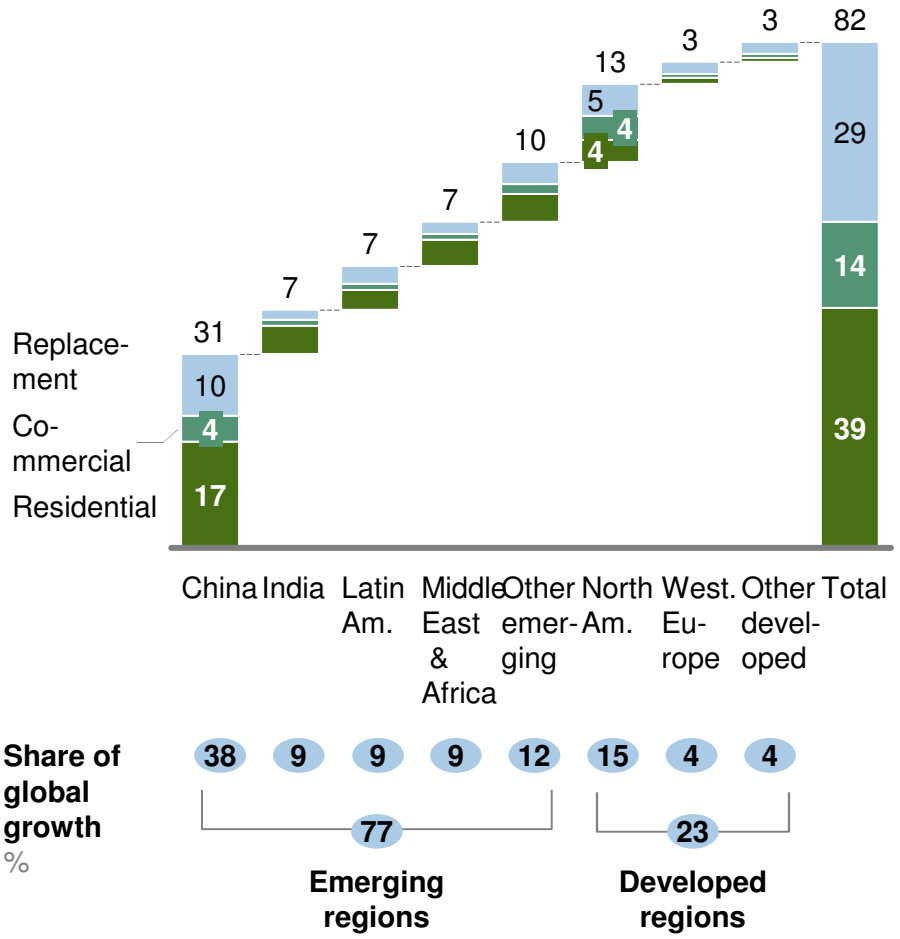
Source: FAO, 'The State of World Fisheries and Aquaculture,' 2010

Increased demand for urban floor space / buildings and water is driven primarily by emerging economies

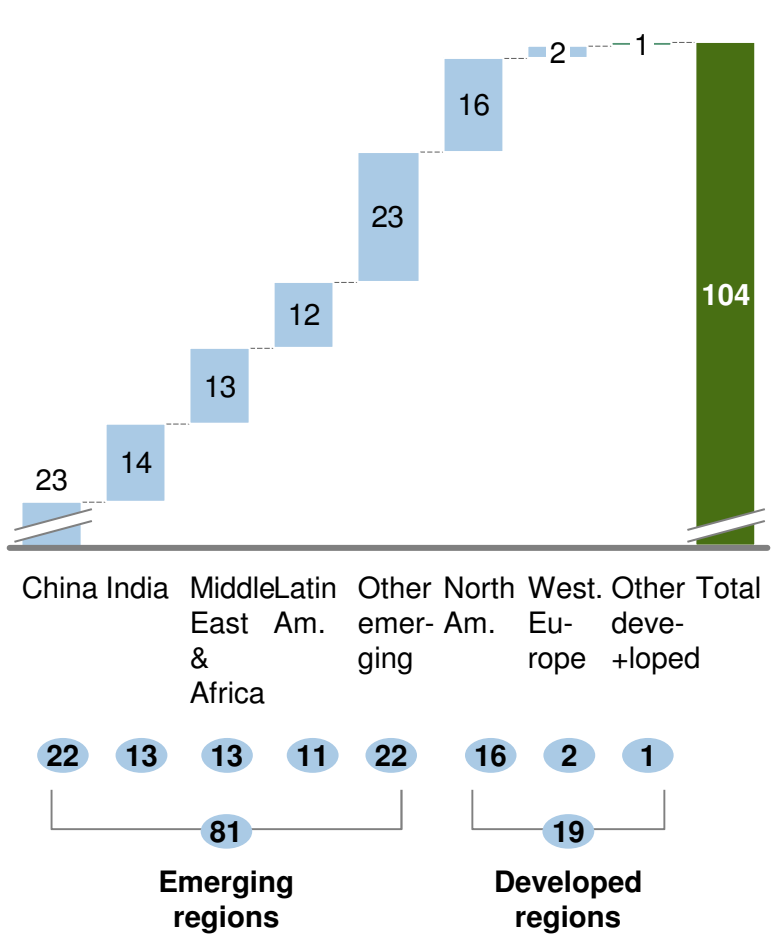
Cities in emerging economies are expected to contribute nearly 80% of global growth in total floor space demand to 2025

Total urban floor space growth by region, 2010–25
Thousand square kilometers



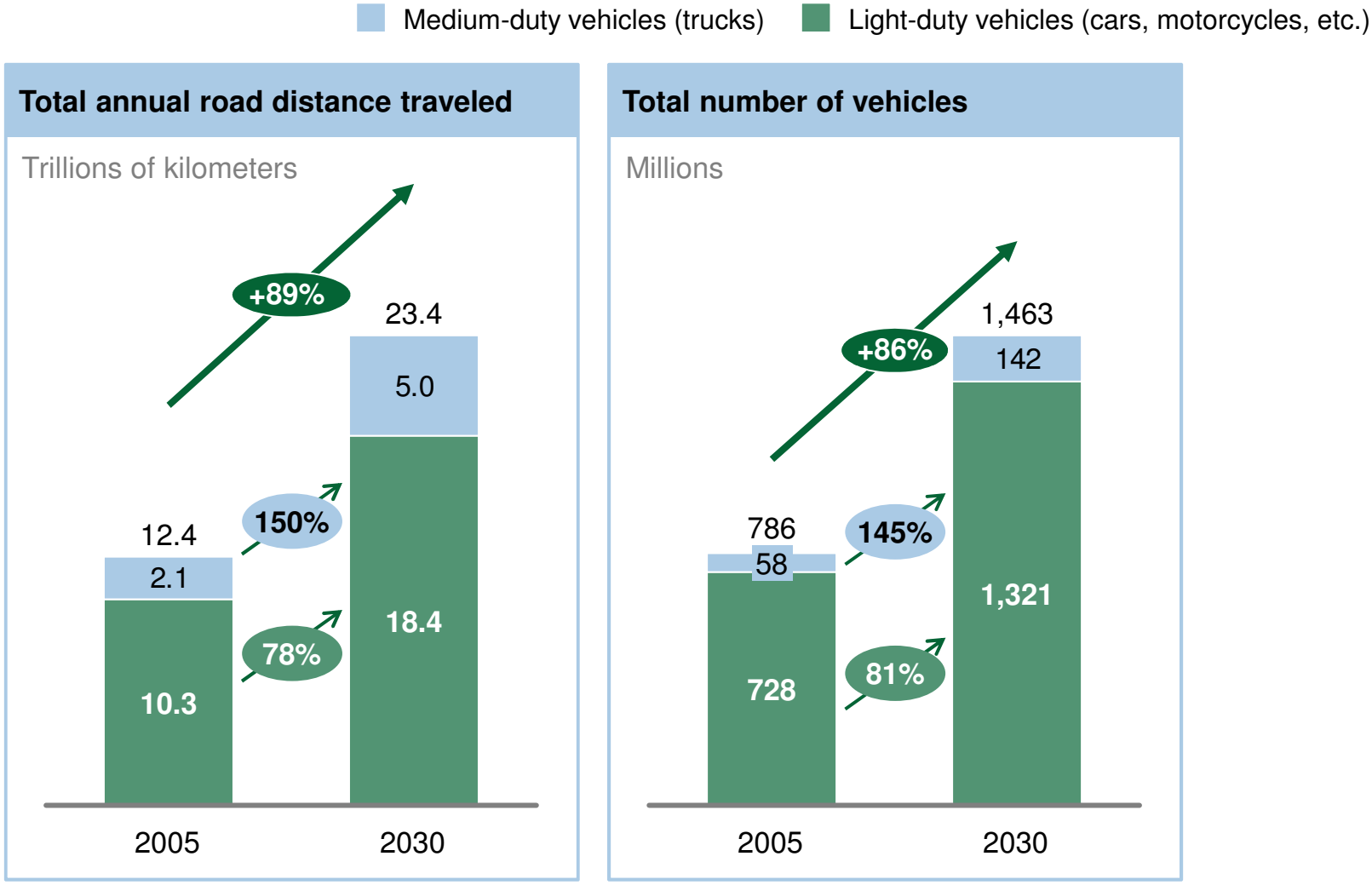
Cities in emerging economies will account for about 80% of new urban municipal water needs to 2025

Total urban municipal water demand growth by region, 2010–25
Billion cubic meters



Source: McKinsey, 'Urban World: Cities and the Rise of the Consuming Class,' 2012; Institute of Economic Affairs; McKinsey Global Institute

Global annual road distance traveled is expected to nearly double by 2030 as the number of vehicles will nearly double to 1.5 billion



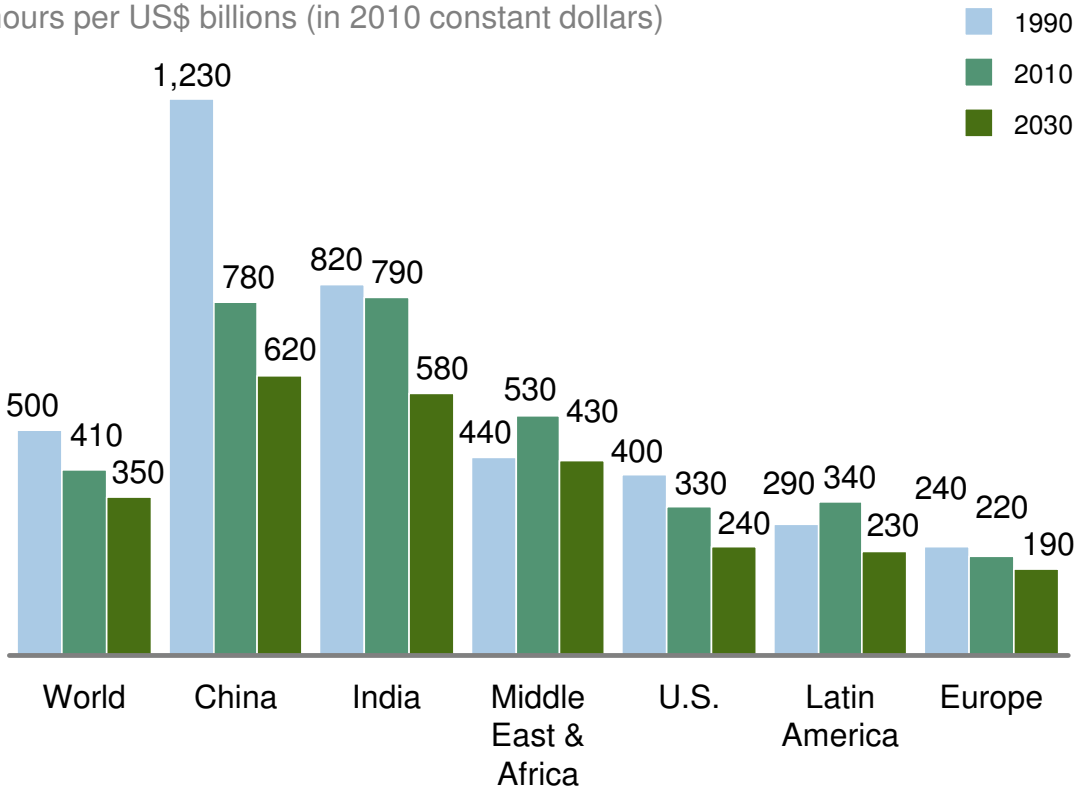
Annual distance traveled per vehicle is expected to be essentially unchanged in 2030

Source: McKinsey, 'Pathway to a Low Carbon Economy,' 2009

Despite falling electricity intensity, global electricity generation has nearly doubled over the last two decades

Electricity intensity[1]

Megawatt hours per US$ billions (in 2010 constant dollars)

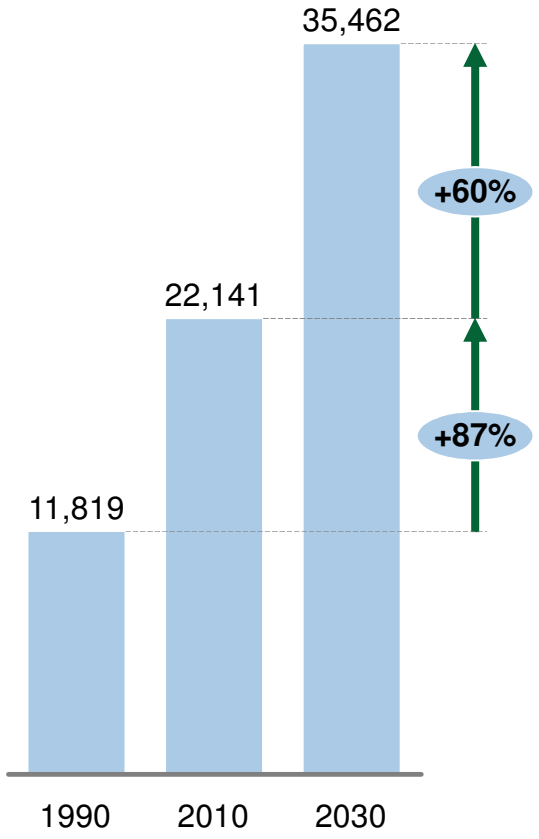


Percent reduction 1990-2030
%

World	China	India	Middle East & Africa	U.S.	Latin America	Europe
30	50	29	2	40	21	21

Total electricity generation

Terrawatt hours



1 Electricity intensity is defined as electricity consumption / GDP. We proxy electricity consumption with electricity production, which is reasonable as most electricity trade is within e electricity trade across regions

Source: IEA, 'World Energy Outlook,' 2011; McKinsey, 'Pathway to a Low Carbon Economy,' 2009; McKinsey GHG Abatement Cost Curve v2.0, 2009

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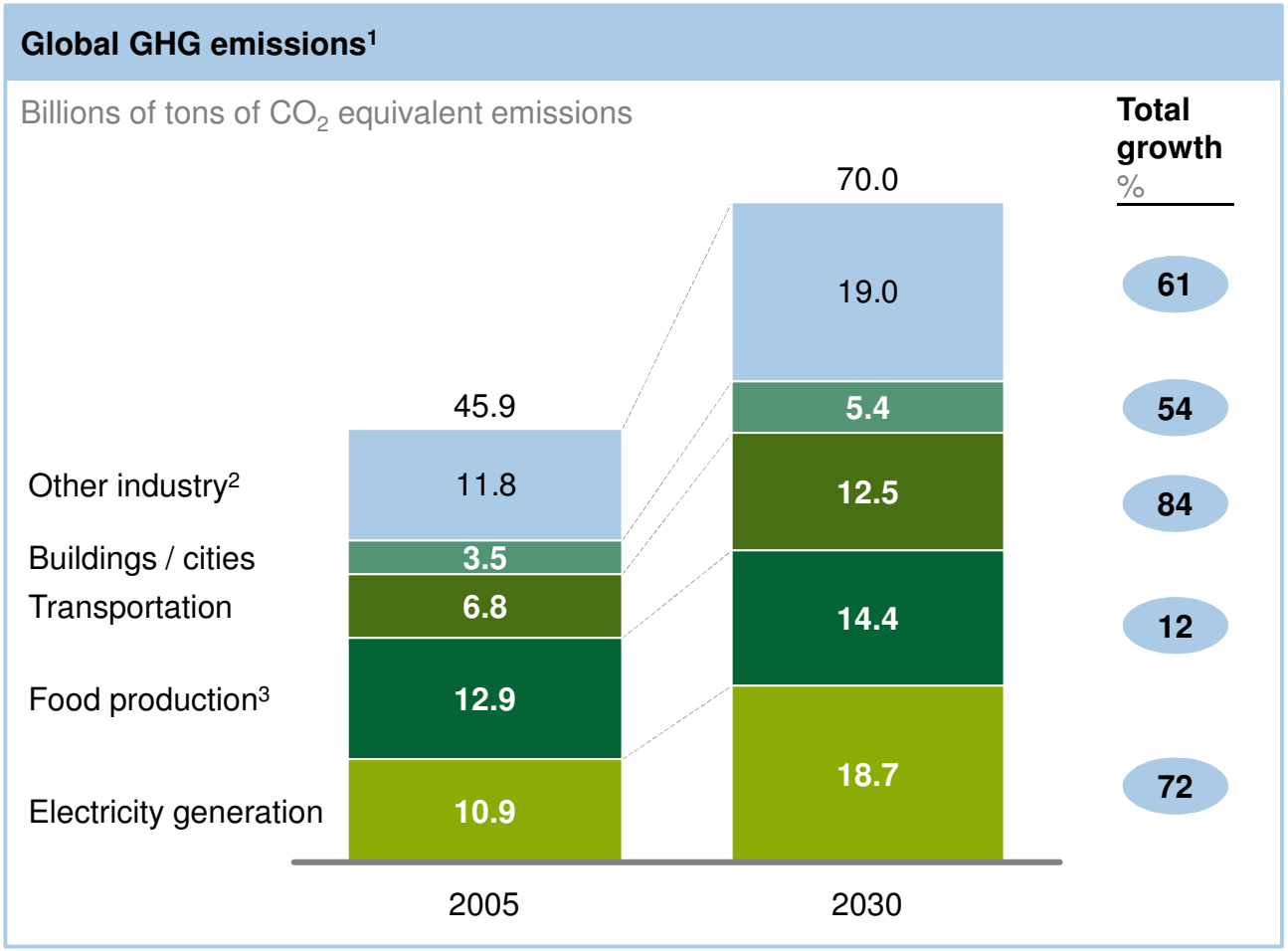
By 2030, electricity generation, food production, transport and the industrial sector are all projected to play a significant role in GHG emissions



