GREENHOUSE GAS EMISSIONS

2016 total territorial greenhouse gas (GHG) emissions



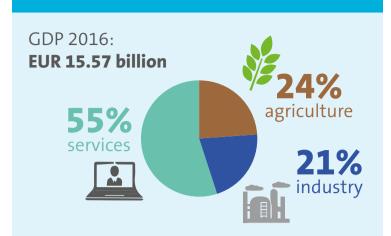
million tonnes CO₂e

2016 territorial GHG emissions per capita



0.3 onnes CO₂e / perso

COUNTRY BACKGROUND



CLIMATE CHANGE impacts



Heat waves



Droughts



Floods



Landslides

productions



Sandstorms



(causing floods)

Desertification and land

Excess snowmelt



Earthquakes

degradation

COUNTRY FACTS



Population of **34.6 million**, **12 million** live below the **poverty line**



85% of the population involved in agriculture,60% is at risk from natural hazards



Very low relative per capita GHG emissions, but highly prone to extreme natural events



SMEs contribute to **50% of GDP**

Impacts to **SMEs** and **INDUSTRY**



Flash floods and storms damage energy infrastructure such as hydropower



Damage to infrastructure, machinery, and transport routes

Lack of water and energy available for operations and



Supply chain disruptions

MITIGATION AND ADAPTATION

BY 2030 AFGHANISTAN AIMS TO



Reduce GHG emissions by **13.6%** compared to the business-as-usual level.



Increase more than **30%** of GHG emission **reduction** between 2020 – 2030.

CLIMATE FINANCE





Afghanistan **needs** an estimated financial support of **EUR 14.749 billion** (2020-2030).



Afghanistan received grant funding of **EUR 157.53 million** from the **Global Environment Facility**.

WHY SMES ARE RELEVANT FOR CLIMATE CHANGE MITIGATION & ADAPTATION

Businesses:





GDP:

Afghanistan is still in economic recovery. SMEs make up **80% of businesses**, contributing to **50% of GDP**.



SMEs contribute to economic and social resilience. **70-80% SMEs are informal** and employ more than **30% of the labour force**.







Priority SME sectors are Inerable to climate change,





vulnerable to climate change, e.g. agri-processing, livestock products, and timber and carpentry.

SMEs can help conserve scarce water and energy resources.

SCP HELPS AFGHAN SMEs TO



Save energy



Resource efficiency



Reduce GHG emissions and pollution



Clean environment

KEY MITIGATION AND ADAPTATION AREAS



Increase energy efficiency and renewable energy production



Improve industrial processes and extractive industries



Implement waste management



Introduce clean technologies and water resource management



CLIMATE CHANGE and Sustainable Consumption and Production in BANGLADES出

1 ADESIL

GREENHOUSE GAS EMISSIONS

2016 total territorial greenhouse gas (GHG) emissions



million tonnes CO₂e

2016 territorial GHG emissions per capita



U.5 connes CO₂e / person

COUNTRY BACKGROUND

GDP 2016: **EUR 204.51 billion 56.3%**

services

15.1% agriculture

28.6% industry

CLIMATE CHANGE impacts



Extreme temperatures

Droughts

Floods

Erratic rainfall



Tropical cyclones and storm surges



River bank erosion



Rising sea level



Saline intrusion

COUNTRY FACTS



Population of 162.9 million



Impacts to **SMEs** and **INDUSTRY**



40% of productive land can be be lost in the southern region of Bangladesh for a 65 cm sea level rise by 2080



Reduced rice and wheat production



Raw material spoilage



Heightened price and market volatility



Damage to infrastructure, machinery, and transport routes



Lack of water and energy availability for production

11,300,000,000



economic losses over the past 40 years due to climate shocks: EUR 11.3 billion Global climate change can lead to an annual loss of 2% of GDP by 2050 and 9.4% of GDP by 2100



6 million SMEs in Bangladesh contribute to 25% to GDP



60% of the country's land is **barely**5 metres above sea level

MITIGATION AND ADAPTATION

BY 2030 BANGLADESH AIMS TO



Reduce its GHG emissions in the power, transport, and industry sectors by 36 million tonnes CO₂ equivalent or **15% below BAU emissions**.

CLIMATE FINANCE



In 2014-18 Bangladeshi government allocated **EUR 5.2 million** for climate change efforts.

BCCTF

In 2009-17 Bangladesh Climate Change Trust Fund (BCCTF) invested **EUR 377 million**.

BCCRF

In 2010-17 Bangladesh Climate Change Resilient Fund (BCCRF) allocated **EUR 118.5 million***



Total funding received from Global Environment Facility: **EUR 137.09 million**

* with technical assistance from the World Bank.

WHY SMES ARE RELEVANT FOR CLIMATE CHANGE MITIGATION & ADAPTATION



SMEs account for **50% of manufacturing sector** and over 90% of industrial enterprises, and 40% of gross manufacturing output.



SMEs provide over **75% of household income**.







SMEs operate in **high impact sectors** such as electronics,
plastic goods, leather goods
and footwear, and agroprocessing.



Leather industry is highly polluting. Its toxic tanning wastewater enters rivers and waterbody.

SCP HELPS BANGLADESHI SMEs TO



Save energy



Resource efficiency



Reduce GHG emissions and pollution



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Green economy

KEY MITIGATION AND ADAPTATION AREAS



Sustainable agriculture and manufacturing



Energy efficiency



Water management



Renewable energy



CLIMATE CHANGE and Sustainable Consumption and Production in BHUTAN



GREENHOUSE GAS EMISSIONS

2015 total territorial greenhouse gas (GHG) emissions



million tonnes CO₂e

2015 territorial **GHG** emissions per capita



COUNTRY BACKGROUND

GDP 2016: **EUR 1.89 billion** agriculture 42% services industry

CLIMATE CHANGE impacts



Flash floods

floods



Forest fires & forest degradation



Biodiversity loss



Landslides and erosion

Glacial lake outburst



Health







Population of 750,125





Bhutan's economy relies on hydropower production, agriculture and service (tourism) which are highly vulnerable to climate change.



Cottage, small- and medium-sized enterprises (CSMES) constitute more than 96% of enterprises, dominating in services and scanty in manufacturing.

Gross National Happiness

Bhutan places environmental conservation at the core of its "Gross National Happiness" development strategy, and is working to integrate SCP.

Deteriorating water quality



Damage to infrastructure, machinery, and transport routes



Lack of water and energy availability for productions and operations



56.3% of the total population are engaged in agriculture vulnerable to climate change



Reduced hydropower production: Hydropower sector is a main economic driver producing almost 100% of electricity. The sector comprises 14.13% of the country's GDP in 2014.

MITIGATION AND ADAPTATION

BY 2030 BHUTAN AIMS TO



Be carbon neutral. Greenhouse gas emissions will not exceed carbon sequestration of the forests, which is estimated at 6.3 million tonnes of CO₂



Offset up to 22.4 million tonnes of CO₂ equivalent per year by 2025 through the export of electricity from hydropower projects.



Maintain at least 60% of total land under forest cover and will maintain current forest cover at 70.46%.

CLIMATE FINANCE



2013 public environmental expenditure: EUR 33.06 million



The Bhutan Trust Fund for Environmental Conservation provides endowment of EUR 18.89 million.



Total amount of funding received from the Global Environment Facility (GEF) for climate change activities: EUR 164.6 million

WHY SMES ARE RELEVANT FOR CLIMATE CHANGE MITIGATION & ADAPTATION



CSMEs make up approximately 98% of all enterprises in **Bhutan**



In 2014, CSMEs accounted for 4.4% of GDP.



High potential in job creation. In 2014, 2,645 new CSMEs were established, creating 7,500 jobs.





Most enterprises

rely on agriculture,

forestry and tourism.



CSMEs have a big role in reducing environmental impacts through:



Greening public procurement. The sector amounted to approximately 35% of GDP in 2012/13.

SCP HELPS BHUTANESE SMEs TO



Save energy



Resource efficiency



Reduce GHG emissions and pollution



Promote green economy



Greater business opportunities for SMEs



Create healthier work environment

KEY MITIGATION AND ADAPTATION AREAS



Sustainable tourism



Hydropower / renewable energy



Sustainable agriculture



Forest conservation



CLIMATE CHANGE and Sustainable Consumption and Production in CAMBODIA

GREENHOUSE GAS EMISSIONS

2016 total territorial greenhouse gas (GHG) emissions



2016 territorial GHG emissions per capita



2015 CO₂ consumption emissions



COUNTRY BACKGROUND

GDP 2016: EUR 17.47 billion agriculture

29.8% industry

CLIMATE CHANGE impacts



Floods

Droughts

Temperature rise



Land degradation & soil erosion



Seawater intrusion



Biodiversity loss



Storms and heavy rainfall



Diseases (malaria)

COUNTRY FACTS



Population of 15.9 million



Cambodia is an agrarian country with 80% of the population relying on agriculture, with limited capacity to adapt to climate change.



The country is **highly** vulnerable to the effects of climate change, in particular wood fuel) accounts to floods, droughts, windstorms, and seawater intrusion.



It faces energy challenges; biomass energy (mostly for 72% of final energy demand, contributing to deforestation.

Impacts to **SMEs** and **INDUSTRY**



Decline in ecosystem services

and transport routes

Insufficient supply of

energy for business

activities

Damage to infrastructure



Reduced hydropower production



Heightened price and market volatility



Decreases in labor productivity due to vector-borne diseases

MITIGATION AND ADAPTATION

BY 2030 CAMBODIA AIMS TO



Achieve 27% reduction of CO₂ emission in key industries such as energy, manufacturing, and transportation



Increase forest cover to 60% of national land area



Achieve reduction of 7,897 gigatonnes of CO2 by 2030 from land use, land use change, and forestry

CLIMATE FINANCE

EUR 175,000,000 2014 total climate

change expenditure was KHR 847 billion (EUR 175 million).



The amounts allocated from domestic resources for climate-relevant expenditure increased steadily from EUR 18 million in 2009 to EUR **44.5 million** in 2014.



Cambodia has received EUR 243.33 million from Global **Environment Facility** (GEF).

WHY SMES ARE RELEVANT FOR CLIMATE CHANGE MITIGATION & ADAPTATION



There are over 500,000 SMEs representing an estimated 1.67 million jobs.



97% are micro enterprises. SMEs represent 2.7% of the total number

of enterprises.





13.1% of SMEs are

in manufacturing.

Tourism is the third

largest sector after

agriculture and the

garment industry.



Garment, textile, food

processing, and brick kiln manufacturers produce high GHG emissions due to the use of diesel oil, fossil fuels and wood.



The Cambodian industry is highly energy inefficient, with energy consumption per unit of output being more than two times compared to other countries in the region.

SCP HELPS CAMBODIAN SMEs TO



Save energy



Resource efficiency



Reduce GHG emissions and pollution



Realise green industry



opportunities



Improve working environment

KEY MITIGATION AND ADAPTATION AREAS



Technology transfer



Energy efficiency



Renewable energy



Sustainable agriculture & forestry



Coastal areas protection



CLIMATE CHANGE and Sustainable Consumption and Production in CHINA



GREENHOUSE GAS EMISSIONS

2016 total territorial greenhouse gas (GHG) emissions



10,151 million tonnes CO₂e

2016 territorial **GHG** emissions per capita



2015 CO₂ consumption emissions



COUNTRY BACKGROUND

GDP 2016: **EUR 9.67 trillion** agriculture **51.6%** services 39.8% industry

CLIMATE CHANGE impacts



Desertification and land degradation



Water scarcity



Floods



Drought



Tropical cyclones



Landslides



Rising sea levels

Dust storms

Impacts to **SMEs** and **INDUSTRY**



Threat to domestic food security and global food prices. Rice sector suffered an economic loss of EUR 23.8 million to EUR 57.3 million in the past decade.

or human use due to pollution.



Lack of water and energy availability for business operations. 30% of lakes and rivers are unfit for irrigation

Damage to infrastructure which has contributed around 70% to China's economic growth since 1952



Decreases in labor and work production due to increase of heat-related and water-borne illnesses

COUNTRY FACTS



With a population of 1.37 billion, for 10% of human influence on climate change.