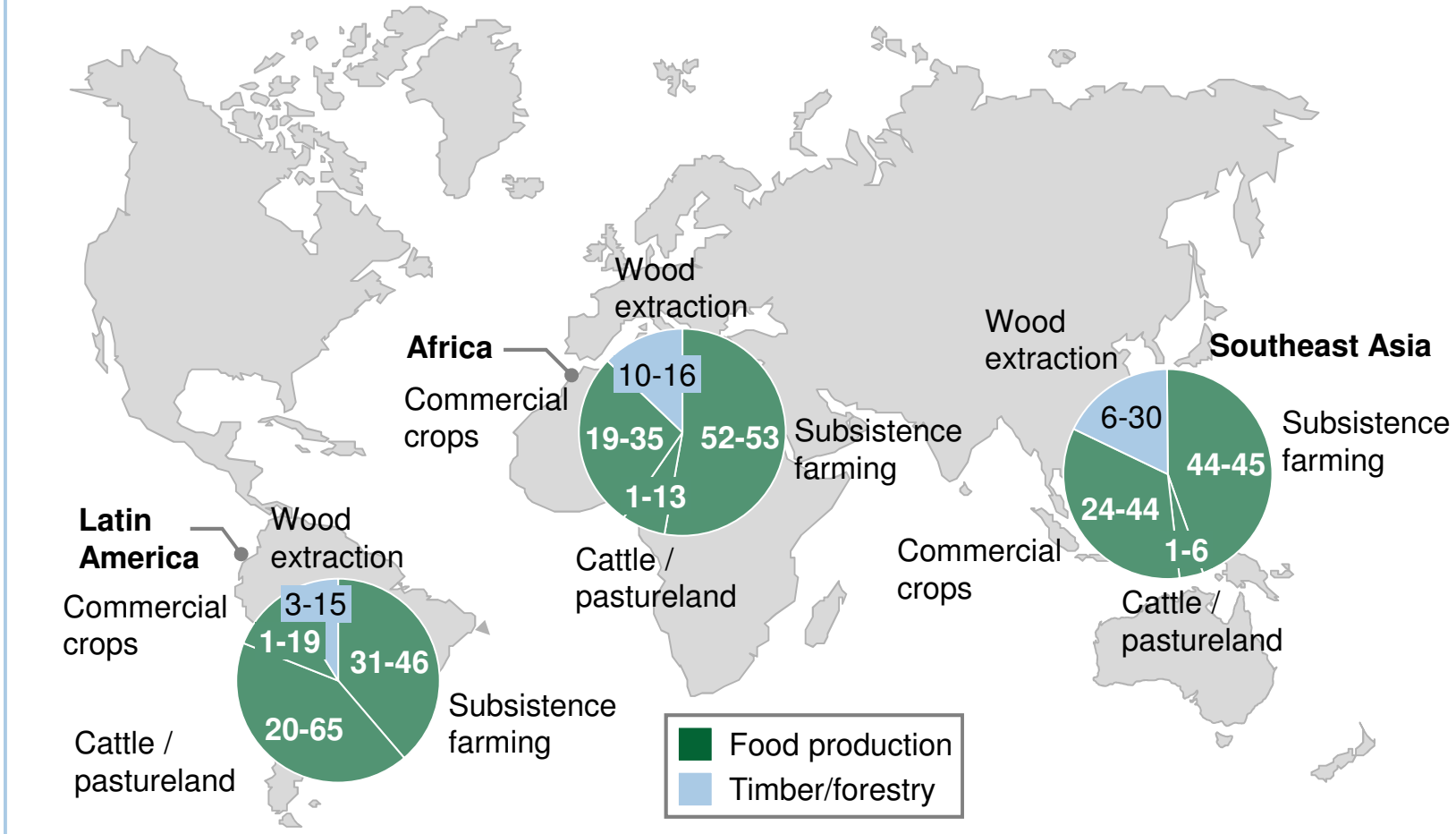
1 These numbers represent only direct GHG emissions
2 The main categories in other include iron, steel, cement, chemicals, and petroleum & gas
3 Emissions from food production includes approximately 6.5 billion tons of emissions due to deforestation related to food production

Source: McKinsey, 'Pathway to a Low Carbon Economy,' 2009

Approximately 70-90% of global tropical deforestation is due to agriculture for food production, depending on the region

Food production activities are the most important drivers of deforestation[1]

Proportion of deforestation that can be attributed to underlying causes, %



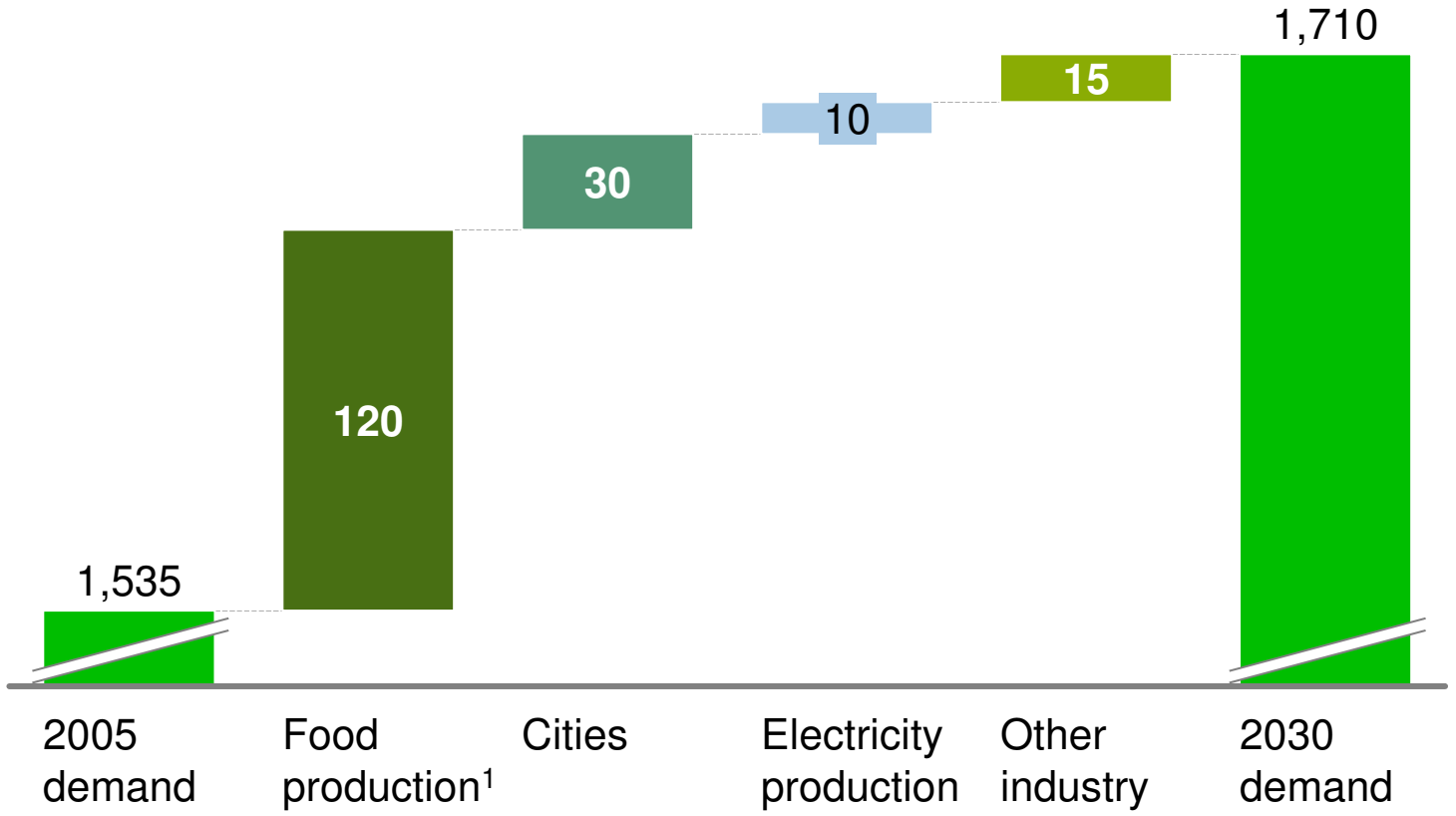
1 Ranges are due to estimates from a number of sources

Source: Houghton, "The Role of Forests in the Global Carbon Cycle," (2006); Geist & Lambin, "What Drives Tropical Deforestation," (2001); McKinsey, 'The Global Land-Use Challenge: Feeding the World's Nine Billion Sustainability in 2050,' 2011

Food production is the primary driver of land-use change to 2030…

An additional 120 million hectares of land is expected to be needed by 2030 to meet food needs

Million hectares

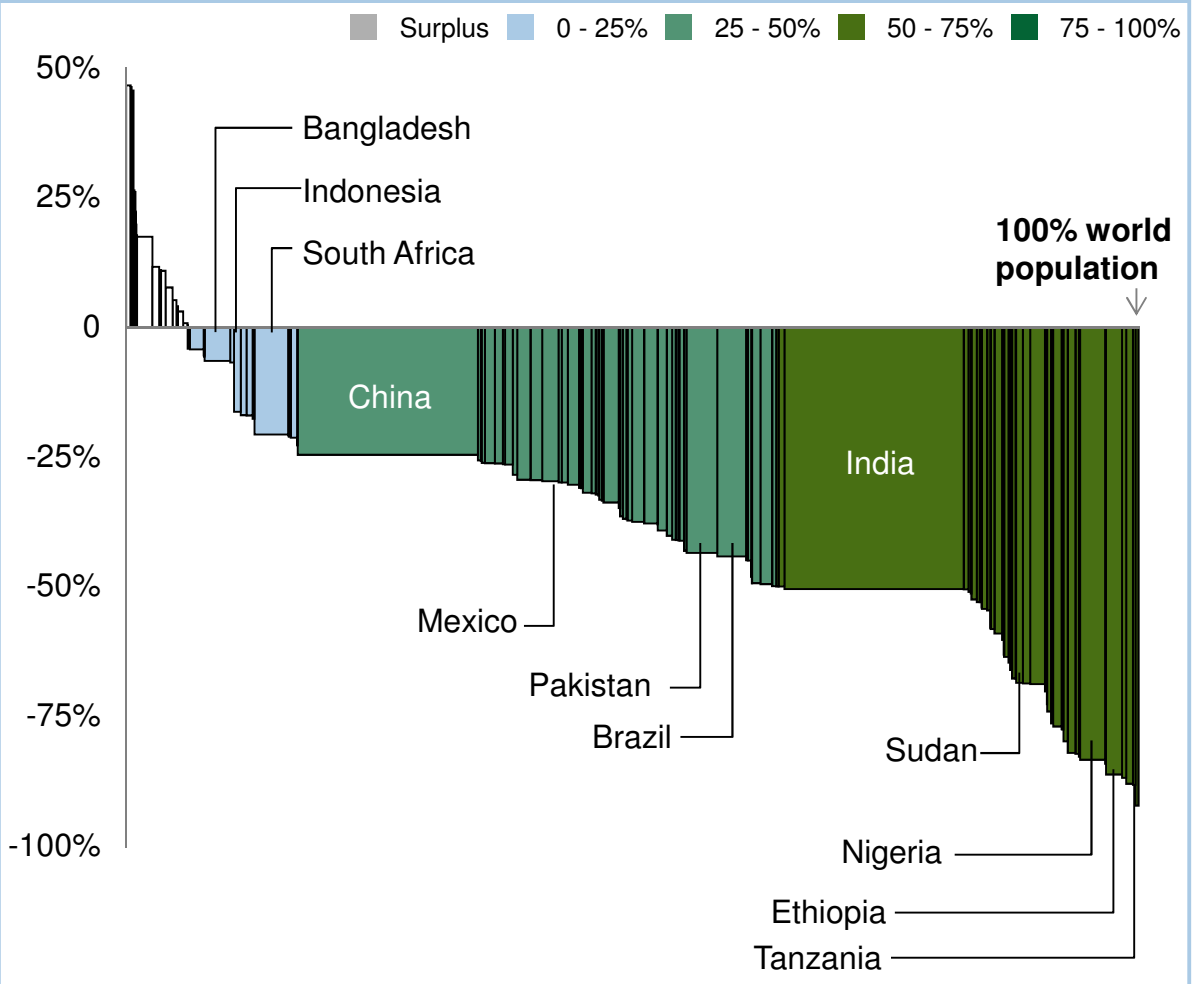


1 The numbers for food production include 90 million hectares from direct food production and 30 million hectares indirectly through land degradation, which can mostly be attributed to food production

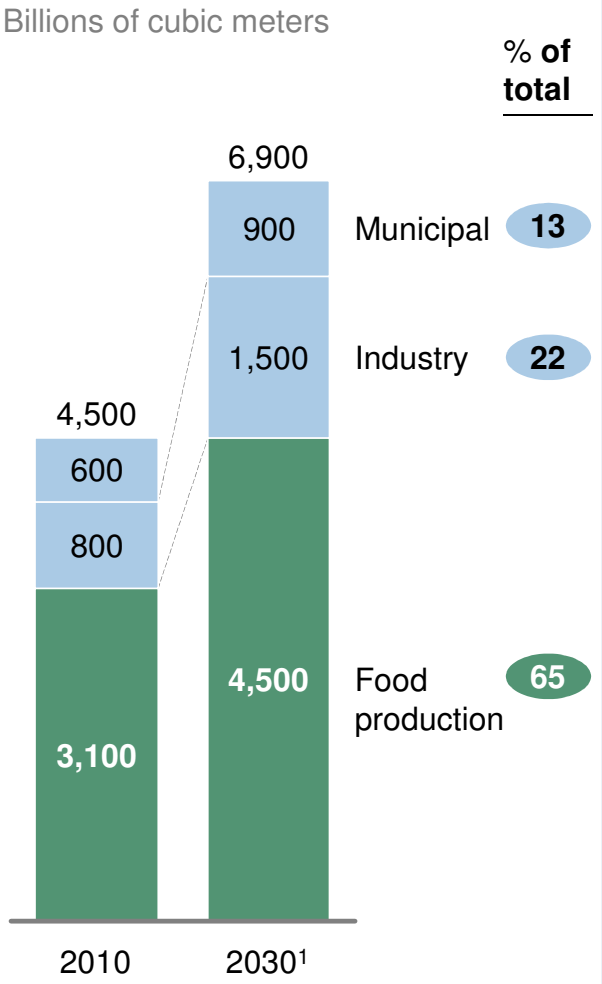
Source: McKinsey, 'Resource Revolution,' 2009

By 2030, many countries are expected to face severe water shortages, with food production being the major driver of water demand

Projected water scarcity as a percent of total demand in 2030[1]



Food production drives over 65% of global water demand



1 2030 projections, assuming technological innovation and infrastructure improvement investments are frozen at 2010 levels

Source: McKinsey, 'Charting our Water Future,' 2009; McKinsey 2030 Water Resources Global Supply and Demand model; IFPRI

SECTORAL EFFECTS ON THE GLOBAL ENVIRONMENTAL COMMONS

Toxic chemicals are a cross-cutting negative externality impacting the global environmental commons