It is the world's largest agricultural China is responsible economy, producing 18% cereal grains, 29% meat, and nearly 50% vegetables.



The country produces almost 50% the world's crude steel and cement.



SMEs account for 98% of all businesses and contribute to 60% of China's GDP.

MITIGATION AND ADAPTATION

BY 2030 CHINA AIMS TO



Reduce CO₂ emissions per unit of GDP by 60% to 65% from the 2005 level



Increase the share of non-fossil fuels in primary energy consumption to around 20%



Increase the forest stock volume by around 4.5 billion m³ on the 2005 level

EUR 5,200,000,000,000

CLIMATE FINANCE



China seeks to reach The state budget provided a total of RMB 821.07 CNY 41 trillion (EUR **5.2 trillion**) in the next billion (EUR 104.67 billion) for climate 15 years in areas related to energy saving, environchange mitigation and mental protection and adaptation actions. low-carbon development. (2010-2014 period)



China received Global **Environment Facility** (GEF) grant commitments of EUR 127.17 million. (2010-2014 period)

WHY SMES ARE RELEVANT FOR CLIMATE CHANGE MITIGATION & ADAPTATION



China has around 56 million SMEs.



Labor-, energy-, and resourceintensive production methods are still widely used, which cause severe air and water pollution.

SMEs consume 2.5 times as much energy as largescale manufacturers do to produce the same goods.



SMEs have the potential to save 25% of energy using energy efficiency measures

SCP HELPS CHINESE SMEs TO



Save energy



Resource efficiency



Reduce GHG emissions and pollution



economy

Promote green



opportunities



Improve working environment

KEY MITIGATION AND ADAPTATION AREAS



Energy efficiency and conservation



Renewable energy



Reducing GHG emissions from key industrial sectors like iron, steel, and chemicals



Waste management



Low carbon development



CLIMATE CHANGE and Sustainable Consumption and Production in INDIA



agriculture

GREENHOUSE GAS EMISSIONS

2016 total territorial greenhouse gas (GHG) emissions



2,431 million tonnes CO2e

2016 territorial GHG emissions per capita



tonnes CO₂e / person

2015 CO₂ consumption emissions



COUNTRY BACKGROUND

GDP 2016: **EUR 2.03 trillion**

45.4% services

29.8% industry

CLIMATE CHANGE impacts



Changing rainfall patterns



Extreme heat



Droughts



Floods



Food security



Energy security

Biodiversity loss



Disease and health issues

COUNTRY FACTS





under the poverty line for 6.24% of global emissions



Energy sector emits 71% of India's emissions, followed by agriculture

at 18%, and industrial processes and products use (IPPU) sector at 8%.



Contributing to GHG emissions through consumption, India's overall consumer spending is expected to grow to reach **EUR 6.16 trillion in 2030**



By 2025, **70% of** households will be classed as middle income.



SMEs are vulnerable to climate change as many rely on old machinery and have limited awareness and skills on issues such as resource efficiency.

Impacts to SMEs and INDUSTRY



Water and energy shortages for operations and productions



heat-related and water-borne illnesses Threat to SMEs' business

survival due to financial losses

Decreases in labor and work

production due to increase of



Supply chain interruptions

machinery, and transport

MITIGATION AND ADAPTATION

BY 2030 INDIA AIMS TO

routes



Reduce emissions intensity of its GDP by 33% to 35% from the 2005 level



Achieve about 40% cumulative electric power installed capacity from nonfossil fuel based energy resources



Create an additional carbon sink of 2.5 to 3 billion tonnes of CO₂ equivalent through additional forest and tree cover.

EUR 77,500,000,000

CLIMATE FINANCE

In 2013-14 **total** spending on developing adapting capacity and adaptation was around EUR 77.5 billion.



In 2015-16 India's National Adaptation Fund allocated EUR 44.6 million for cleaner technology in sectors such as agriculture, fisheries, water and forestry.



In 2016-17 the In 2017 grant funding received from Global National Clean **Environment Facility Energy Fund** received funding (GEF) reaches from the **Indian** government of around EUR 1 billion.



EUR 625.8 million

WHY SMES ARE RELEVANT FOR CLIMATE CHANGE MITIGATION & ADAPTATION



There are 49 million MSMEs in India employing 111.4 million people



MSME sector contribute about 38% to India's GDP. with manufacturing MSMEs contributing 7% and service sector MSMEs 30.5%



SMEs consume 48% of the total energy consumed by the industrial sector



SMEs are particularly vulnerable to climate change, as many rely on old machinery and have limited awareness and skills on issues such as resource efficiency



Transfer of clean technology to SMEs can greatly **improve** India's overall energy efficiency and reduce **GHG** emissions

SCP HELPS INDIAN SMEs TO







Resource efficiency



Reduce GHG emissions and pollution



economy

Promote green



Create new business opportunities



Improve working environment

KEY MITIGATION AND ADAPTATION AREAS



Energy and resource efficiency



Waste management



Pollution abatement



Planned afforestation



Sustainable agriculture



Water management



CLIMATE CHANGE and Sustainable Consumption and Production in INDONESIA

SIA

GREENHOUSE GAS EMISSIONS

2016 total territorial greenhouse gas (GHG) emissions



501 million tonnes CO₂e

2016 territorial GHG emissions per capita



1.9 tonnes CO₂e / person

2015 CO₂ consumption emissions



484 million tonnes CO₂e

COUNTRY BACKGROUND

EUR 787 billion
46%
services

GDP 2016:

13.7% agriculture
40.3% industry

CLIMATE CHANGE impacts



Changing rainfall patterns



Storms



Droughts

Floods



Forest fires

Biodiversity loss



Sea level rise



Disease and health issues

COUNTRY FACTS



Population of 258 million



Increased flooding, drought, sea level rise and heat stress threaten Indonesian agriculture which accounts for nearly 14% of GDP and the livelihoods of 42% of the working population, including more than 50% of poor households.



coastline and 42 million
people living on lowlying land less than
10 meters above sea level,
Indonesia is among the
world's most vulnerable
countries to sea

level rise.