Sectoral drivers	Impact of toxic chemicals
Food production	▪ Pesticides and fertilizers contaminate the air and water ▪ Persistent chemicals are transported globally further contaminating ecosystems on land and water
Transportation	▪ ODS from mobile cooling and heating systems are a major contributor of ozone depletion ▪ Transport engines releases dioxins and furans that impact air quality ▪ Run-off from roads also pollutes water systems
Cities	▪ Urban waste management leads to the release of POPs and Mercury into the atmosphere and water and degrades land ▪ ODS from commercial, industrial, and domestic use
Electricity generation	▪ Fossil fuel combustion contains significant amounts of Mercury and POPs ▪ Electricity transmission grids account for the majority of PCBS ▪ These chemicals degrade air, land, and water systems and also impact biodiversity
Other industry	▪ Industries including metals, pulp and paper, waste treatment, oil refining, catalyst regeneration, chemicals, textiles, and others are major emitters of POPs and Mercury

Global environmental commons

- **Atmosphere**
- **Biodiversity**
- **Land**
- **Oceans**
- **Freshwater**

Source: Team analysis

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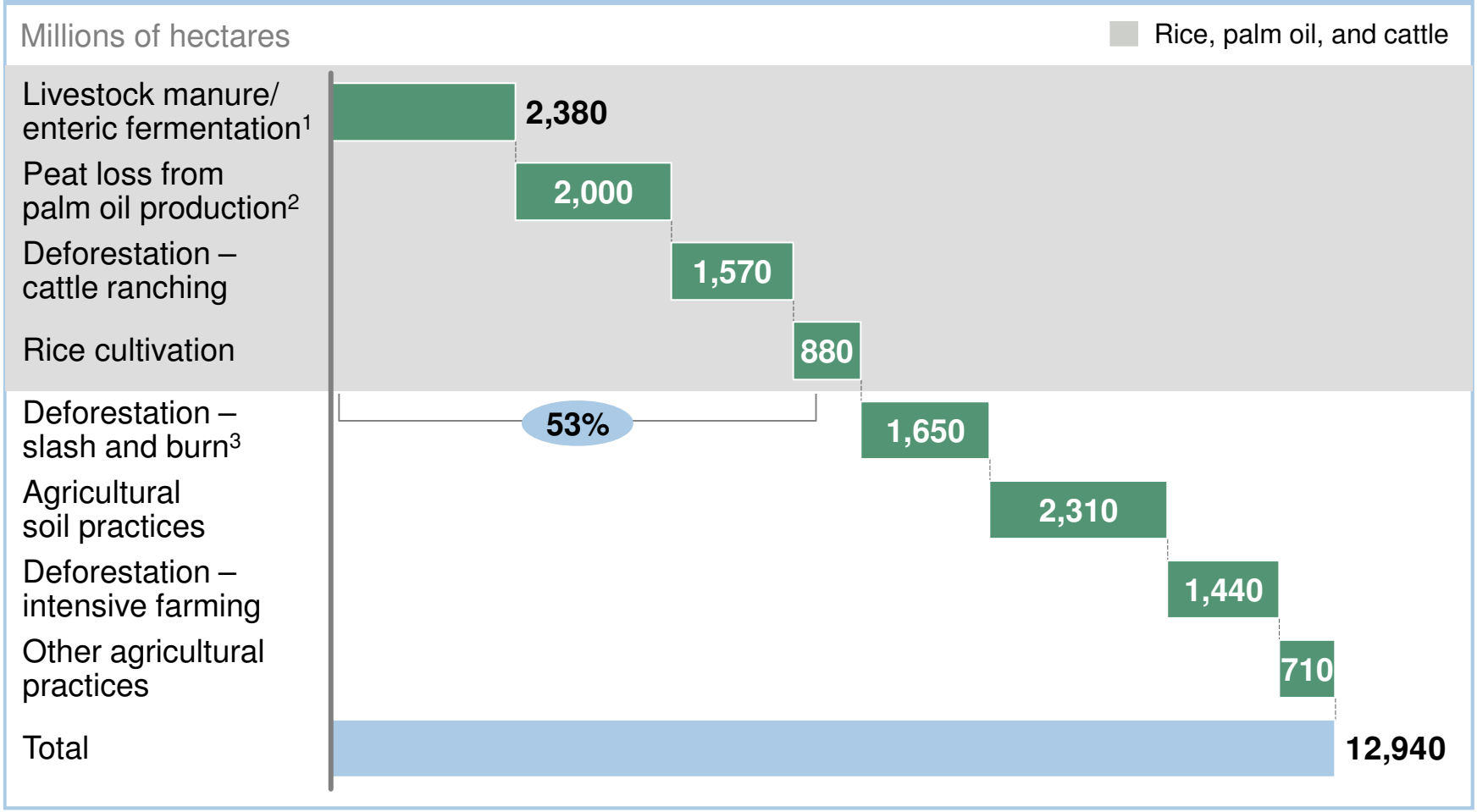
A Cattle, palm oil, and rice together contribute around 50% of all food production-related GHG emissions

Drivers of global CO_2e emissions from direct and indirect (deforestation) food production, 2005



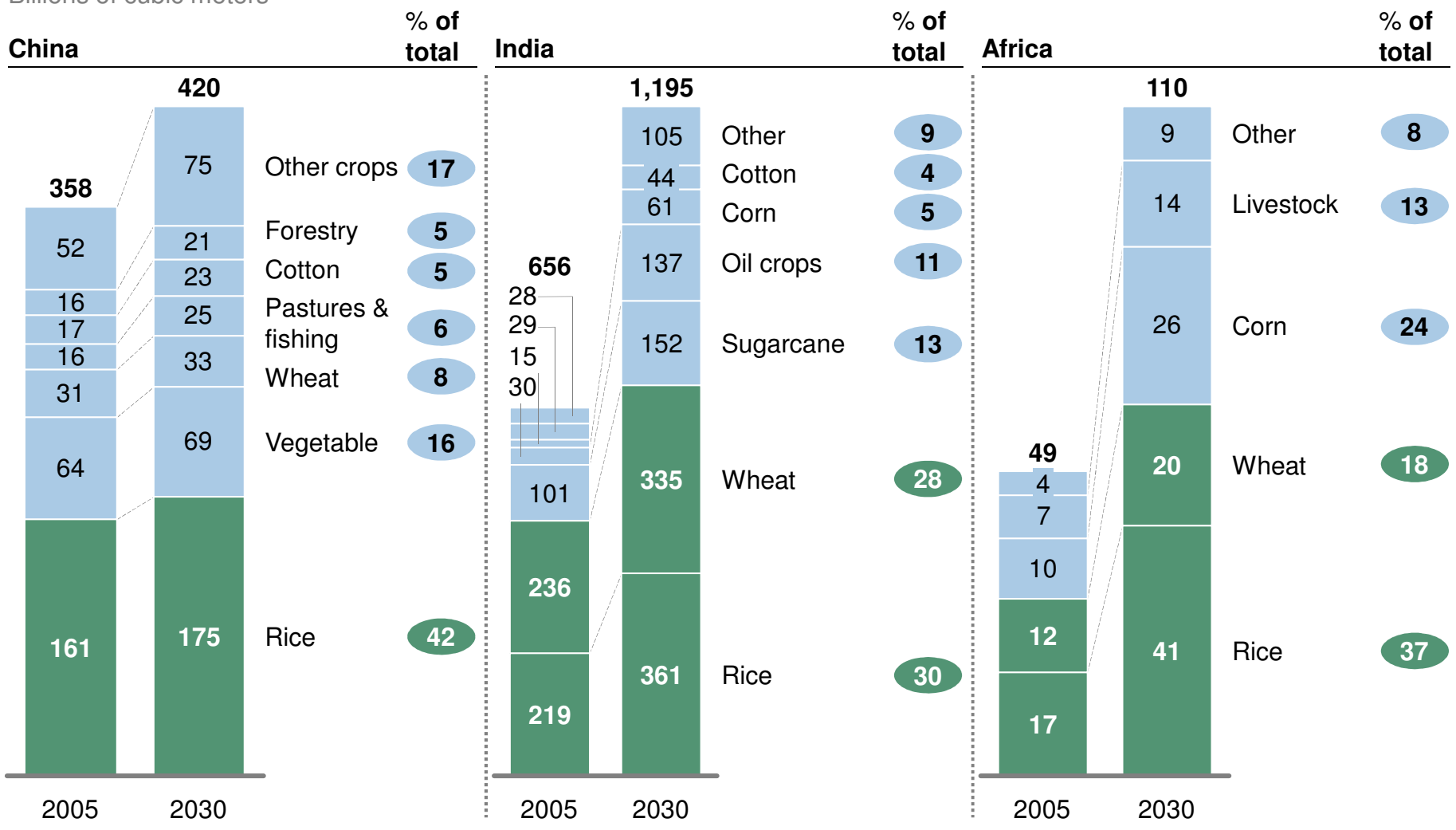
1 The primary ruminant livestock animals are cattle, goats, and sheep. Cattle account for the majority of ruminant enteric fermentation and waste
2 About 90% of the global peat loss is concentrated in Indonesia and is mostly a result of draining peat soils for agriculture, especially the cultivation of oil palm
3 Nearly 90% of total global deforestation is related to food production. About 10-15% is related to timber / forestry

Source: McKinsey Global GHG Cost Curve Version 2.0, 2009

A Wheat and rice are the largest agricultural drivers of water withdrawals in India, China, and Africa, where water deficits are a major concern

Rice accounts for nearly 50% of agricultural water demand in China while rice and wheat together account for near 60% of agricultural water demand in India and Africa

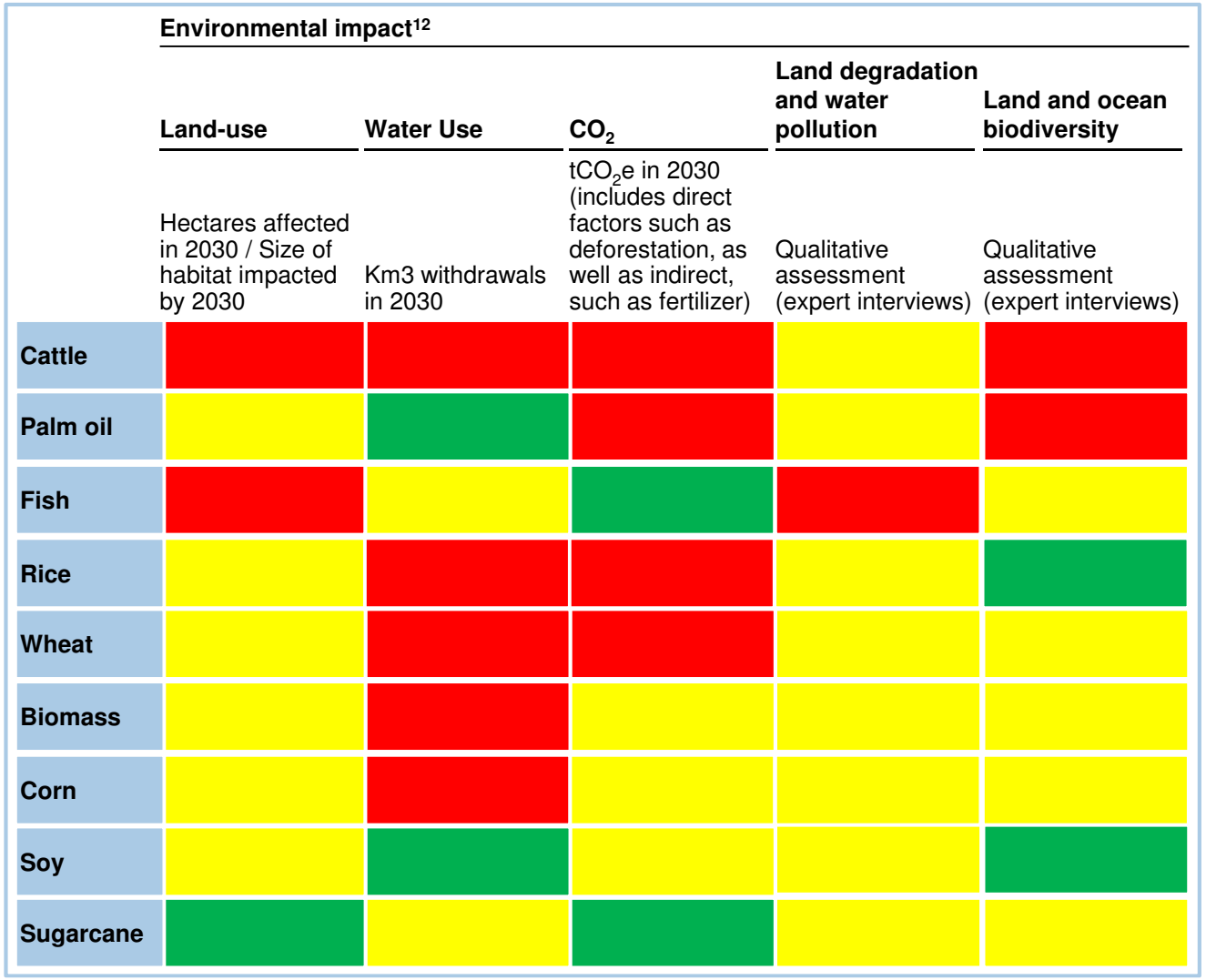
Billions of cubic meters



Source: McKinsey, 'Charting our Water future,' 2009

A The main food production drivers of environmental impact are cattle, palm oil, fish, and rice

Low impact | Medium impact | High impact



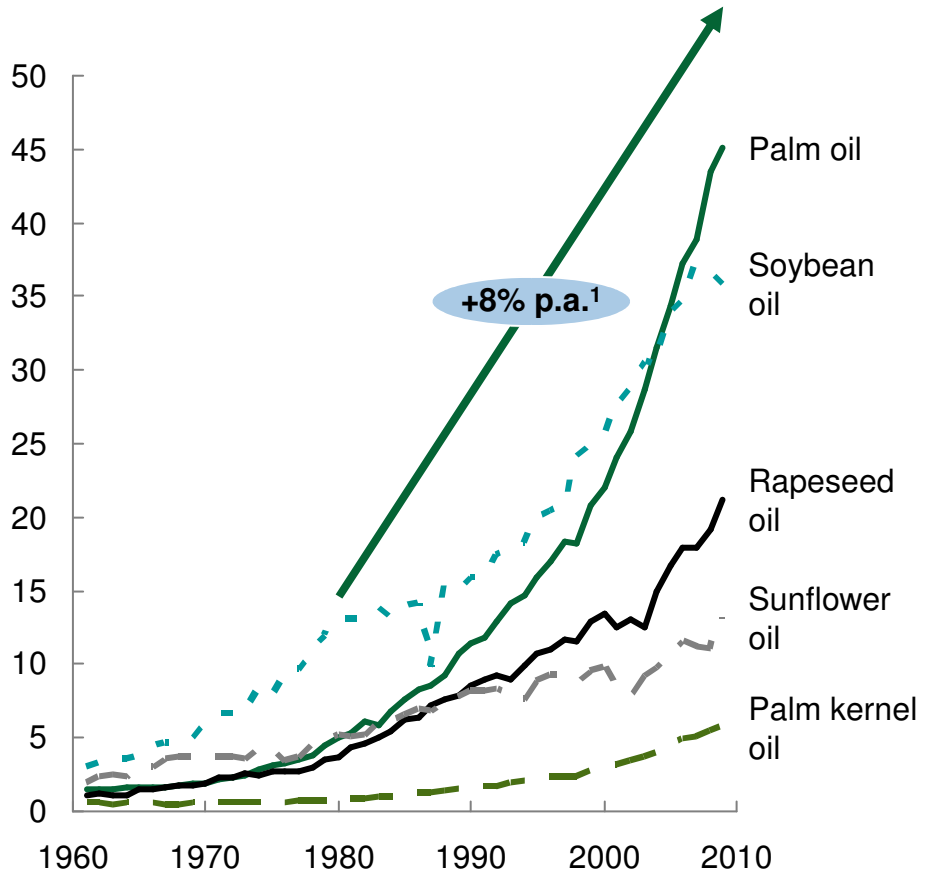
1 The order of magnitude of impact determines whether it is categorized as low, medium, or high. Impacts categorized as high tend to be >5 times as strong as one classified as medium, which tend to be >5 times as strong as ones categorized as low impact

2 The analysis looks very similar whether we look at 2030 or today

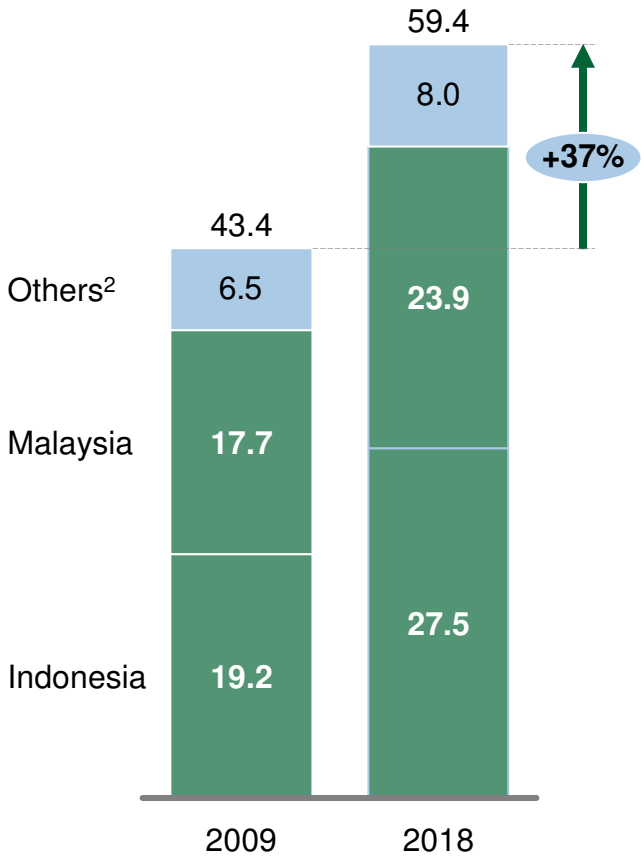
Source: Team analysis

A.i Global palm oil production is now the largest source of vegetable oil with nearly 90% being produced in Indonesia and Malaysia

Global vegetable oil production
Millions of tons per year



Production of palm oil
Millions of tons



1 8% CAGR from 1980-2009
2 Main countries in others are Thailand, Colombia, and Nigeria
Source: Palm Oil HQ, Oct 2008; Oil World; U.S. Department of Agriculture (USDA); Malaysian Palm Oil Council (MPOC); FAOSTAT, interviews; Team analysis

A.i Important players along the palm oil value chain

Agricultural inputs	Palm oil production	Refining, processing & trading	Consumer goods manufacturing	Distribution and retail
Sime Darby, wilmar	(Nearly) fully vertically integrated players represent ~40% of global production			
smart agribusiness and food, IOI GROUP, LONSUM	Partly integrated players represent ~20% of global production			
Smallholders	~40% of global production & growing			
Johnson & Johnson, Unilever, Nestlé, P&G			Palm oil is an input for many consumer goods	
Carrefour, Walmart				Big retailers

Source: Company websites, interviews

A.i Illustrative palm oil initiatives with potential impact opportunities and partners

Initiative	Key participants	Description	Impact opportunity
RSPO	Sime Darby, wilmar, IOI GROUP, smart agribusiness and food, New Britain Palm Oil Limited, UP, Unilever, Johnson & Johnson, P&G, Walmart, Carrefour, Nestlé	▪ Established in 2004 to promote sustainable production and use of palm oil ▪ Offer certification to upstream producers and trademark to downstream brands ▪ As of 2012, ~15% of global palm oil is certified by RSPO ▪ Private sector participants are located across the entire value chain ▪ Financial institutions, NGOs involved	▪ Provide funding for extension services to improve smallholder productivity ▪ Establish “degraded land bank” and assist in spatial planning ▪ Finance campaigns to map and provide land titles ▪ Assists peat and forest rehabilitation programs
PISAgro	smart agribusiness and food, tps food, BUNGE, GAPKI, idh the sustainable trade initiative	▪ Started in 2011, PPP between Indonesian government and private sector players in agriculture ▪ Goal is 20% yield increase, 20% CO_2 emissions and poverty reduction ▪ Targeted crops: – ***palm oil***, corn, cocoa, rice, dairy, potato, soybean ▪ Involved with proof of concepts as well as scale up	▪ Financing for pilot programs in palm oil ▪ Help in monitoring and evaluation of pilot programs ▪ Leverage funding for scale up projects ▪ Help develop ecosystems services market

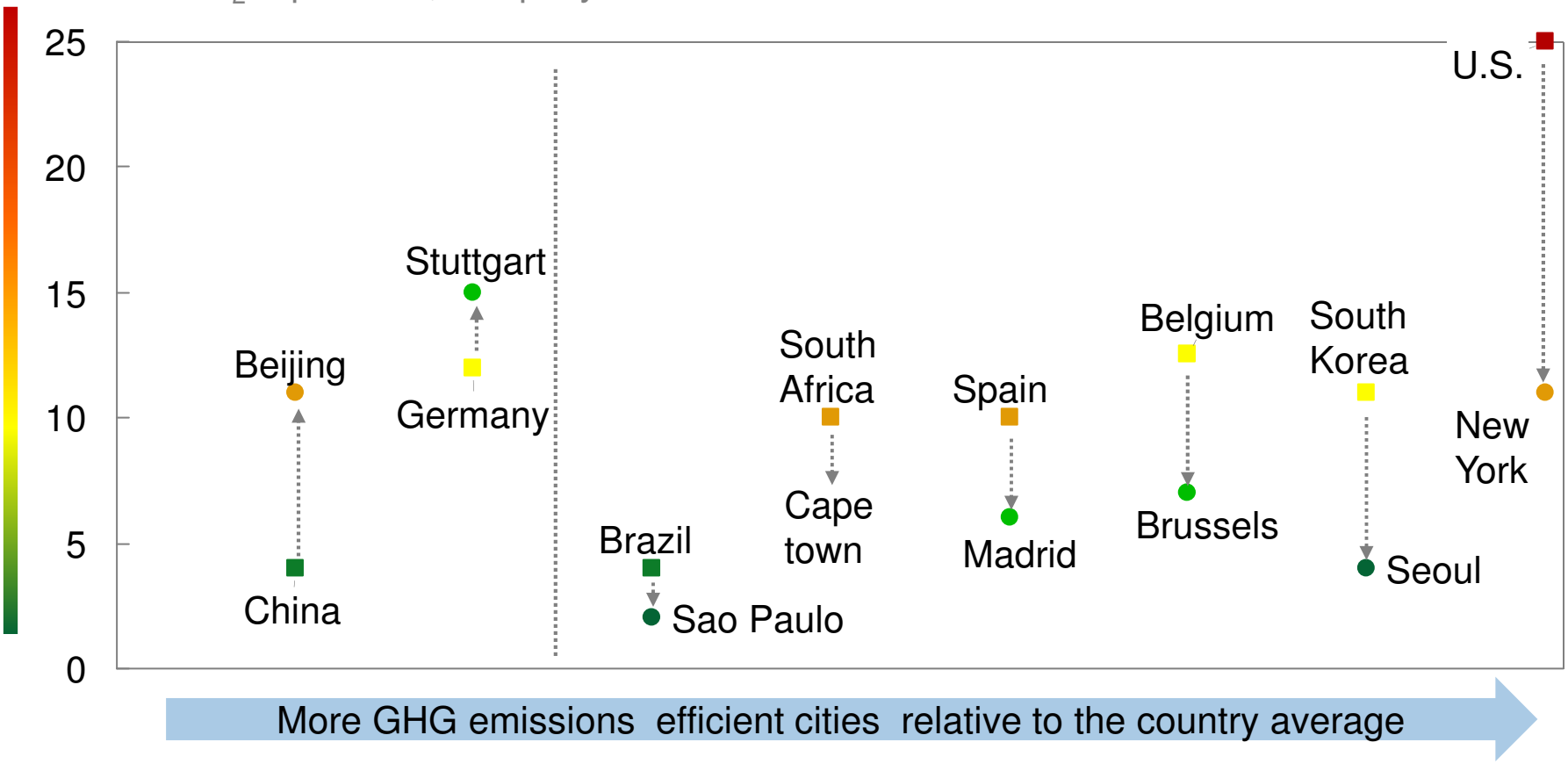
Source: Company websites, interviews

C While urbanization poses challenges, cities also offer opportunities for environmental sustainability

Many cities emit less greenhouse gases per person than the national average. Influencing drivers of urban energy efficiency in developing countries can help towards environmental sustainability

Greenhouse gas emissions per person

Tons of CO_2 equivalent; sample years 1994-2007



Source: National Geographic

C Cities are in position to push key sustainability initiatives across many urban dimensions

	Urban dimension	Level of city control	Key facts
	**Buildings**	●	▪ Most cities have control over building codes and can mandate energy efficient standards ▪ Urban expansion accounts for 2 million hectares per year, 80% of which is in cropland
	**Transport**	●	▪ Nearly 75% of cities have direct control of all or part of their transit system, and nearly 80% have control of roads
	**Waste**	●	▪ More than 80% of cities control residential waste collection
	**Water**	◔	▪ 55–60% of cities control water supply and wastewater treatment
	**Electricity**	◔	▪ Only 15% of cities exercise control over electricity supply in their city ▪ Nonetheless, 25% of those without control have piloted initiatives in distributed solar PV generation

Cities, expected to have over 60% of the global population by 2030, can often move quickly on initiatives

Source: Team analysis

C Illustrative landscape of players influencing various urban dimensions

Urban dimension	Compete players	Specialized players: Multilaterals	Specialized players: Private sector	Specialized players: NGOs/consortiums
Buildings 			United Technologies; Autodesk; ARUP; GAMMON Builders to the Nation	WORLD GREEN BUILDING COUNCIL
Transport 	C40 CITIES	IABD Inter-American Development Bank	SIEMENS	EMBARQ; WORLD RESOURCES INSTITUTE; ITDP Institute for Transportation & Development Policy
Water/waste 	WORLD ECONOMIC FORUM; DFID Department for International Development	JICA Japan International Cooperation Agency; UN-HABITAT	DHI WATER & ENVIRONMENT; CH2MHILL; Deltares Enabling Delta Life	IWA International Water Association
Electricity 	EURO CITIES; Eco² Cities; ODEBRECHT		PHILIPS sense and simplicity	
Urban planning/ governance 		IABD Inter-American Development Bank	Autodesk; Deltares Enabling Delta Life	Cities Alliance Cities Without Slums; Urban Land Institute; Cities Development Initiative for Asia

Source: Team analysis

SECTORAL ILLUSTRATIVE DEEP-DIVE: CITIES

C Illustrative urban initiative with potential impact opportunities: C40 Cities

Initiative

C40 CITIES

Key partners / participants

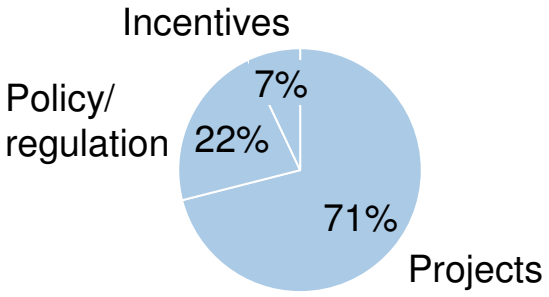
63 global cities
29 from Asia, Africa, and Latin America

Clinton Foundation | Clinton Climate Initiative
Bloomberg Philanthropies
CDP – Driving Sustainable Economies
ICLEI – Local Governments for Sustainability
ARUP
World Resources Institute
EMBARQ – The WRI Center for Sustainable Transport

Description

- Established in 2005 as a global network of megacity mayors committed to reducing their GHG emissions and exposure to climate risks
- 7 key sectors of activities:
  - energy, environmental finance, measurement & planning, waste management, sustainable communities / urban planning, transportation, water & climate adaptation

Share of implemented actions by type, to date, in developing countries



Impact opportunity

- Financing needs for programs:
  - infrastructure financing, consulting services, data collection and measurement
- Seed and bridge financing to address principal-agent problem in urban development
- Help establish tradable carbon finance instruments
- Facilitate cooperation between private sector players and city governments

Source: Team analysis; C40 Cities

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The GEF has seen several successes against its global mission as a steward of the global commons

GEF's mission

"I want the GEF to be a champion of the global environmental commons."

- Naoko Ishii

Key achievements

- Expected to directly reduce **2 billion tons of greenhouse gas emissions** – twice as much as the Clean Development Mechanism – and to catalyze an additional reduction of **7 billion tons**
- Creation or management of over **2,302 protected areas** covering over **708 million hectares** representing ~**40% of the terrestrial protected areas to date**
- Projects cover more than 200 million hectares **of production landscapes, with 20 million hectares under sustainable land management** and slowing down the annual rate of loss through land degradation by at least **10%**
- Projects covering **20** of the Earth's **64** large marine ecosystems
- Environmentally sound disposal of **70,000 tons** of PCB-related waste, and **40,000 tons** of obsolete pesticides
- Funded phase-out of **101,000 tons** of ozone-depleting substances in Phase I of the Montreal Protocol; expected to phase out up to **1,263,045 tons** in Phase II

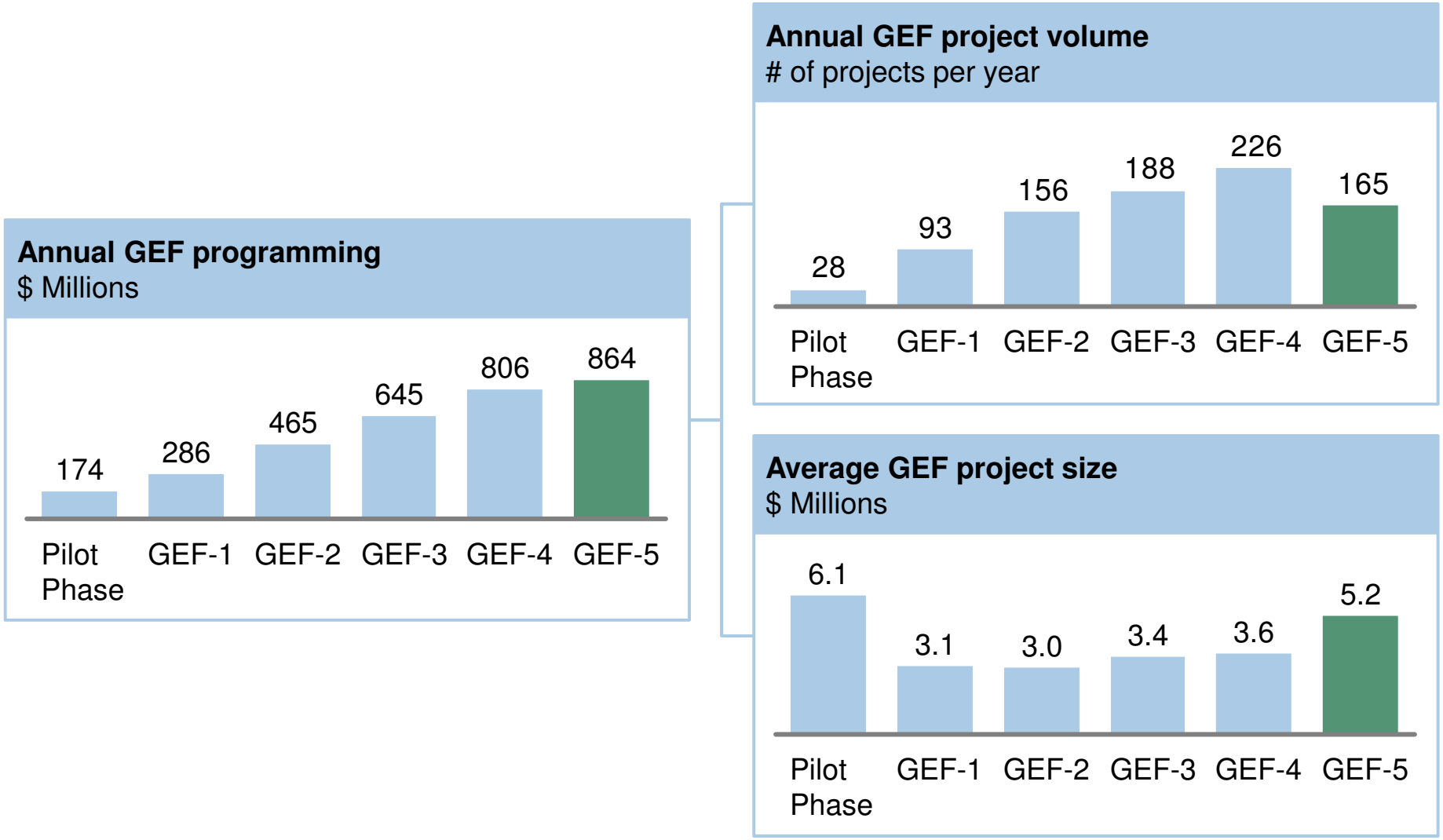
Source: GEF, "Behind the Numbers", 2013

The operating context in which the GEF works has evolved significantly since conception

	Pilot (1990)	Today
Formal financial mechanism	CBD, UNFCCC	CBD, UNFCCC, UNCCD, Stockholm Convention, *Mercury Convention*, *Montreal Protocol*
Other related Conventions		▪ Global Ship Ballast Water Treaty ▪ UN Law of the Sea Treaty ▪ MARPOL treaty for shipping ▪ UNFF, Biodiversity related conventions ▪ Rotterdam, Basel
Implementing agencies	World Bank, UNEP, UNDP	UNDP, World Bank, UNEP, FAO, UNIDO, IFAD, ADB, AfDB, European Bank, IDB
Peer funders		GCF Green Climate Fund, BNDES, CIF Climate Investment Funds, Adaptation Fund, Norad, The Walton Family Foundation, Gordon and Betty Moore Foundation, Amazon Fund

Source: Team analysis

Volume and size of GEF's programming has changed over time



Note: Include GEF trust fund projects only, data as of Sept 30, 2012

Source: Project Management Information System (PMIS) data used by Evaluation Office for First OPS5 report (2013)

Conventions provide the GEF with significant breadth of guidance in the types of projects it should fund