Agriculture sector employs 42.1% of the total labor force, making Indonesia an agrarian economy.



Industry sectors provide employment to 18.6% of the total workforce working in major sectors such as **mining, textile & apparel and tourism**.

Impacts to **SMEs** and **INDUSTRY**



Lack of water and energy availability for operations and productions

Supply chain interruptions



Coastal areas at risk of inundation, where economic activities account for approximately 25% of GDP





Decreases in labor and work production due to increase of heat-related and water-borne illnesses

MITIGATION AND ADAPTATION

BY 2030 INDONESIA AIMS TO



Reduce GHG emissions by 29% against the business as usual scenario by 2030 and achieve a reduction of up to 41% with international support



Embark on a mixed energy use policy with at least 23% coming from renewable energy sources by 2025

CLIMATE FINANCE



The Indonesia Climate Change Trust Fund (ICCTF) has approximately **EUR 12.7 million**) in 2015-18. Projects focus on land-based mitigation, adaptation and resilience, and energy.



Up to 2017 Indonesia has received grant funding from Global Environment Facility of around **EUR 634 million**.

WHY SMES ARE RELEVANT FOR CLIMATE CHANGE MITIGATION & ADAPTATION



SMEs comprise 99% of all enterprises, or over 56.5 million, and employ 95% of the workforce.



SMEs represent
99.96% of the total
number of enterprises
(3.27 million) in
manufacturing sector.



SMEs contribute to **18.1% of the GDP** and approximately 56% of the manufacturing sector's GDP.



SMEs contribute a large amount of **pollution and resource depletion** due to outdated technology and inefficient energy and resource use.

SCP HELPS INDONESIAN SMEs TO







Resource efficiency



Reduce GHG emissions and pollution



Promotion of a green economy



Greater business opportunities for SMEs



Create a healthier (work) environment

KEY MITIGATION AND ADAPTATION AREAS



Renewable energy



Energy and resource efficiency



Waste management



Sustainable agriculture and forestry



Maritime and fisheries



CLIMATE CHANGE and Sustainable Consumption and Production in LAOS



GREENHOUSE GAS EMISSIONS

2015 total territorial greenhouse gas (GHG) emissions



2015 territorial **GHG** emissions per capita



tonnes CO₂e / person

2014 CO₂ consumption emissions



COUNTRY BACKGROUND

GDP 2016: **EUR 13.41 billion** agriculture 40% services 34% industry

CLIMATE CHANGE impacts



Rising temperature



Changes in rainfall patterns



Droughts



Floods



Landslides



Typhoons



Epidemics

Biodiversity loss



Food insecurity



Impacts to **SMEs** and **INDUSTRY**



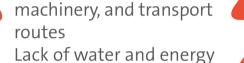
Loss in agricultural production



Supply chain interruptions



Damage to infrastructure, machinery, and transport routes





availability for operations hydropower production at great risk



Heightened price and market volatility



Decreases in labor and work production due to increased number of cases of diseases

COUNTRY FACTS







tion relies on agriculture for their livelihoods. **Rainfall variability** is therefore a critical issue which can lead to food insecurity.



Laos is **highly reliant on hydropower for electricity**, which is sensitive to climate change.



Laos is vulnerable to droughts and floods, which are increasing in frequency and severity, affecting food security, drinking water supply and irrigation, public health systems, environmental management and lifestyle.

MITIGATION AND ADAPTATION

BY 2030 LAOS AIMS TO



Increase forest cover to 70% of land area. i.e. to 16.58 million ha.

by 2020, reducing 60,000 to 69,000 kilotonnes CO₂ equivalent.



Increase the share of small-scale renewable energy to 30% of total energy consumption by 2030, reducing 1,468,000 kilotonnes CO₂ equivalent.

CLIMATE FINANCE



In 2012 government climate change expenditure reached EUR 11.80 million.



implementing identified mitigation and adaptation policies and actions are estimated to be **EUR 1.2 billion and EUR** 0.82 billion respectively.

The **financial needs** for



Laos' financing for climate change actions predominantly comes from international sources. The country currently received approx. **EUR 275 million** in grants from Global Environment Facility.

WHY SMES ARE RELEVANT FOR CLIMATE CHANGE MITIGATION & ADAPTATION



SMEs in general, and especially in rural areas, were the main contributors to the average annual 8% GDP growth rate in recent years.



SMEs provide 63% of all jobs.



In 2013 there were 178,557 enterprises of which **158,915** (89.9%) are **SMEs**.













SMEs are largely engaged in industrial activities such as retail, wholesale trade and services, and semi processing business.

The largest foreign income earners are tourism, sales of hydroelectric power, timber and textile exports.

SCP HELPS LAO SMEs TO



Save energy



Resource efficiency



Reduce GHG emissions and pollution



Create new business **opportunities**



environment

KEY MITIGATION AND ADAPTATION AREAS



Renewable energy (hydropower)



Rural electrification



Agriculture and food security



Water management

Forest conservation



Public health



CLIMATE CHANGE and Sustainable Consumption and Production in MALAYSIA



GREENHOUSE GAS EMISSIONS

2015 total territorial greenhouse gas (GHG) emissions



million tonnes CO2e

Floods

2015 territorial GHG emissions per capita



tonnes CO₂e / person

2014 CO₂ consumption emissions



COUNTRY BACKGROUND

GDP 2016: EUR 272.95 billion

> 54% services

agriculture 37.8% industry

CLIMATE CHANGE impacts



Rising temperatures



Sea level rise



Lack of food security





Human health issues



Biodiversity loss

COUNTRY FACTS



Population of 30.9 million



3rd largest energy consumer in Southeast Asia



Ranked 12th in the world on the National **Biodiversity** Index



Thrives to become a high income, developed nation which is inclusive and sustainable by 2020



SMEs contribute **36% of GDP**, en route to 41% by 2020

Impacts to **SMEs** and **INDUSTRY**



Damage to infrastructure, machinery, and transport routes



Lack of water and energy availability for operations and productions



supply chain disruptions



Rice production decrease by 10% in yields for every 1°C degree increase in temperature



Decreases in labor and work production due to increase

MITIGATION AND ADAPTATION



Reduce its GHG emissions intensity of GDP **by 45%** relative to the emissions intensity of GDP in 2005

CLIMATE FINANCE



Malaysia receives technical as well financial assistance since its entry into the UNFCCC



Total amount of funding received from the Global Environment Facility **(GEF)** for climate change activities: EUR 39.69 million

WHY SMES ARE RELEVANT FOR CLIMATE CHANGE MITIGATION & ADAPTATION



Over 600,000 registered **SMEs**: 90% in the services sector, 6% in manufacturing, and 3% in construction





Contribute 65% employment and 18% to exports



Account for 96.6% of organisations in the manufacturing sector





Consume large amounts of unsustainable oil and gas, and the use of coal is on the rise

SCP HELPS MALAYSIAN SMES TO



Save energy



Resource efficiency



Reduce GHG emissions

and pollution

Greater business opportunities for SMEs



Create healthier (work) environment

KEY MITIGATION AND ADAPTATION AREAS



Increase the use of renewable energy by **SMEs and energy efficiency**



Demand Side Management to reduce energy consumption



Adopting sustainable consumption and production



Goal by 2020: renewable energy capacity of 2 080 megawatts



CLIMATE CHANGE and Sustainable Consumption and Production in MONGOLIA



GREENHOUSE GAS EMISSIONS

2015 total territorial greenhouse gas (GHG) emissions



million tonnes CO₂e

2015 territorial **GHG** emissions per capita



tonnes CO₂e / person

2014 CO₂ consumption emissions



million tonnes CO2e

COUNTRY BACKGROUND

GDP 2016: **EUR 10.06 billion**

> 50.3% services

agriculture 35.1% industry

CLIMATE CHANGE impacts



Changes in rainfall pattern



Drought



degradation Winter dzud – heavy

snow fall and storms



Forest and steppe fires



Glacier melt

Flash floods



Diseases and health issues

COUNTRY FACTS



Population of 3 million



Livestock production accounts for almost 80% of the food sector, with meat, dairy, wool, cashmere and leather goods playing a critical role in

the economy.



Primarily rain-fed wheat production is projected to **decline by 15%** by 2030 due to climate change.



Almost 40% of the **population** is dependent on animal husbandry and rain-fed agriculture for its livelihood.



Mongolia's drivers for economic growth are the **mining sector**, contributing 20% of GDP, followed by real estate and construction, agriculture and trade.

Impacts to **SMEs** and **INDUSTRY**



Lack of water and energy availability for economic activities in agriculture and industries

Extreme events like dzud

and heat waves damage

infrastructure and

facilities



Supply chain disruptions



Large livestock losses



Decrease in economic productivity due to climaterelated diseases

MITIGATION AND ADAPTATION

BY 2030 MONGOLIA AIMS TO



Reduce 14% of total national GHG emissions from energy, industry, agriculture, and waste sectors compared to a business as usual scenario



Reduce GHG emissions from deforestation and forest degradation by 2% by 2020 and 5% by 2030.

CLIMATE FINANCE



Green Climate Fund (GEC) disbursed funding through XacBank to finance MSMEs investing in energy efficiency and renewable energy. Funding given: EUR 420,000 grants and EUR 17 million loans. Using blended financing, GEC disburses loans of

EUR 40 million for low carbon projects.



To achieve the adaptation goals, **Mongolia estimates** a need of around **EUR 2.8 billion** for technology transfer and capacity building.



Total grant funding received from Global Environment Facility: EUR 225 million.

WHY SMES ARE RELEVANT FOR CLIMATE CHANGE MITIGATION & ADAPTATION



SMEs make up 98% of all enterprises (about 80% of which are microenterprises) in Mongolia.



The **SME sector** contributes 25% to GDP and employs 52% of the workforce.



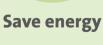
The majority of **SMEs use** outdated and inefficient equipment, processes and **buildings** – resulting in relatively large emissions of greenhouse gases.



Mongolia's economy is heavily reliant on the mining industry, while having the lowest rate of resource efficiency in the Asia-Pacific region, needing 17 kg of natural resources per dollar of economic output, compared to the regional average of 3 kg.

SCP HELPS MONGOLIAN SMEs TO







Achieve resource efficiency



emissions and pollution



Create new business **opportunities**



Reduce GHG



Improve working environment

KEY MITIGATION AND ADAPTATION AREAS



Renewable energy



Water and resource management



Agriculture



Sustainable forest management



CLIMATE CHANGE and Sustainable Consumption and Production in MYANMAR



GREENHOUSE GAS EMISSIONS

2015 total territorial greenhouse gas (GHG) emissions



million tonnes CO2e

2015 territorial **GHG** emissions per capita



COUNTRY BACKGROUND

GDP 2016: EUR 61.57 billion

46.2% services

agriculture 27.5% industry

CLIMATE CHANGE impacts



Extreme temperatures



Floods and storm surge



Sea level rise



Storms

Drought



Heavy rains, erratic rainfall



Biodiversity loss

COUNTRY FACTS



Population of 56.8 million



The population is **concentrated the Delta area** (most exposed to recurring tropical storms, cyclones and floods and potential storm surge) and the 'Dry Zone' area (exposed to chronic droughts).



Myanmar has 43% forest cover, but the 3rd **highest deforestation rates** in the world.



Myanmar is ranked as the **2nd most** vulnerable country in the world to extreme weather events over the last 20 years.

Impacts to **SMEs** and **INDUSTRY**



Damage to infrastructure, machinery, and transport routes



Lack of water and energy availability for operations and productions





Decreased labour and work productivity due to increase of heat-related and water-borne illnesses



Reduced rice yields

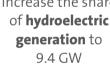
MITIGATION AND ADAPTATION

BY 2030 MYANMAR AIMS TO



Increase of reserved forest by 30% of total national land area



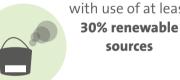




Distribute approximately

260,000 energy-efficient cook

stoves between 2016 and 2030.