GEF complies with Convention guidance…

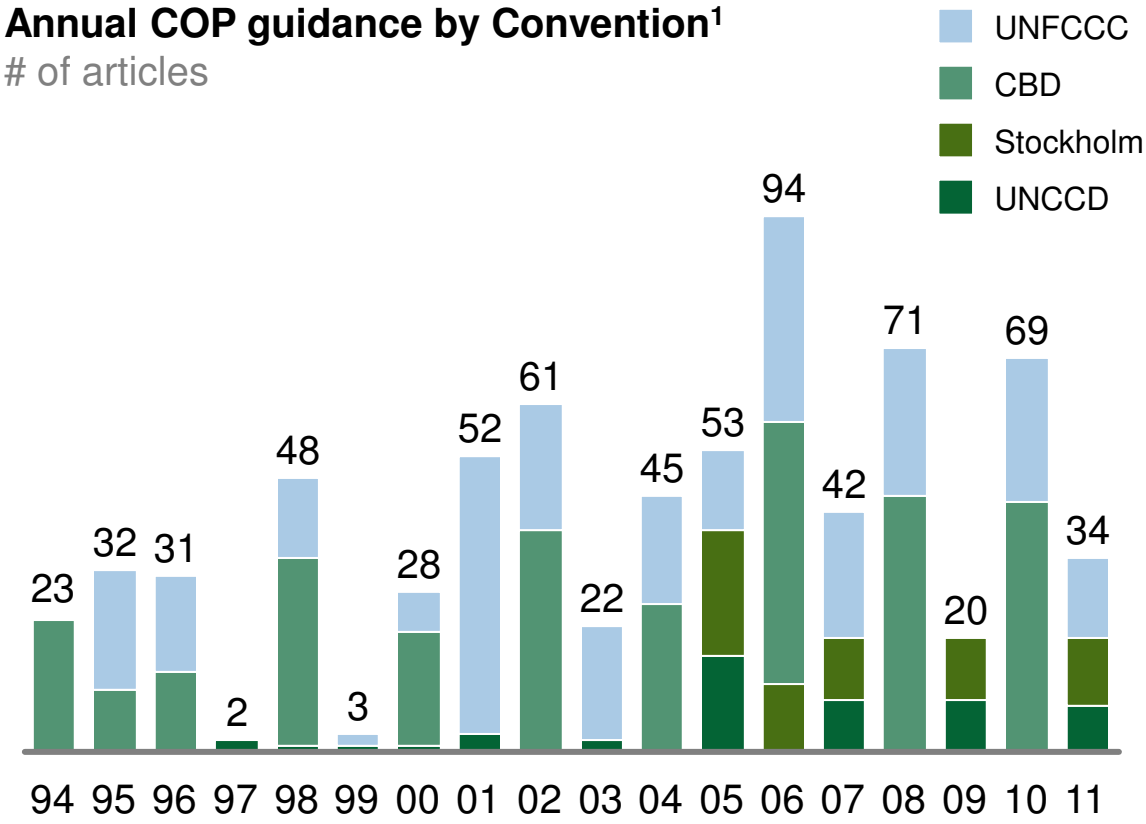
"The use of the GEF resources for purposes of such conventions shall be in conformity with the policies, program priorities and eligibility criteria decided by the conference of parties of each of those conventions."

- GEF Instrument

… yet guidance across Conventions is significant in breadth

Annual COP guidance by Convention[1]

# of articles



1 From OPS5: "The count of items of guidance is now defined as COP decision text that addresses the GEF directly (this excludes related guidance to GEF Agencies, convention secretariats, or other stakeholders) and expresses a request or invitation to act on a specific topic."

Source: First OPS5 report (2013); GEF Instrument (2011)

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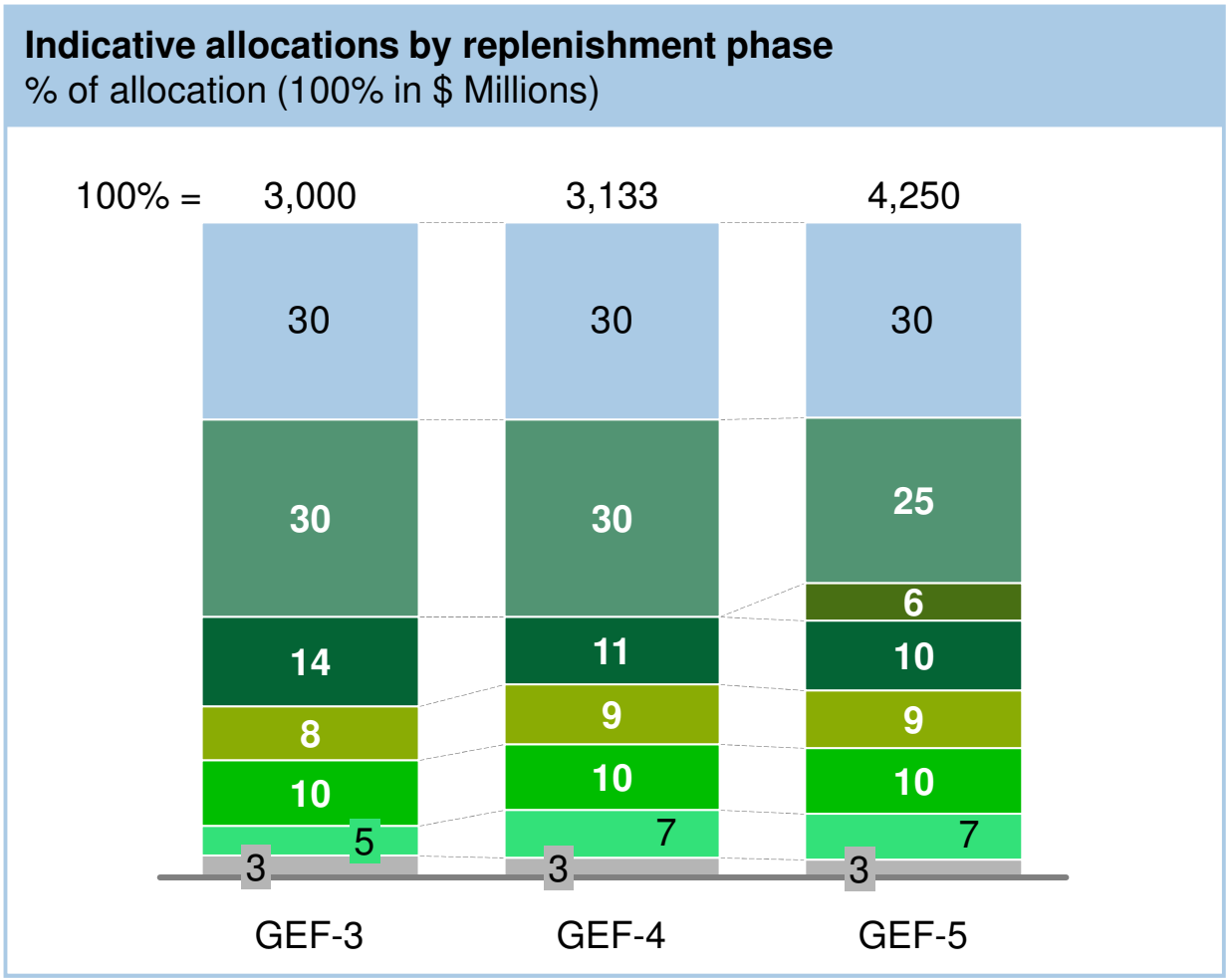
FUNDING ALLOCATIONS

Indicative allocations have remained largely consistent over time



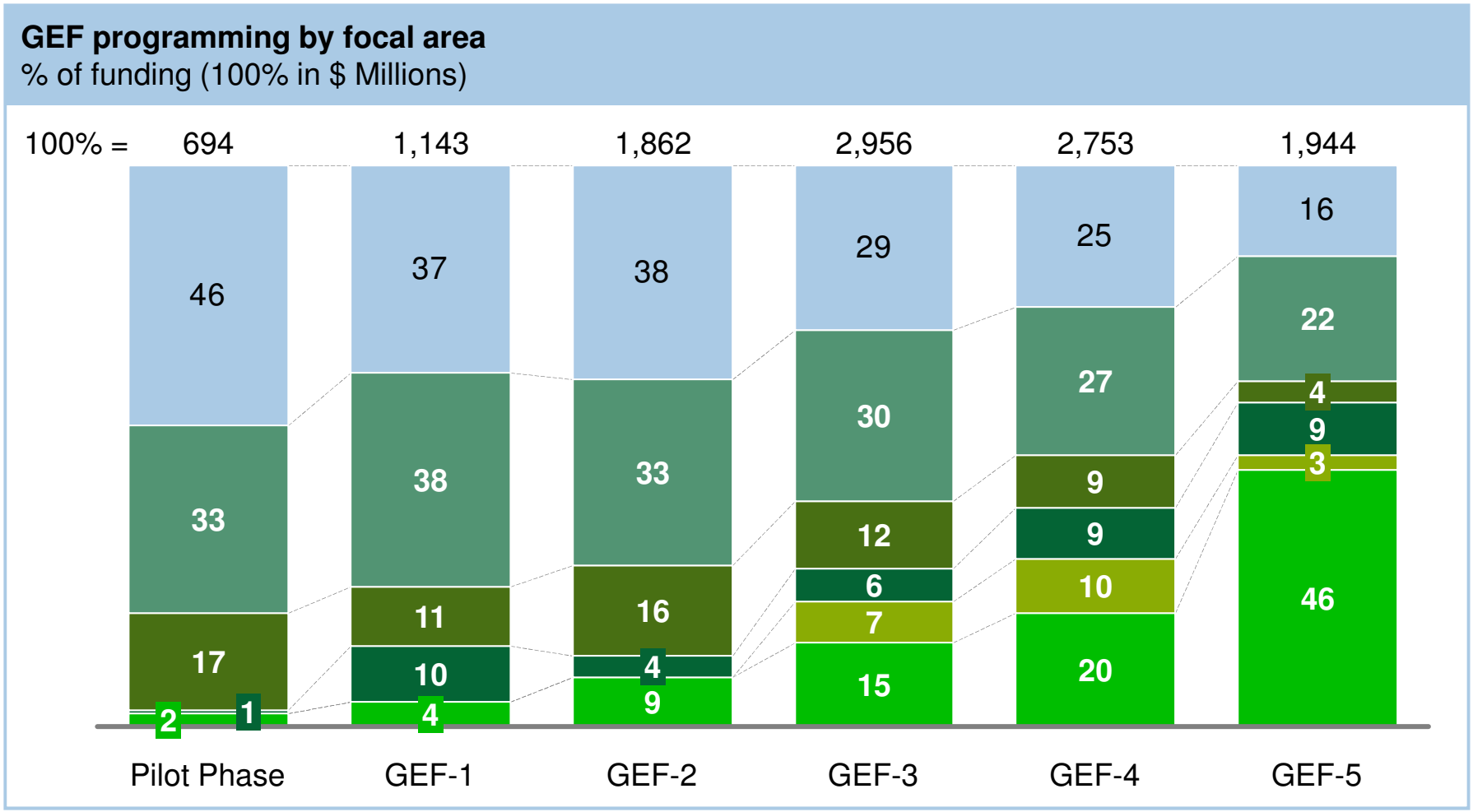
Note: GEF Trust Fund only; does not include GEF budget or Corporate programs

1 Includes Small Grants Program, CSP & Capacity Building, and Outreach to Private Sector; GEF-3 distributed $138M of core focal area allocations to Small Grants Program based on focal area size

Source: GEF-3, GEF-4 and GEF-5 replenishment documents

FUNDING ALLOCATIONS

Multifocal area funding has increased from 2% to 46%



Note: Include GEF trust fund projects only, data as of Sept 30, 2012

Source: Project Management Information System (PMIS) data used by Evaluation Office for First OPS5 report (2013)

FUNDING ALLOCATIONS

Funds allocation among GEF-5 focal area objectives (1/2)

Programmed as of Feb 28, 2013 (% of total focal area)

Biodiversity

1	Improve sustainability of protect area systems	$685M/ 53.4%
2	Mainstream biodiversity conservation and sustainable use into production landscapes/ seascapes and sectors	$555M/ 43.2%
3	Build capacity for the implementation of the Cartagena Protocol on Biosafety (CPB)	$3M/ 0.2%
4	Build capacity on Access to Genetic Resources and Benefits Sharing (ABS)	$5M/ 0.4%
5	Integrate Convention on Biodiversity (CBD) obligations into national planning process through EAs	$34M/ 2.7%

Climate change

1	Promote the demonstration, deployment, and transfer of innovative low-carbon technologies	$116M/ 11.2%
2	Promote market transformation for energy efficiency in industry and the building sector	$250M/ 24.2%
3	Promote investment in renewable energy technologies	$209M/ 20.2%
4	Promote low-carbon transport and urban systems	$153M/ 14.8%
5	Promote conservation and enhancement of carbon stocks through sustainable management of land use, land-use change, and forestry (LULUCF)	$212M/ 20.5%
6	Support enabling activities and capacity building under the Convention	$93M/ 9.0%

International waters

1	Catalyze multi-state cooperation to balance conflicting water uses in transboundary surface and groundwater basins while considering climatic variability and change	$43M/ 10.6%
2	Catalyze multistate coopera-tion to rebuild marine fisheries and reduce pollution of coasts and Large Marine Ecosystems (EMEs) while considering climatic variability and change	$146M/ 36.0%
3	Support foundational capacity building, portfolio learning, and targeted research needs for joint, ecosystem-based management of trans-boundary water systems	$59M/ 14.6%
4	Promote effective management of Marine Areas beyond National Jurisdiction (ABNJ)	$157M/ 38.8%

Source: GEF, “Strategic Positioning for the GEF: 1st meeting for the Sixth replenishment of the GEF Trust Fund”, March 2013

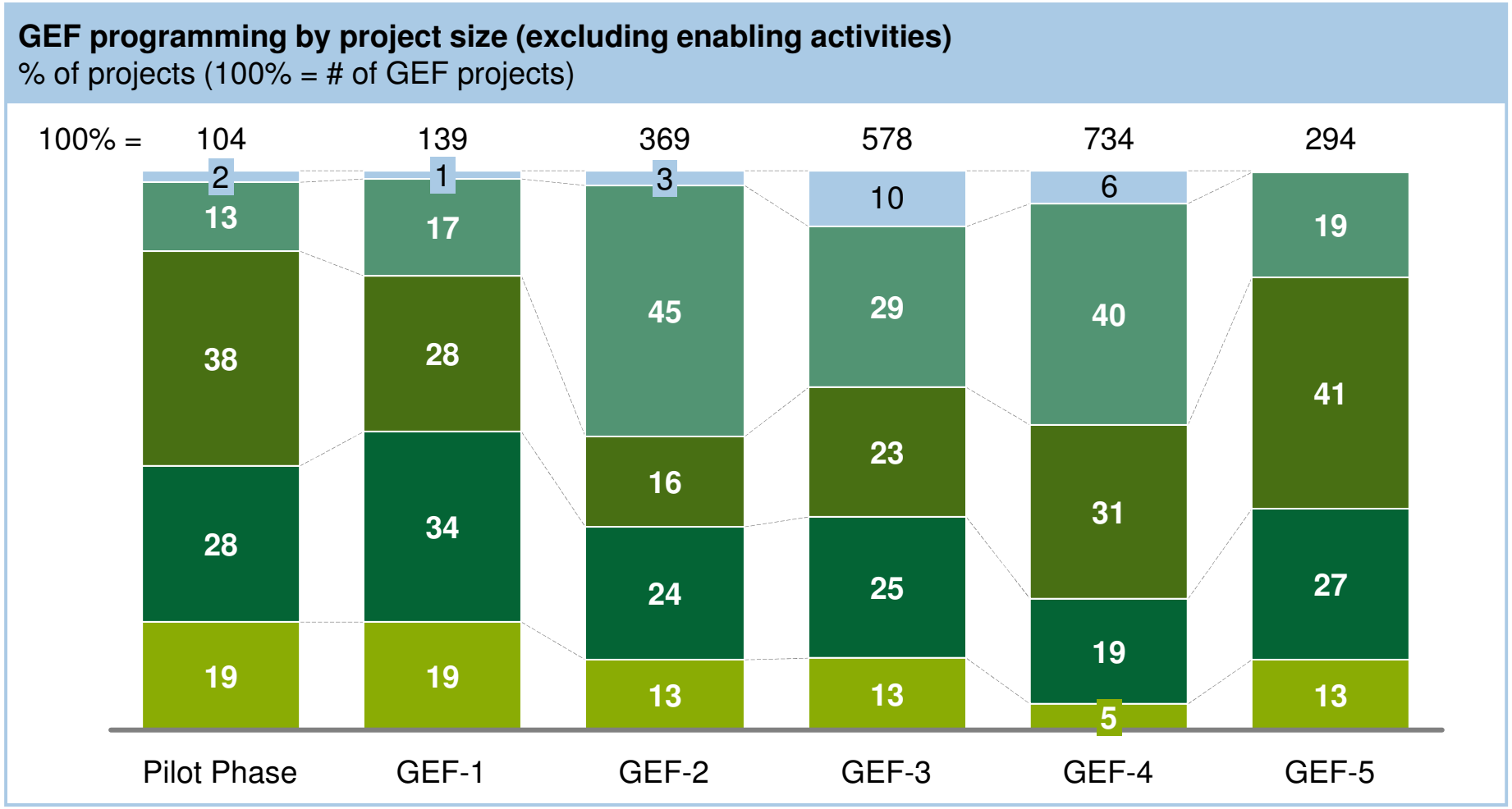
Funds allocation among GEF-5 focal area objectives (2/2)