Rural electrification with use of at least



CLIMATE FINANCE

Global Environment Facility: **EUR 190 million**

Total grant funding

received from



In 2002-2014 **Myanmar received** climate-related aids from OECD amounting to EUR 440 million (82% for adaptation and 13% for

mitigation).



According to OECD, climate related finance is relatively low in Myanmar in comparison with other ASEAN countries

WHY SMES ARE RELEVANT FOR CLIMATE CHANGE MITIGATION & ADAPTATION



Realise 20% electricity saving

potential of total estimated

electricity consumption

SMEs account for 99% of 127,000 registered enterprises and employ 70% of total workforce.



SMEs make up **92% of the manufacturing sector**. Major industrial sectors include agricultural processing, manufacturing, construction and transportation.



Agriculture is still responsible for over 50% of the employment and 20% of exports.

BENEFITS OF SCP



Save energy



Resource efficiency



Reduce GHG emissions and pollution



Promotion of a green economy



business opportunities



Improve working environment

KEY MITIGATION AND ADAPTATION AREAS



Sustainable forest management



Renewable energy (hydropower)



Energy efficiency



Forest conservation



Water and waste management



Climate smart agriculture



CLIMATE CHANGE and Sustainable Consumption and Production in NEPAL



GREENHOUSE GAS EMISSIONS

2015 total territorial greenhouse gas (GHG) emissions



million tonnes CO2e

2015 territorial **GHG** emissions per capita



tonnes CO₂e / person

2014 CO₂ consumption emissions



million tonnes CO₂e

COUNTRY BACKGROUND

GDP 2016: EUR 19.07 billion

services

agriculture industry

CLIMATE CHANGE impacts



Changes in rainfall pattern

Increased temperature



Glacial lake outburst floods



Drought



Landslides



Floods



Avalanches

Soil erosion

COUNTRY FACTS



Population of 29 million.



25% of the population or 7.5 million people still live below the poverty line.



The country is a predominantly agricultural eco**nomy** with around 80% of its workforce employed in the agricultural sector. The manufacturing sector employed just 6.6% of the total workforce.



increased frequency of flash floods posing more than 1.9 million people to high vulnerability and exposing additional 10 million people to the risks of climate induced disasters.



Nepal is ranked as the 4th most vulnerable country to climate change.

Impacts to **SMEs** and **INDUSTRY**



Damage to infrastructure, machinery, and transport routes

Supply chain disruptions

Lack of water and energy

availability for operations

and productions



Hydro-electricity providing 90% of total electricity is at risk



During the dry season power shortage impacts are estimated at EUR 2.45 billion from the period 2014-2050



Lost productivity due to increase of climate-related diseases

MITIGATION AND ADAPTATION

BY 2030 NEPAL AIMS TO



Achieve 80% electrification through renewable energy sources having appropriate energy mix by 2050

Develop its **electrical** (hydro-powered) rail network by 2040



Reduce dependency on fossil fuels by 50%



Maintain forest cover



40% of the total area



Strive to decrease air pollution by 2025

CLIMATE FINANCE



In the fiscal year 2013-14, the government's **total** climate change **budget** amounted to 3.1% of the total GDP.



Out of 2013 GDP of EUR 18.31 billion, the financing for climate related programs was about EUR 567.67 million.



55% of climate expenditure comes from donors such as the Global Environment Facility (GEF). Nepal has received a total of

EUR 185.63 million grants from GEF.

WHY SMES ARE RELEVANT FOR CLIMATE CHANGE MITIGATION & ADAPTATION



SME sector **employs** 1.75 million people and account for 22% of GDP.



There are 111,442 operational SMEs. 90% operate in industrial sector, contributing to over 70% of the industrial sector's contribution to GDP.













Most SMEs involved in manufacturing of handicrafts, textiles, garments, food items, and tourism.

SMEs have low production processes and technology which contribute to GHG emission.

SCP HELPS NEPALI SMEs TO



Save energy



Resource efficiency



Reduce GHG emissions



Promotion of a green economy



Create new business **opportunities**



Create healthier work environment

KEY MITIGATION AND ADAPTATION AREAS



Renewable energy



Resource efficiency



Sustainable forest management



Waste management



Low-carbon transportation



CLIMATE CHANGE and Sustainable Consumption and Production in PAKISTAN



GREENHOUSE GAS EMISSIONS

2016 total territorial greenhouse gas (GHG) emissions



million tonnes CO₂e

2016 territorial **GHG** emissions per capita



tonnes CO₂e / person

2015 CO₂ consumption emissions

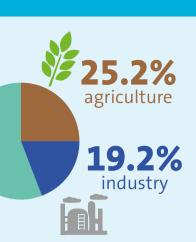


million tonnes CO2e

COUNTRY BACKGROUND

GDP 2016: **EUR 240 billion**

> 55.6% services



CLIMATE CHANGE impacts



Flash floods



Avalanches



Drought



Heat waves



Glacial lake outburst floods (GLOFs)

Cyclones



Desertification

Rising sea level



Biodiversity loss

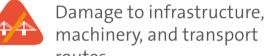
Impacts to **SMEs** and **INDUSTRY**

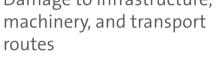


Lack of water and energy available for productions



Financial loss due to failed cash harvest







Decreases work production due to increase of heat-related





Supply chain disruptions

and water-borne illnesses

COUNTRY FACTS



Pakistan has a population of 195.5 million, making it the 6th most populous country in the world.





with 42.3% of the population relies on agriculture sector which contributes to 19.8% of GDP.



The current **forest** cover is only about 5%.



Pakistan faces a serious energy crisis, with electricity shortages causing an estimated annual 4-7% GDP loss.



Some 55 million people, or 28% of the total population, do not have access to modern sources of energy.

MITIGATION AND ADAPTATION

BY 2030 PAKISTAN AIMS TO



Reduce 20% of its projected **GHG emissions**

CLIMATE FINANCE



In 2014 total climate change expenditure was approximately EUR 323.36 million.



Pakistan's federal climaterelated expenditure was between **5.8 and 7.6% of** the total expenditures in 2015 budget.