Programmed as of Feb 28, 2013 (% of total focal area)

Land degradation		Chemicals		SFM / REDD+	
1 Maintain or improve how of agro-ecosystem services sustaining the livelihoods of local communities	$132M/ 23.0%	1 Phase out POPs and reduce POPs releases	$217M/ 82.5%	1 Reduce pressures on forest resources and generate sustainable flows of forest ecosystem services	$226M/ 88.6%
2 Generate sustainable flows of forest ecosystem services in drylands, including sustaining livelihoods of forest dependent people	$13M/ 2.3%	2 Phase out ODS and reduce ODS releases	$8M/ 3.0%	2 Strengthen the enabling environment to reduce GHG emissions from deforestation and forest degradation and enhance carbon sinks from LULUCF activities	$29M/ 11.4%
3 Reduce pressures on natural resources from competing land uses in the wider landscape	$421M/ 73.2%	3 Pilot sound chemicals management and mercury reduction	$30M/ 11.4%		
4 Increase capacity to apply adaptive management tools Sustainable Land Management (SLM)	$9M/ 1.6%	4 POPs enabling activities	$8M/ 3.0%		

Source: GEF, “Strategic Positioning for the GEF: 1st meeting for the Sixth replenishment of the GEF Trust Fund”, March 2013

Project size have increased since GEF-2, with ~80% of GEF-5 projects larger than $2M

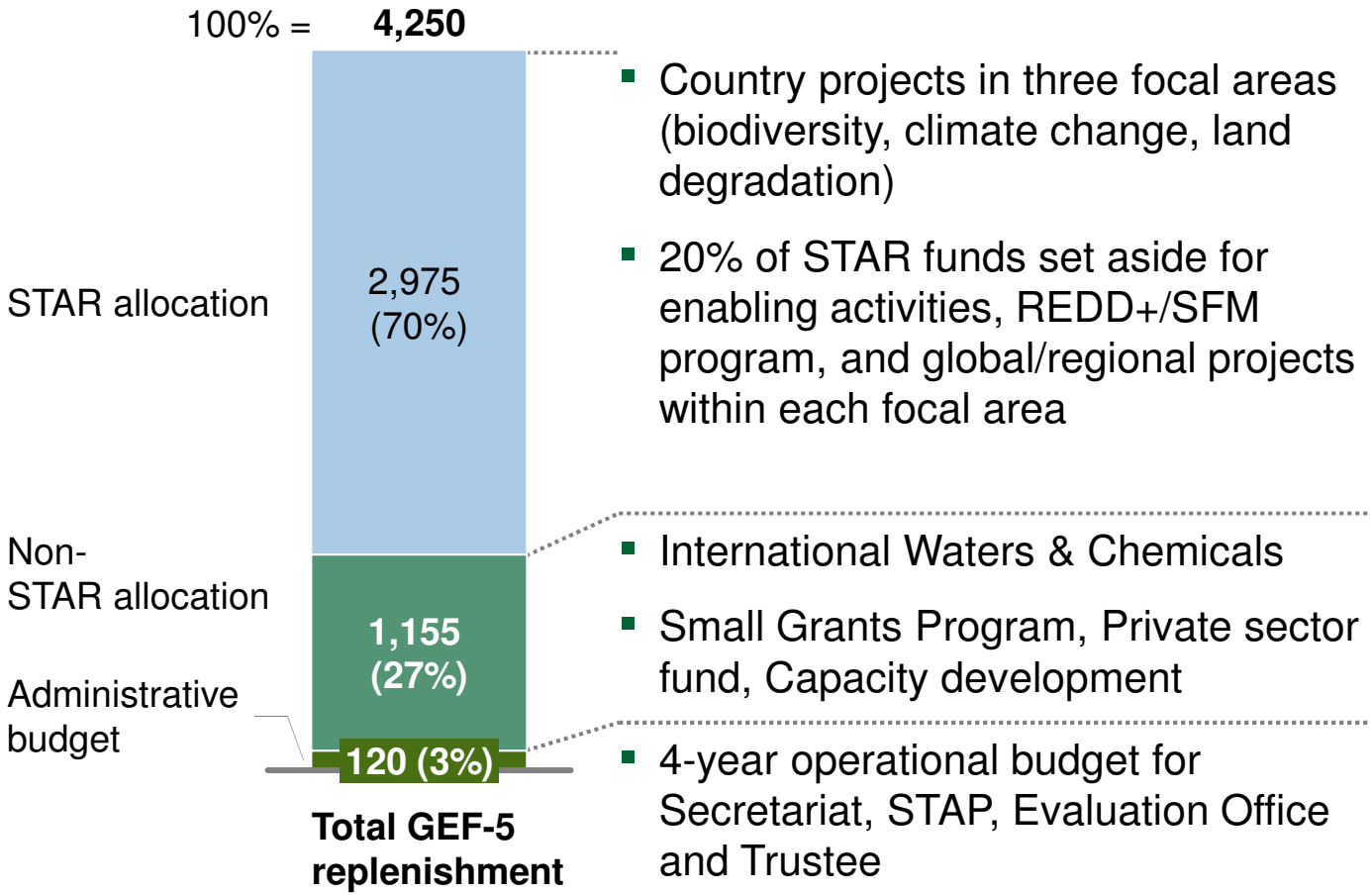


Note: Include GEF trust fund projects only, data as of Sept 30, 2012

Source: Project Management Information System (PMIS) data used by Evaluation Office for First OPS5 report (2013)

70% of GEF-5 funds allocated to countries using STAR framework

GEF-5 replenishment financial projections
$ Millions



- Country projects in three focal areas (biodiversity, climate change, land degradation)
- 20% of STAR funds set aside for enabling activities, REDD+/SFM program, and global/regional projects within each focal area
- International Waters & Chemicals
- Small Grants Program, Private sector fund, Capacity development
- 4-year operational budget for Secretariat, STAP, Evaluation Office and Trustee

Note: Does not include funding for LDCF, SCCF and the Adaptation Fund

Source: GEF Council report (Oct 2012)

Contents

INFLUENCING MODELS

The GEF employs various influencing models to catalyze change

	Illustrative examples	Share of historic programming
Invest in green infrastructure	▪ Protected areas ▪ "Top-up" for clean energy vs. fossil fuels	High
Transform policy frameworks	▪ Policy dialogue and technical assistance for new laws and regulations ▪ Country plans for eliminating persistent organic pollutants	Med
Create a "beacon" effect through innovation	▪ First-of-a-kind technology demonstration ▪ New payment for ecosystem services model ▪ Innovative financing mechanisms	Med
Mobilize diverse stakeholders	▪ Regional partnerships to sustain ecosystem services ▪ Convening parties to develop international agreements	Low
Measure challenges & codify solutions	▪ World-leading systems of assessment and indices	Low
Set standards to shift markets	▪ New standards alliance for biodiversity-friendly commodities ▪ Standards and policies to phase out inefficient lighting	Low

Invest in green infrastructure

Amazon Region Protected Areas Phase 1
Safeguarding Amazon's biodiversity

$30M of GEF grants to create and strengthen protected areas between 2002 and 2008

Cofinancing: *1.7x*

Worked with major national and international NGOs

WWF®

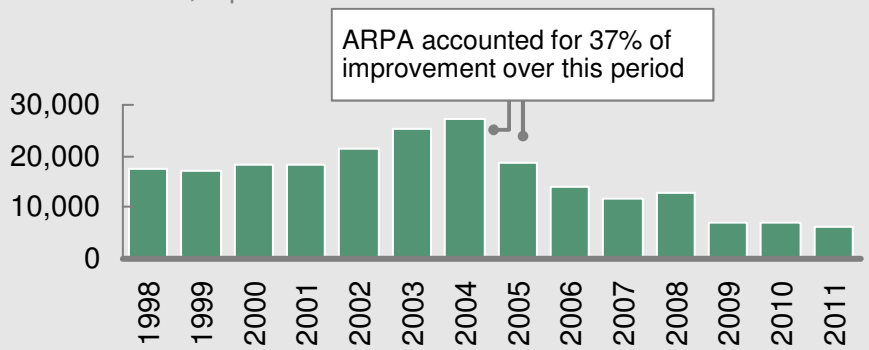
FUNDO BRASILEIRO PARA A BIODIVERSIDADE FUNBIO

Catalytic impact

- Intervention linked with ~**40% of Brazilian Amazon's total reduction in deforestation** between '04 and '06
- ARPA reserves are more than **double the size of the US National Park System**

Annual deforestation in Brazilian Amazon

Deforestation, sq km



Phase-out of ozone-depleting substances in countries with economies in transition

$210M of GEF grant across 28 projects to facilitate phase-out (investments in ODS-free equipment were a major part of this portfolio)

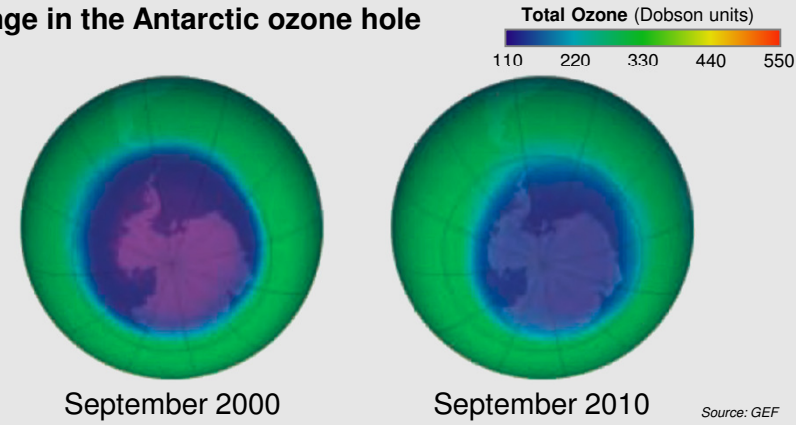
Cofinancing: *1.2x*

Leveraged comparative advantage of all agencies in a coordinated approach

Catalytic impact

- Companies with GEF-supported ODS-free equipment **realized a green competitive advantage**, captured market share, and expanded share of ODS-free production in their industry

Change in the Antarctic ozone hole



Source: Soares-Filho et al, "Role of Brazilian Amazon protected areas in climate change mitigation" PNAS 107 (2010); National Institute of Space Research data; GEF Evaluation Office, "GEF Impact Evaluation of the Phase-Out of ODS in CEIT: Volume I" (2009); GEF, "Investing in the phase-out of ozone-depleting substances: the GEF experience" (2010)

Transform policy frameworks

REDP and CRESP
Transforming China's renewable energy market

$76M grant over two major interventions drove key laws and regulations in Chinese electricity sector

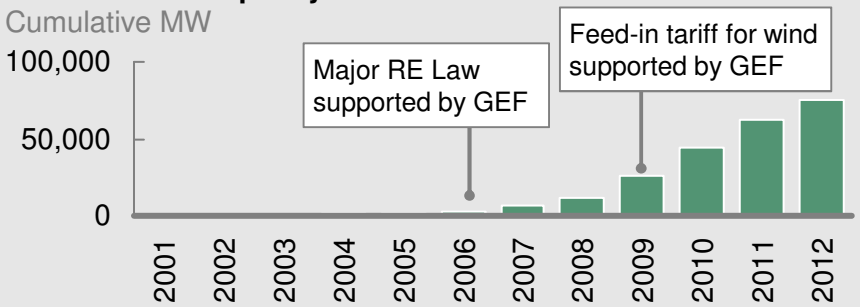
Cofinancing: *7.9x*

Promoted policy dialogue with National Development and Reform Commission of China

Catalytic impact

- China's installed wind capacity **increased 100-fold** from 2006 to 2012, from just **760 MW** to over 75 GW, and is expected to reach **150 GW by 2015**
- In 2012, electricity produced from wind power grew at a rate faster than electricity from coal in China for the first time ever

Installed wind capacity in China



GLOBE Legislators' Forest Initiative
Laying foundation for progressive forest policy

$1M grant strengthened national legislation on reducing emissions from deforestation and forest degradation (REDD+) and Sustainable Forest Management in key forested developing countries (Mexico, DRC, Brazil, Indonesia)

Cofinancing: *1.2x*

UNEP

Engaged beyond Ministries with legislative bodies to bring these policies into practice

GLOBE INTERNATIONAL

Catalytic impact

- In 2012, Mexico became the first country to enact legislation for REDD+, guiding the way for others
- Jump-started **Global Summit of Legislators** inaugurated in Rio+20 and that will convene every 2 years

Source: justwalkedby.com

Source: World Bank, "RETooIKit Case Study: China Renewable Energy: A Programmatic Approach – REDP and CRESP" (2007); UNDP-GEF, "Transforming on-grid renewable energy markets" (2012)

INFLUENCING MODELS

Create a "beacon" effect through innovation

Concentrating Solar Power (CSP) in Egypt, Morocco, Mexico

$142M in grants to support four large-scale projects in Egypt, Morocco, Mexico and India to push concentrating solar power down the cost curve

Cofinancing: *7.7x*

Engaged with different partners across countries depending on policy and market context

Catalytic impact

- According to an independent review, program **catalyzed development of an industry / technology** where there previously had been little global activity
- Sustained GEF commitment made **CSP ready for scaled-up investment** by CTF & others
- Even projects that were less than successful, **provided key lessons learned** for future GEF and industry investments

Source: MSNBC

GloBallast – *Eliminating invasive aquatic species in ships' ballast water*

$14M in grants spread over two phases and more than a decade, to create champions to combat invasive marine species and spearhead a new convention

Cofinancing: *3.2x*

Leveraged national champions to work with IMO and created pioneering PPP, GIA

Catalytic impact

- Ushered in a new convention to protect marine biodiversity from invasive species transferred by ships' ballast water
- Convention expected to catalyze over **$35B** in private investment for ballast water treatment, representing a **1:2,500 leverage ratio** for GEF

Source: Smithsonian Environmental Research Center

Source: Fraunhofer-ISI, "Assessment of the World Bank/GEF strategy for the market development of concentrating solar thermal power" (2006); World Bank GEF Program; UNDP-GEF, "Catalyzing ocean finance: Vol. II" (2012)

Mobilize diverse stakeholders

Benguela Current Commission
Addressing drivers of marine ecosystem degradation

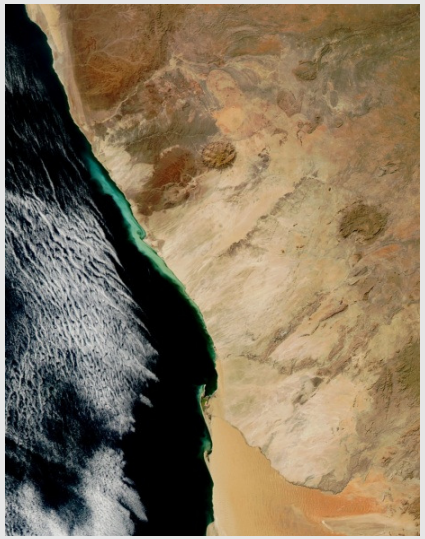
$20 in GEF grants over four projects provided a framework for lasting, long-term protection of one of the world's richest ecosystems, spanning the coasts of three countries

Cofinancing: *4.5x*

Engaged multiple Ministries to address drivers of eco-system degradation across sectors and government silos

Catalytic impact

- By building political buy-in and developing shared tools, GEF brought Namibia, South Africa and Angola together around a **pioneering legal framework**
- Commission **addresses drivers** of marine ecosystem degradation **across sectors,** including mining, oil & gas, commercial fishing and shipping



Source: J. Descloitres, MODIS Rapid Response Team, NASA/GSFC

Great Green Wall Initiative
Fighting desertification while enhancing resilience

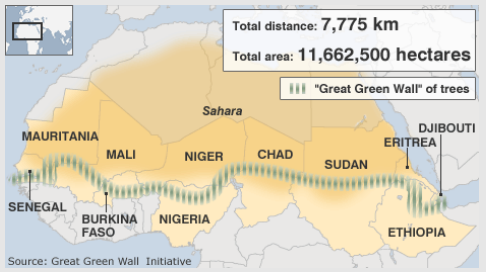
$87M grant to support a pan-African proposal to "green" the continent from west to east in order to combat desertification and enhance climate resilience

Cofinancing: *20.7x*

Coordinated with LDCF and supported country cooperation through Pan-African Agency for the Great Green Wall

Catalytic impact

- By **linking national-level efforts across borders**, countries are coming together pursue development pathways that will increase resilience of ecosystem and human communities to climate change
- **Innovative transboundary approaches** address threats from land & soil degradation, desertification, deforestation, water scarcity and biodiversity loss



Source: GEF, "World's first large marine ecosystem legal framework signed by Angola, Namibia and South Africa" (2013); GEF, "Great Green Wall Initiative" (2012)

Measure challenges & codify solutions

Millennium Ecosystem Assessment
New framework for "making nature count"

GEF's early seed funding and subsequent $7M grant (the project's largest) supported knowledge development and coordination across partners

Cofinancing: *2.5x*

UNEP

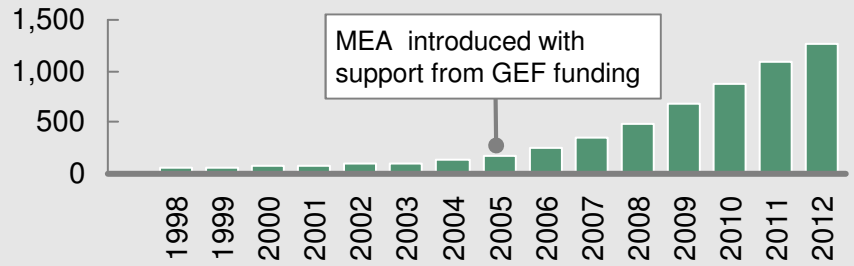
Brought together leading academics and scientists, CSOs, international agencies, global foundations

Catalytic impact

- Created **one of the most influential knowledge pieces on ecosystems ever produced**
- GEF brought "ecosystem services" from academic obscurity to the pages of the Economist, decision-makers' desks, and Fortune 500 boardrooms

Spread of "ecosystem services"

Number of peer-reviewed articles published on PES



International Waters Learning Exchange and Resource Network (IW:Learn)

$6.3M grant supported capacity building and knowledge management across GEF's IW portfolio and stakeholders through a suite of knowledge sharing and joint demonstration activities

Cofinancing: *0.9x*

UNDP UNEP

Brings together broad set of project stakeholders to give coherence to GEF IW work

IW LEARN

Catalytic impact

- In the absence of a global convention on water, IW:LEARN has **provided a forum to increase capacity** to identify, disseminate and replicate best practices across IW projects
- Now a global network of practitioners, producing over **3,700 knowledge products** shared with more than **470 organizations**

Source: Creative Commons, B.A. Steves

Source: UNEP, "History of the Millennium Assessment" (2005), Hamid, M., "Knowledge management in the GEF: Building on the GEF IW:Learn experience" (2013)

Set standards to shift markets

En.lighten
Transitioning to energy-efficient lighting

$5M grant to support development of harmonized technology standards **to** speed the transition to efficient lighting in developing countries and emerging economies

Cofinancing: *3.0x*

UNEP — *Created expert task forces of private sector, government, civil society and academia* — PHILIPS, OSRAM

Catalytic impact

- Global transition to efficient lighting could reduce CO_2 emissions by 1% - equivalent to **taking 61M cars off the road**
- Success with residential lighting has laid foundation for **expansion to commercial and street lighting**
- Market entry for high performance technologies, such as LED, is **benefiting from stakeholder expertise and policy development**

en.lighten

Rainforest Alliance
Promoting a sustainable cocoa supply chain

$5M grant to safeguard biodiversity in global cocoa supply chains

Cofinancing: *3.0x*

UNEP — *Supported partnership of standard-setter and major private companies* — Rainforest Alliance, kraft foods, MARS incorporated

Catalytic impact

- Will bring **10% of world's cocoa supply** into more sustainable production systems, focusing on an important driver of habitat destruction
- **Supports work with the private sector** to preserve globally significant biodiversity
- Uses **standards to transform supply chain,** increasing farmers' income while protecting the environment

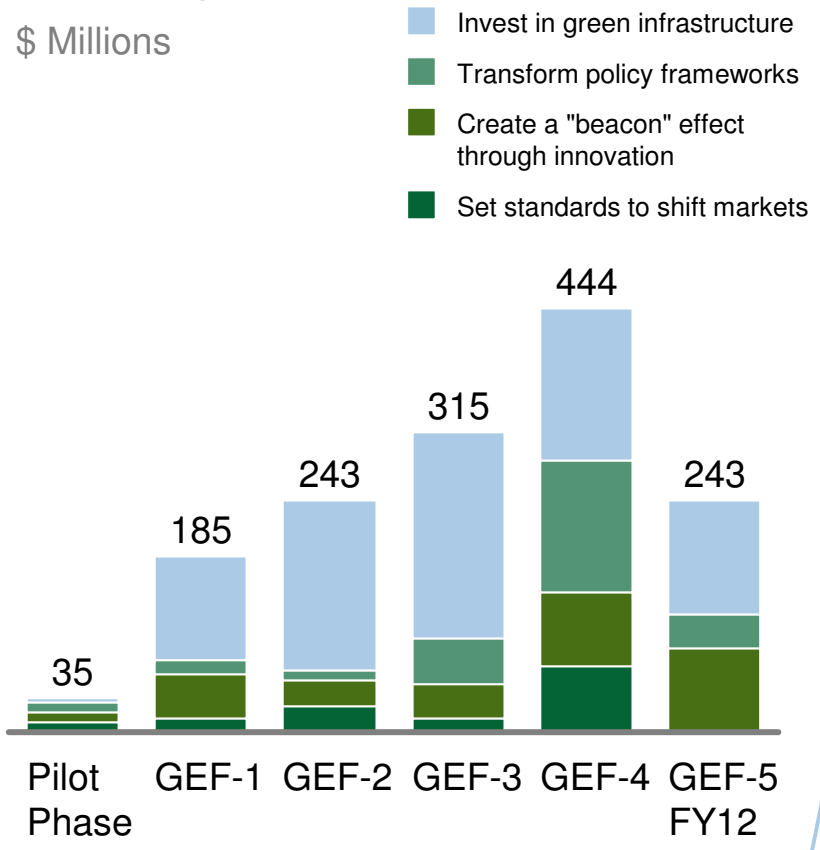
Source: Creative Commons, Jon Reese

Source: UNEP, "Achieving the Global Transition to Energy Efficient Lighting Toolkit" (2012); GEF, "The Rainforest Alliance honors the Global Environment Facility" (2012)

GEF has successfully combined these influencing models in its energy efficiency program

Energy efficiency program used several influencing models over time…

Energy efficiency programming by influencing model



…and shaped the global pursuit of energy efficiency around its work

- **Pioneered risk-sharing facilities with IFC** for energy efficiency that have led to firmly established business lines at IFC
- **Tested, reinvented, and evolved the Energy Service Company (ESCO) business models** to help rapidly growing countries meet needs for energy efficient public buildings and housing
- **Promoted energy efficiency policy frameworks in dozens of countries,** such as building codes, that enable local and national governments to predictably curtail growing energy consumption and address social housing needs
- **Accelerated introduction of compact fluorescent lighting** and supported global phase-out of inefficient lighting
- **Supported intellectual property licensing in China for the boiler sector,** yielding dozens of energy efficient designs for use by local manufacturers and rapid increase in energy efficiency for many industries

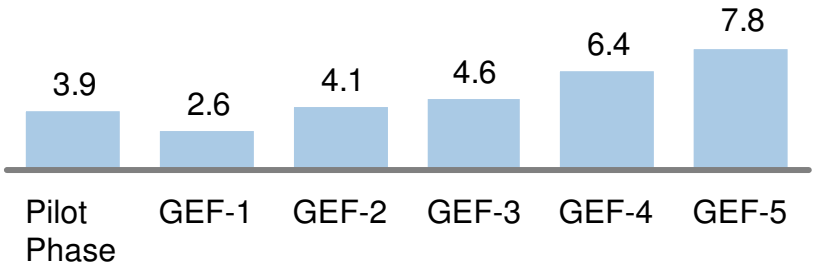
Source: GEF, “Investing in Energy Efficiency: The GEF experience” (2013)

Cofinancing has increased over time, but metric does not fully capture GEF's catalytic role

Project-specific cofinancing ratios have increased over time…

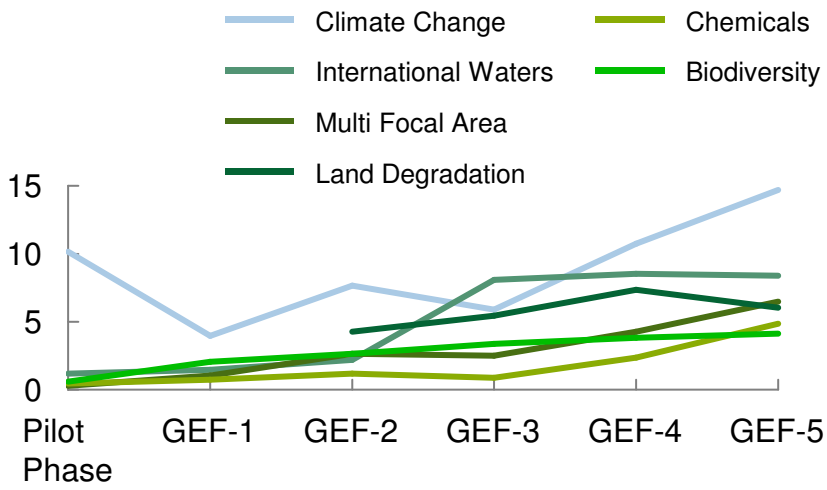
GEF's cofinancing ratio over time

$ program cofinancing : $ GEF programming



GEF's cofinancing ratio by focal areas

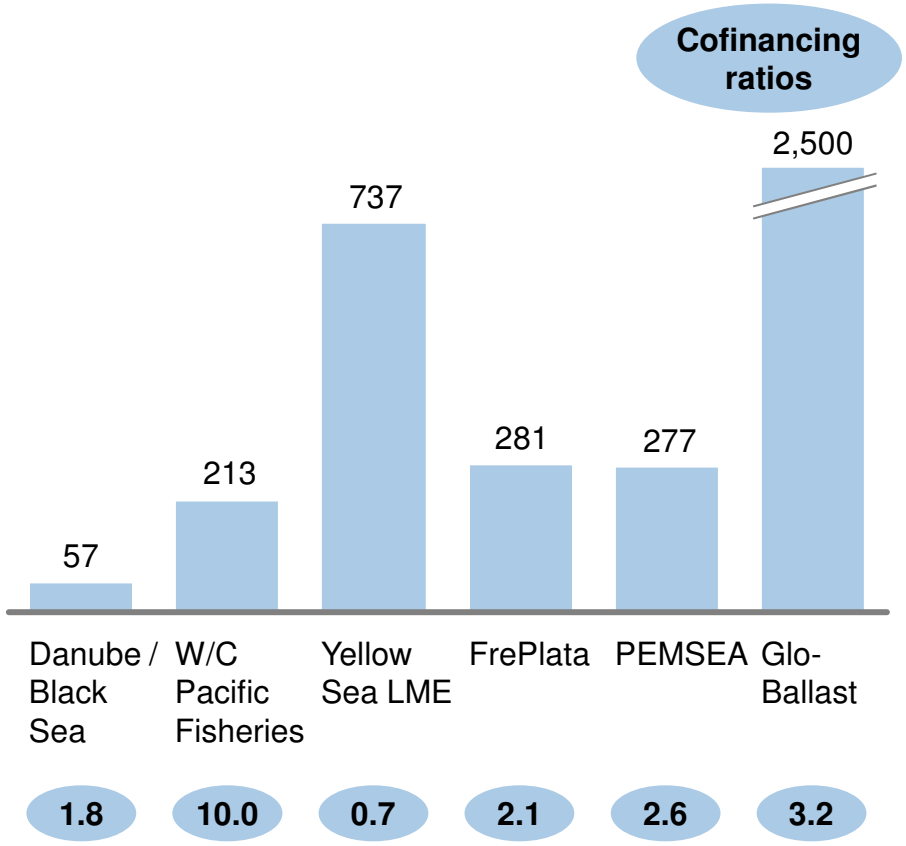
$ program cofinancing : $ GEF programming



.. but they undervalue GEF's broader role of catalyzing transformational change in the longer term

Catalytic vs. cofinancing leverage ratios

$ public/private investments catalyzed: $ GEF programming



Note: Include GEF trust fund projects only, data as of Sept 30, 2012

Source: Project Management Information System (PMIS) data used by Evaluation Office for First OPS5 report (2013); GEF "Catalyzing Ocean Finance: Vol 1" (2012)

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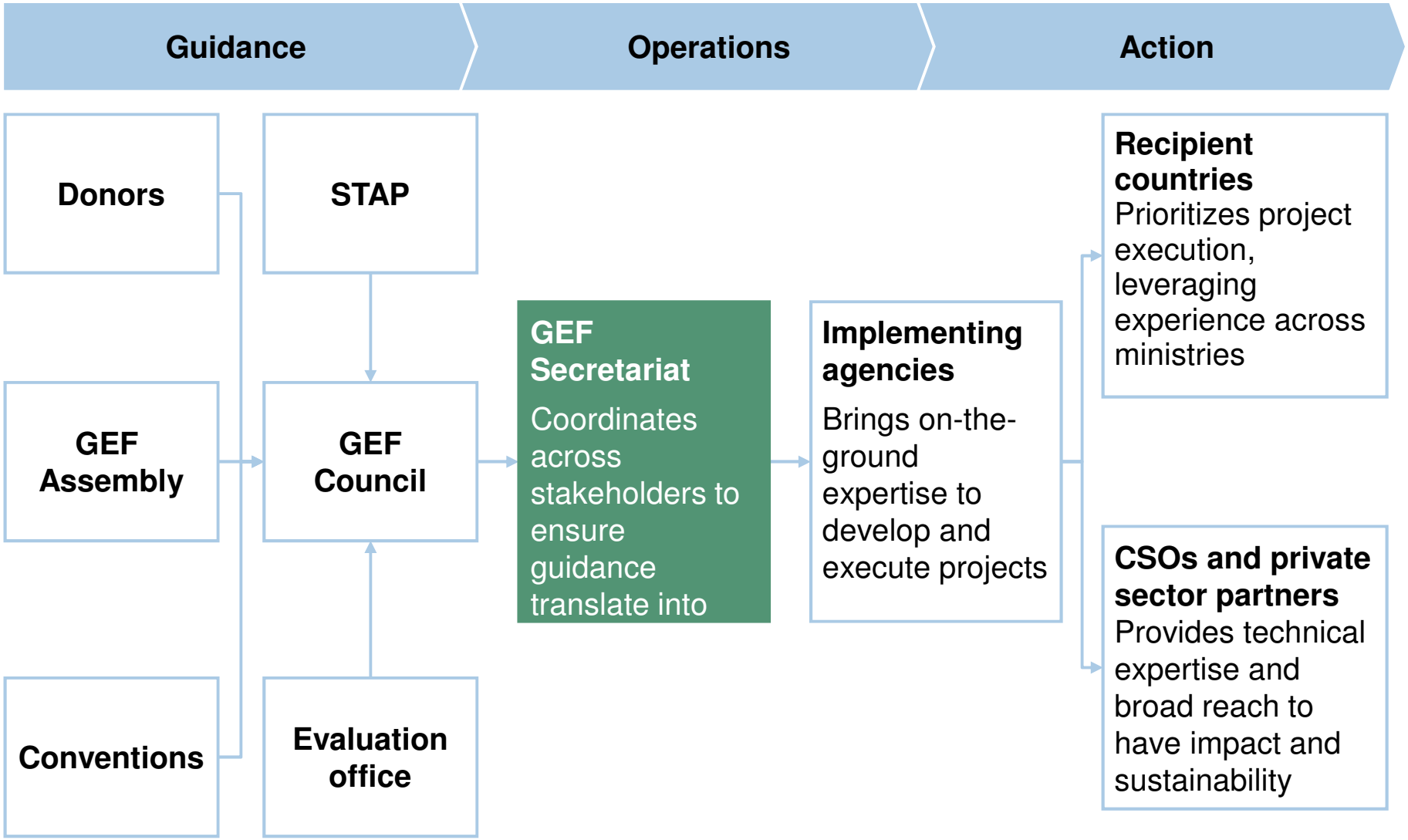
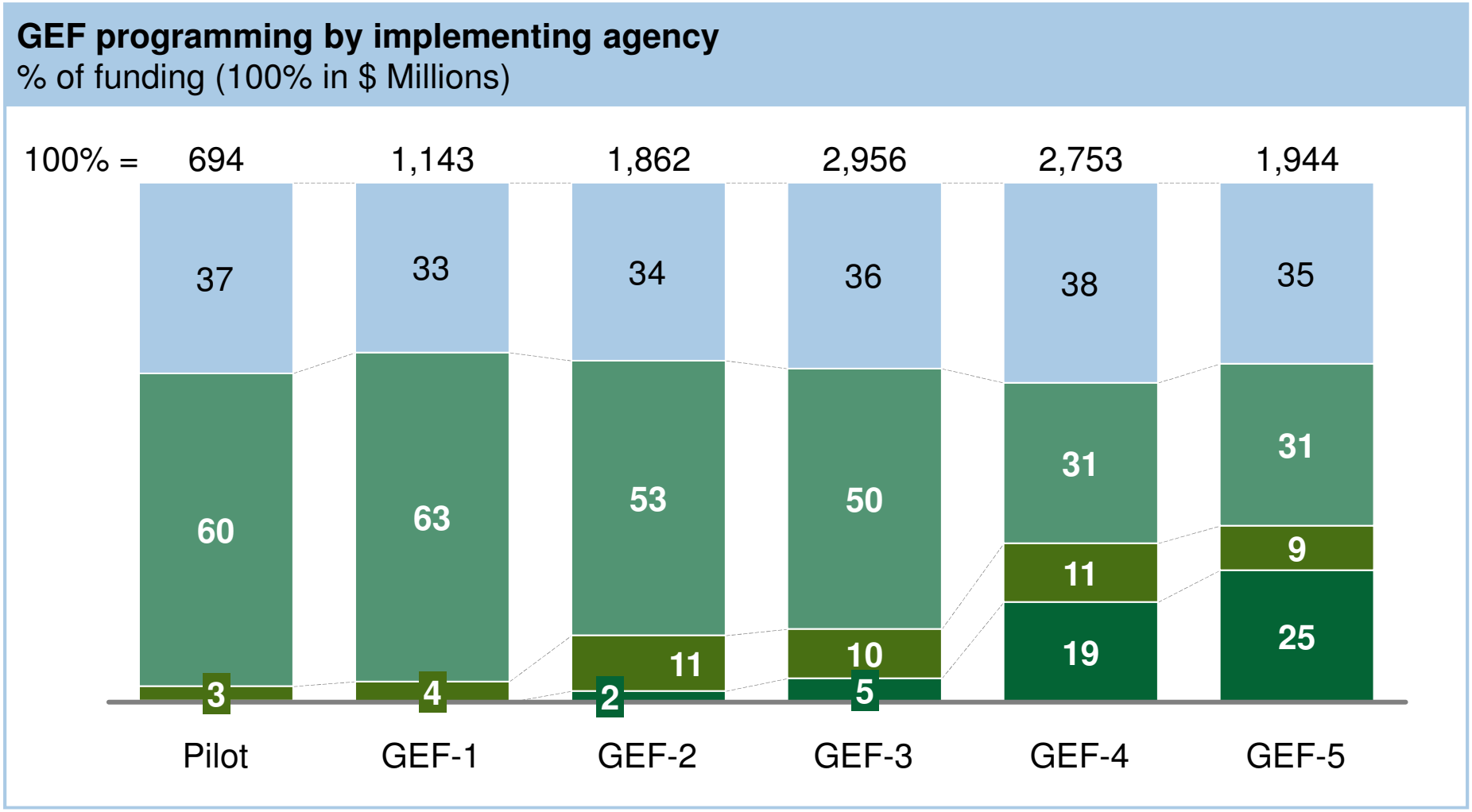
GEF Secretariat leverages an extensive network of partners in its programming