To reach the 20% emissions Pakistan's adaptation reduction goal, Pakistan requires investments of approximately **EUR 36** billion (at 2016 prices).

needs range between EUR 6 - 12 billion per annum.

WHY SMES ARE RELEVANT FOR CLIMATE CHANGE MITIGATION & ADAPTATION



There are 3.2 million enterprises, 99% are SMEs.



SMEs make up 80% of non-agricultural **labor force**. Major industries include cotton and textile, cement, sugar, steel, tobacco, chemicals, machinery, and food processing.



The **cotton and textile sector** accounts for nearly 60% of exports and almost 40% of the employed labour force.



SMEs current practices are inefficient, leading to resource depletion and pollution.



Due to national energy deficit, SMEs need to adopt highly efficient technology and renewable energy to lower GHG emissions.

SCP HELPS PAKISTANI SMEs TO



Save energy



Achieve resource efficiency



Reduce GHG emissions



Promote of a green economy



Create new business **opportunities**



Improve working environment

KEY MITIGATION AND ADAPTATION AREAS



Renewable energy



Highly efficient technologies



Water management



Climate smart agriculture



CLIMATE CHANGE and Sustainable Consumption and Production in the PHILIPPINES



2016 total territorial greenhouse gas (GHG) emissions



million tonnes CO2e

2016 territorial **GHG** emissions per capita



tonnes CO₂e / person

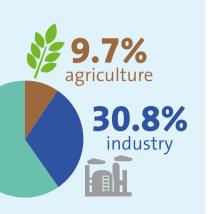
2015 CO₂ consumption emissions



COUNTRY BACKGROUND

GDP 2016: EUR 281.06 billion





CLIMATE CHANGE impacts



Rising temperature



Extreme rainfalls



Sea level rise



Floods



Droughts



Biodiversity loss



Diseases



Displacement

Impacts to **SMEs** and **INDUSTRY**



Damage to infrastructure, machinery, and transport routes



Lack of water and energy available for operations and productions



Reduced hydropower production



Supply chain disruptions



Decreased labour productivity due to increase of heat-related and water-borne illnesses

COUNTRY FACTS



Population of 102 million



An **archipelagic** country with more than 7,000 islands divided into three island groups of Luzon, Visayas and Mindanao, highly vulnerable to the impacts of climate change and natural hazards





labour-intensive manufactured goods industry



Experiences 19 - 20 cyclones per year, of which 7 - 9 reach the land

MITIGATION AND ADAPTATION

BY 2030 THE PHILIPPINES AIMS TO



Reduce 70% of GHG emissions relative to its business-as-usual scenario

CLIMATE FINANCE



Public climate change expenditures totaling **EUR 1.9 billion** in 2016



Allocation for climate change adaptation projects received from the Global through the People's Survival Fund (PSF) with PHP 1 billion (EUR 18 million)



Total grant funding Environment Fund (GEF): **EUR 500 million**

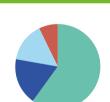
WHY SMES ARE RELEVANT FOR CLIMATE CHANGE MITIGATION & ADAPTATION



99.5% or around 900,000 businesses in the country are micro, small- and mediumsized enterprises (MSMEs)



MSMEs provide 61.6% of total jobs.



49.9% of SMEs are in the wholesale and retail industry, **14.7%** in manufacturing, **12.3%** in the hotels and restaurant industry and 5.9% in real estate.

SCP HELPS PHILIPPINE SMEs TO



Save energy



Resource efficiency



Reduce GHG emissions and pollution



Create new business **opportunities**



environment

KEY MITIGATION AND ADAPTATION AREAS



Energy



Transport



Waste management



Forestry



Industry sectors



Innovation and technology transfer



CLIMATE CHANGE and Sustainable Consumption and Production in SRI LANKA



GREENHOUSE GAS EMISSIONS

2016 total territorial greenhouse gas (GHG) emissions



million tonnes CO₂e

2016 territorial **GHG** emissions per capita



tonnes CO₂e / person

2015 CO₂ consumption emissions



million tonnes CO₂e

COUNTRY BACKGROUND

GDP 2016: EUR 281.06 billion

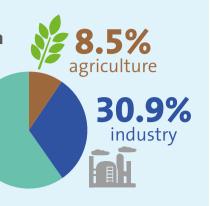


COUNTRY FACTS

21,200,000

Population

of 21.2 million



CLIMATE CHANGE impacts



Rising temperature





Floods



Water scarcity, drought



Sea level rise



Biodiversity loss



Human health issues



44% of the country's GDP originates in the coastal areas impacted by sea **level rise** (key industries of coastal areas include fishing, tourism, trade and manufacturing)



As a **small island in**

the Indian Ocean, the coastal region (nearly

25% of the island) is susceptible to

changes in sea level

ADB estimates Sri Lanka will lose 1.5% of annual GDP by 2050 due to climate change



SMEs play a key role in the economy, contributing 52% of the GDP

Impacts to SMEs and INDUSTRY



Damage to infrastructure, machinery, and transport routes

Decrease in tea

productions

rainfall

production – a major

export – due to heavy

Lack of water and energy

available for operations and



Decrease in work production due to heat-related and water-borne illnesses



Over 60% of the tourist hotels are located in the coastal areas. vulnerable to extreme weather events. Tourism is the 4th largest foreign exchange earner.

MITIGATION AND ADAPTATION

BY 2030 THE SRI LANKA AIMS TO



Reduce GHG emissions against a business-as-usual scenario by 20% in the energy sector and by 10% in other sectors (transport, industry, forests, and waste)



Increase the forest cover of Sri Lanka from 29% to 32% by 2030

CLIMATE FINANCE



Total grant funding received from Global Environment Facility (GEF) is EUR 224 million and from Green Climate Fund is EUR 32.5 million.

WHY SMES ARE RELEVANT FOR CLIMATE CHANGE MITIGATION & ADAPTATION



SMEs account for 75% of all businesses, contributing to 45% of employment



More than 90% of SMEs are in the **service sector**



About 40% of SMEs are engaged in food processing industry



SMEs are in **need of clean technology** to increase their energy efficiency which will reduce GHG emissions, and reduce environmental pollutions.