Source: Team analysis

Implementing agency landscape has changed, with 25% of GEF-5 funding made through new agencies



Note: Include GEF trust fund projects only, data as of Sept 30, 2012
1 Other agencies include IADB, FAO, UNIDO, AfDB, ADB, EBRD, IFAD, GEF Secretariat

Source: Project Management Information System (PMIS) data used by Evaluation Office for First OPS5 report (2013)

CSOs are a key partner for GEF but CSO-executed projects are declining

CSOs play a key role in GEF projects…

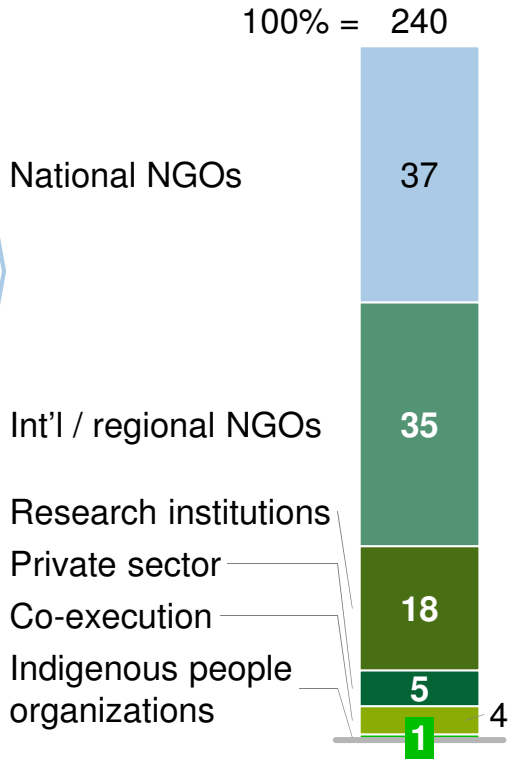
Key roles of CSOs

- Support project identification
- Implement specific components of a project, leveraging their technical expertise
- Provide cofinancing
- Serve as link between national and local levels
- Consult with and provide outreach to beneficiaries
- Conduct M & E activities

… and GEF engages a variety of CSO types…

Projects by CSO type

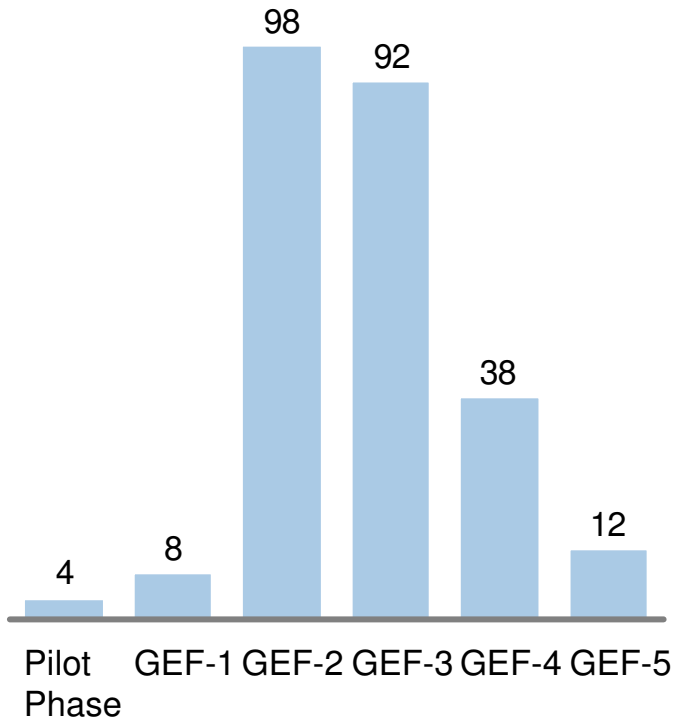
% of projects (as of 2010)



… but projects with CSOs as executing agencies are declining

CSO-executed projects by replenishment phase[1]

# of projects



1 Does not include Small Grants Program, only full-sized and medium-sized projects (i.e., projects > $2M); GEF-5 projects as of Sept 30, 2012

Source: GEF, "The GEF and Civil Society Organizations" (2010); Project Management Information System (PMIS) data used by Evaluation Office for First OPS5 report (2013)

The GEF has tested models for public-private partnerships

GEF has engaged the private sector across several influencing models…

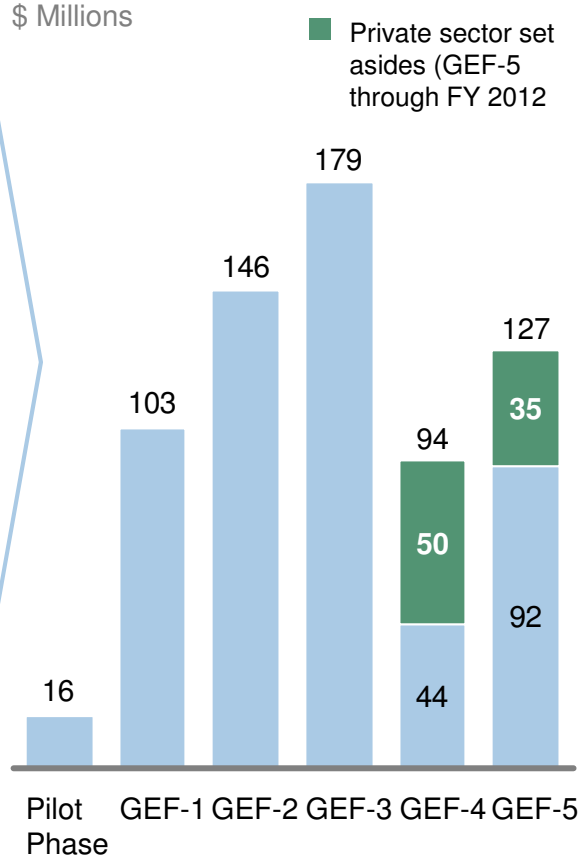
	GEF private sector case examples
Invest in green infrastructure	▪ *IFC Risk-sharing facilities* ▪ *Mexico WBG efficiency project*
Transform policy frameworks	▪ *Support for ESCO policies in China and Eastern Europe* ▪ *Renewable feed in tariffs*
Create a "beacon" effect	▪ *China Utility Energy Efficiency (CHUEE)* ▪ *Pacific Islands Oceanic Fisheries Mgmt Project*
Set standards to shift markets	▪ *en.lighten* ▪ *Greening the cocoa industry through Rainforest Alliance*

…and while there have been many lessons learned over the years…

- **Not all pre-existing models (e.g., ESCOs) worked in GEF countries** so GEF supported more locally tailored policy and financial tools
- **Risk reduction has been vital to spur technology demonstration** and was supported through financial tools and policy / regulatory strengthening
- **Grants and non-grant tools both serve critical purposes** and GEF is uniquely positioned to offer the right tool to attract private sector partners for the problem at hand
- **Supporting SMEs is a growing priority** as supply chains go global and local stakeholders must be enlisted to protect the global commons
- **With maturing markets, new risk reduction models are needed** offering the opportunity for GEF and its agencies to innovate new tools, such as structured financing and policy risk insurance

…programming intended to engage private sector has declined

GEF non-grant instrument programming



Source: Project Management Information System (PMIS) data, GEF/C.41/09/Rev.01 "Revised Strategy for Enhancing Engagement with the Private Sector", team analysis

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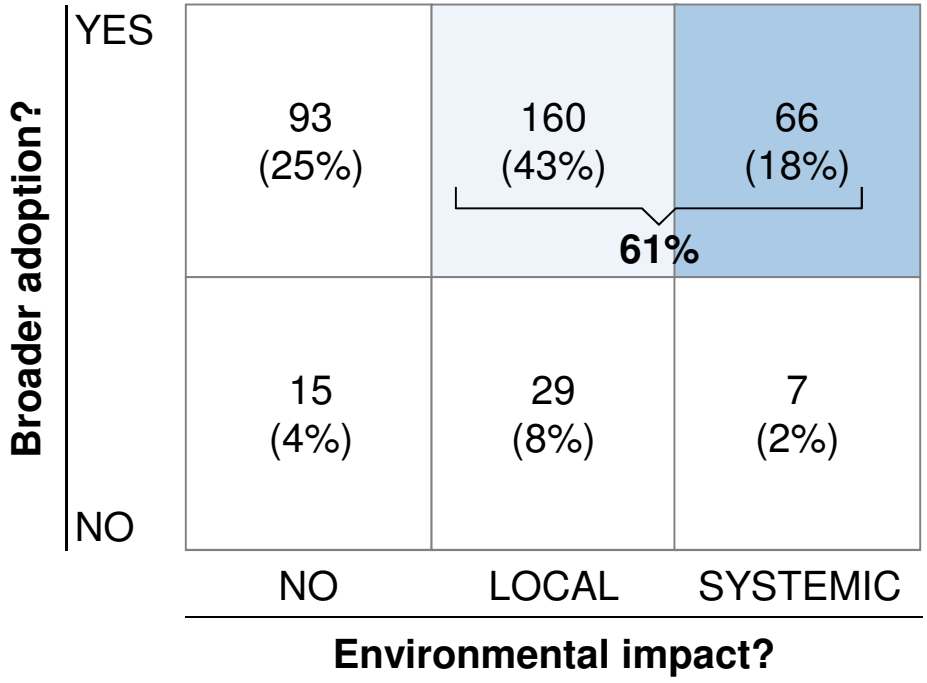
Evaluation Office found majority of projects successfully increase adoption and have impact, but the GEF can do more

61% of completed projects had broader adoption and environmental impact…

Progress towards impact of GEF projects
# of GEF completed projects (100%=370)



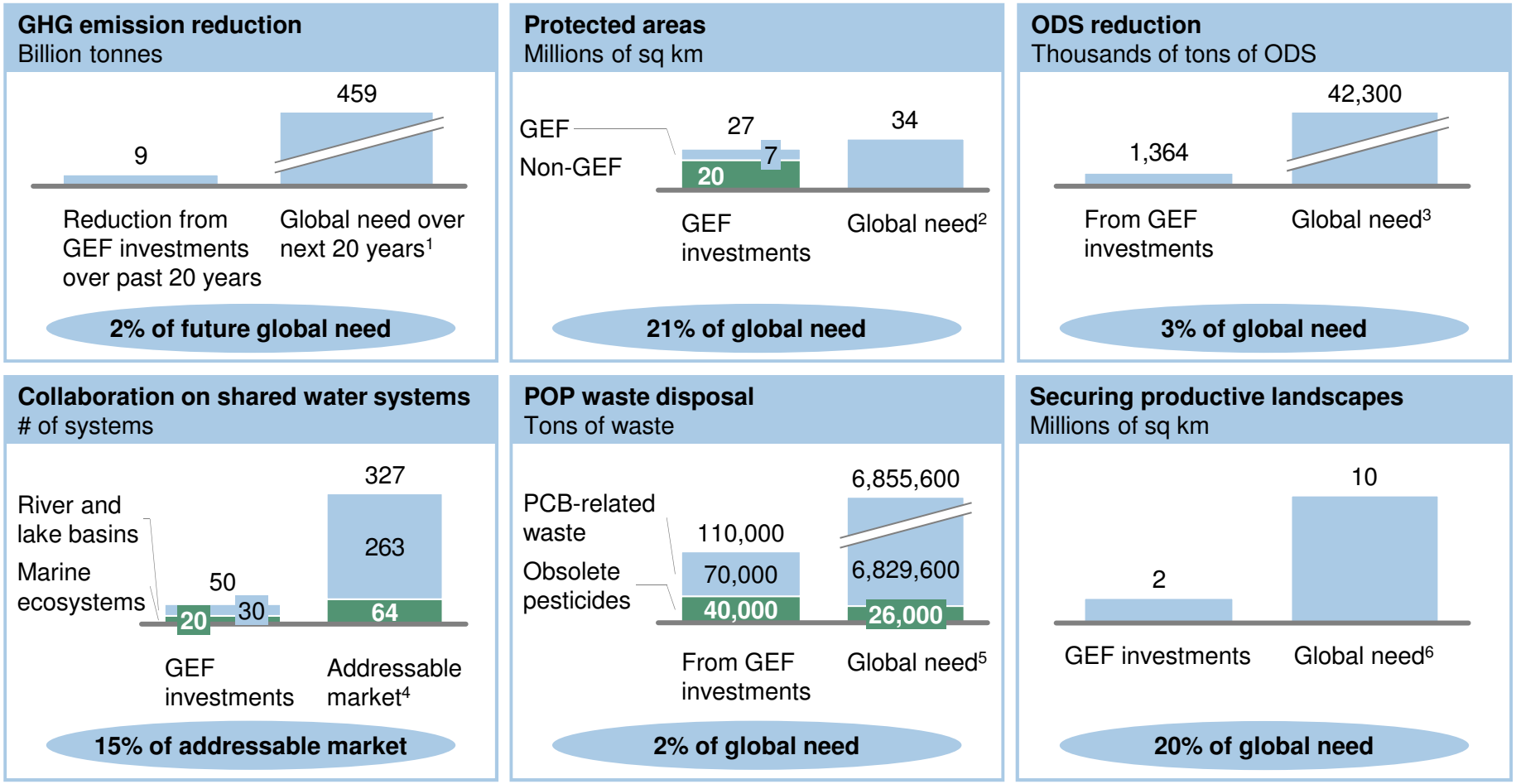
…and GEF will identify and apply solutions to increase systemic impact

- Better build on synergies and interlinkages among focal areas during project design phase
- Introduce design provisions that will address the underlying drivers of deterioration of global commons in a systemic manner
- Develop design provisions that will build meaningful sustainability and transformational change measures beyond the life of the project

Note: Analysis completed of 370 terminal evaluations from GEF4 and GEF5

Source: First OPS5 report (2013)

The GEF has made considerable progress across its focal areas, but the global need remains great



Note: Global need figures represent need across all countries, while GEF's mandate extends only to developing countries and CEITs

1 Emissions reductions required against business as usual scenario (2013 -33) to achieve an emissions trajectory that is likely to limit warming to below 2 degrees C

2 From Aichi Target 11, that 17% of the surface of the planet should be protected by 2020

3 Montreal Protocol phase-out targets, combined Phase I and Phase II; in metric tons

4 UNEP / GRID – Arendal data on international river and lake basins

5 Estimates from national implementation plans submitted to the Stockholm Convention Secretariat

6 UNCCD estimates of area affected by human induced land degradation

Source: GEF, "Behind the Numbers" (2013); UNEP 2012 Emissions Gap Report and Climate Action tracker data; Team analysis