SCP HELPS SRI LANKAN SMEs TO







Improve resource efficiency



Reduce GHG emissions and pollution



Create new business **opportunities**



Improve working environment

KEY MITIGATION AND ADAPTATION AREAS



Energy efficiency & renewable energy



Sustainable transport



Forest management



Waste management



Health & food security



Sustainable tourism



CLIMATE CHANGE and Sustainable Consumption and Production in THAILAND



GREENHOUSE GAS EMISSIONS

2016 total territorial greenhouse gas (GHG) emissions



million tonnes CO2e

2016 territorial GHG emissions per capita



tonnes CO₂e / person

2015 CO₂ consumption emissions



million tonnes CO₂e

COUNTRY BACKGROUND

GDP 2016: EUR 366.82 billion agriculture 35.9% services industry

CLIMATE CHANGE impacts





Changes in rainfall patterns

Droughts and water scarcity

Sea level rise



Tropical storms and cyclones



Human health issues



Biodiversity loss

COUNTRY FACTS



Population of 68.6 million



2,420 kilometers of coastline which is highly vulnerable to adverse impacts of climate change



Manufacturing **hub** and important in the global manufacturing supply chain



2nd largest **economy** in the Association of Southeast Asian Nations (ASEAN)



32% of the population rely on **agriculture** for livelihoods



SMEs contribute **41% of GDP**

Impacts to **SMEs** and **INDUSTRY**



Reductions in rice yields – Thailand is the world's largest rice producer

Damage to infrastructure, machinery, and transport routes



Lack of water and energy available for operations and



Supply chain disruptions



Decreases in labor and work production due to increase of heat-related and water-borne illnesses

MITIGATION AND ADAPTATION

BY 2030 THAILAND AIMS TO

productions



Reduce its greenhouse gas emissions by 20% from the projected business-as-usual level.

CLIMATE FINANCE



Thailand has received EUR 438.13 million in **Global Environment Facility (GEF)** grants

WHY SMES ARE RELEVANT FOR CLIMATE CHANGE MITIGATION & ADAPTATION









SMEs contribute 41% to GDP and 80% of total employment









High need of **environmental impact reduction** of SMEs in industries such as ferrous metals, glass, textiles, and food processing

SCP HELPS THAI SMES TO



Save energy



Resource efficiency



Reduce GHG emissions

and pollution

opportunities



Improve working environment

KEY MITIGATION AND ADAPTATION AREAS



Renewable energy



Resource efficiency



Sustainable transport system, agriculture and tourism



Forest management (40% increase of forest cover)



Marine conservation and coastal rehabilitation

Sources: Le Quere et al. (2016), Global Carbon Atlas (2017), CIA



CLIMATE CHANGE and Sustainable Consumption and Production in VIETNAM



GREENHOUSE GAS EMISSIONS

2016 total territorial greenhouse gas (GHG) emissions



187 million tonnes CO₂e

2016 territorial GHG emissions per capita



2 tonnes CO₂e / person

2015 CO₂ consumption emissions



210 million tonnes CO₂e

COUNTRY BACKGROUND

GDP 2016: **EUR 172.84 billion**

44% services

agriculture

39%
industry

CLIMATE CHANGE impacts



Typhoons and storm surge



Floods



Droughts



Sea water intrusion



Sea level rise



Water scarcity



Health issues

Energy insecurity

COUNTRY FACTS





The country has a **population** of 95 million.

vietnam is located on the **tropical typhoon belt**, making it vulnerable to natural hazards.



Agriculture, forestry and fishing, which are sensitive to climatic changes, still collectively contribute 21% of GDP and employs over 47% of the labour force.



Rapid industrialisation and urbanisations have led to environmental degradation.

Impacts to **SMEs** and **INDUSTRY**



In 2016, Vietnam missed its yearly growth target of 6.7% due to environmental issues – drought and salinisation – impacting the agricultural sector. However, annual GDP growth was 6.2%, reflecting strengthening domestic demand and strong manufacturing exports.



Reduced rice and coffee yields; Vietnam produces 13% of world's rice and 17% of world's coffee



Damage to infrastructure, machinery, and transport routes



Lack of water and energy available for productions

MITIGATION AND ADAPTATION

BY 2030 THE VIETNAM AIMS TO



Reduce GHG emissions
by 8% compared to businessas-usual scenario in which:
a) Emission intensity per unit
of GDP will be reduced by 20%;
b) Forest cover will be
increased to 45%.



With international support Vietnam aims to reduce its GHG emissions by 25%.



CLIMATE FINANCE

In 2013 government climate change expenditure was around **EUR 13.8 million**.



Ministry of Planning and Investment (MPI) estimates that around **EUR 4 billion will be required** annually to finance climate change activities until 2020.



Total grant funding will be received from Green Climate Fund: **EUR 25.1 million**



Total grant funding received from Global Environment Facility (GEF): **EUR 407 million**

WHY SMES ARE RELEVANT FOR CLIMATE CHANGE MITIGATION & ADAPTATION



SMEs contribute
40% of GDP



SMEs account for **98% of businesses**, provide 51% of
jobs, and make up 31% of
industrial production





Outdated and inefficient technologies are still used in high-energy sectors — such as power generation, steel, concrete and chemicals causing significant waste.



scp helps sMEs adopt cleaner production that will improve energy efficiency and reduce GHG emissions, and reduce pollutions.

SCP HELPS VIETNAMESE SMEs TO



Save energy



Resource efficiency



Reduce GHG emissions and pollution



Create new business opportunities



Improve working environment

KEY MITIGATION AND ADAPTATION AREAS



Energy efficiency



Renewable energy



Green transportation



Sustainable agriculture



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Forest & biodiversity conservation



Waste management



Technology transfer

Sources: Atkinson, K (2017); N. T. Thong et al. (2017); SWITCH-Asia Philippine country fiche (2017); CIA Vietnam Factbook (online); Global Carbon Atlas (2016); Le Quere, C. et al. (2016); Vietnam INDC (2015); Priambodo, C. et al (2013).

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