

FAST ACTION • QUICK RESULTS • MULTIPLE BENEFITS



ANNUAL REPORT 2017-2018



**CLIMATE &
CLEAN AIR
COALITION**
TO REDUCE SHORT-LIVED
CLIMATE POLLUTANTS

Climate and Clean Air Coalition Annual Report September 2017-August 2018

This report is an overview of the Coalition's progress from September 2017-August 2018. The report was prepared by the Coalition Secretariat based on reporting by initiatives through the Demonstrating Impacts Framework and information from Partners in Action. All documents referenced in this report are available on the Coalition's website www.ccacoalition.org, solution centre, or intranet (TeamWorks).

This report responds to the requirements set out in Paragraph 27 of the Coalition's Initiatives – Governance and Processes document (WG/MAY2015/8).

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The Climate and Clean Air Coalition's Solution Centre supported an exchange between a group of women from the Nigerian network, RUWES and Project Surya to learn how rural women in Odisha, India are transitioning to clean household energy. Of particular interest to the women was how mobile technology is helping women afford clean cooking technology.



**CLIMATE &
CLEAN AIR
COALITION**
TO REDUCE SHORT-LIVED
CLIMATE POLLUTANTS



The cover features a large blue square on the left containing the text. To its right, there are two overlapping squares: a smaller dark blue one on top and a larger, lighter blue one below it, both partially overlapping the main blue square.

ANNUAL REPORT

2017 - 2018

MESSAGE FROM THE CO-CHAIRS

We are proud to present another year of productive results from the Climate and Clean Air Coalition!

The special report by the Intergovernmental Panel on Climate Change released in October 2018, “*Global Warming of 1.5°C*”, strengthened the CCAC’s rationale for promoting fast action, quick results and multiple benefits. It shows the urgency and scale—we have a little more than a decade (12 years) to make substantial changes if we are to keep warming to a temperature target of 1.5°C. The special report also shows that there is no scenario that gets us to the target without fast action on ALL climate forcers, including short-lived climate pollutants, along with deep and significant cuts to carbon dioxide.

We have built the groundwork to help deliver the reductions needed for methane, black carbon and HFCs. Efforts by Coalition partners, scientists and experts to build increased capacities, strengthen institutions, produce new knowledge and raise awareness have started to deliver transformative laws and policies, and climate friendly innovations in several of our initiatives, such as agriculture, the manufacturing of bricks, cooling and refrigeration, and waste management. Our investments are starting to pay off.

We have worked with our partners the World Health Organization and UN Environment to strengthen the synergies between air pollution, health and climate change. We released the critical assessment report *Air Pollution in Asia-Pacific – Science Based Solutions* together with the Asia Pacific Clean Air Partnership in 2018. Scientists and partners in the Asia Pacific region identified 25 clean air solutions that could save millions of lives and have 1 billion people breathing air that meets WHO standards by 2030. The same measures could also result in a 20% reduction in carbon dioxide, a 45% reduction in methane emissions, and prevent up to a third of a degree Celsius in global warming. Next year we start work on an African assessment.

There is still a lot of work to be done, as we stand on the edge of a paradigm shift in the way we live and work. Coalition partners are eager to support the changes needed to move towards a safer, cleaner and more sustainable world. We are ready to do our part on the 1.5°C challenge!



Alice Akinyi Kaudia
Former Environment Secretary,
Ministry of Environment and
Natural Resources, Kenya



Charles Haines
Senior Policy Advisor,
Environment and Climate Change
Canada

Short-lived climate pollutants (SLCPs) - black carbon, methane, tropospheric ozone, and hydrofluorocarbons - are climate forcers many times more powerful than carbon dioxide (CO₂) at warming the planet, but because they're present in the atmosphere for a much shorter period of time, reducing them can rapidly reduce near-term warming. Certain short-lived climate pollutants are also dangerous air pollutants that have harmful effects for people, ecosystems and agricultural productivity.

INTRODUCTION

2017-2018 PROGRESS

Over the last year, we have increased high-level engagement and developed a robust framework for a multiple benefits pathway approach. Key results from our 11 initiatives are reflected in this annual report.

We increased our support to country efforts to enhance climate and air quality strategies, contributed to nationally determined contributions (NDCs) and black carbon inventories. Our Solution Centre provided expert assistance in response to specific requests. To deliver the ministerial commitments made at the 2016 and 2017 High Level Assemblies, we: implement the global strategy to introduce low-sulphur diesel and vehicles; enhanced methane and black carbon reductions in the agriculture sector; and increased the number of cities – and tools for – reducing municipal solid waste emissions. We also supported the rapid ratification of the Kigali Amendment to phase down HFCs. Our initiative partners were instrumental in these activities and were supported by the CCAC Trust Fund and Secretariat.

KEY MESSAGES

- The **pathway to achieve the goals matters** – rapid reduction of SLCPs, along with deep cuts to carbon dioxide, are necessary if we are to reach the Paris Agreement’s temperature goal, reduce the *rate* of warming, and help achieve the sustainable development goals (SDGs).
- **Integration of air quality and climate agendas is critical** – An increasing number of countries are integrating climate and air pollution mitigation activities to maximise the benefits from climate action and better health. Many countries have developed black carbon inventories and will integrate the results into NDCs and air pollution control plans and policies.
- **Fast implementation of SLCP measures will prevent 0.6 degrees Celsius of temperature increase between now and 2050** – The important contribution of SLCPs was recognized by the Intergovernmental Panel on Climate Change (IPCC) special report in Oct 2018: *Global warming of 1.5°C*. It found that no scenario exists where warming can be kept to 1.5°C without SLCP reduction.
- The **Multiple Benefits Pathway Framework is helping countries integrate their near and**

OUR STRATEGIC PLAN

The Climate and Clean Air Coalition (CCAC) will prioritize our resources to support the development and implementation of **policies, regulations and practices** of Partners and relevant stakeholders that will **deliver substantial reductions of short-lived climate pollutants in the near- to medium-term** (i.e., by 2030). The Coalition will continuously measure and report the impact of its actions.

The Coalition demonstrates leadership by acting to reduce short-lived climate pollutants (SLCPs) nationally and internationally. We work in close collaboration with partners to generate political will and practical capacities to do so. We encourage, enable and catalyse action to reduce emissions, mobilize robust support, leverage finance, and enhance science and knowledge. We work in cooperation with other stakeholders and key emitters around the world.

- **long-term climate objectives based on national development and economic priorities.** Six Coalition countries have used the Framework to help integrate emission reduction policies and align these with their international development and climate commitments to provide national health and environmental benefits.
- The Coalition’s **mitigation measures** are increasingly **taken up by external funding mechanisms, organizations, programmes.** Projects to implement CCAC measures are attracting funding beyond the direct support provided by the Coalition.
- **Sub-national participation continues to increase** – California became the Coalition’s first subnational partner and city engagement has increased through BreatheLife and the Municipal Solid Waste and Heavy-Duty Vehicles initiatives.
- **Reducing short-lived climate pollutants can save millions of lives and increase food security** – Fast action to reduce SLCPs can prevent 2.4 million premature deaths and prevent up to 50 million tons of crop losses every year.

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THE CCAC AROUND THE WORLD

The Climate and Clean Air Coalition is a voluntary partnership of governments, intergovernmental organizations, businesses, scientific institutions and civil society organizations working across the world to deliver rapid and multiple benefits for air quality and the climate. The Coalition supports actions on the ground through 11 initiatives. Here are a few examples of results.

OIL AND GAS

A flight campaign measuring methane concentrations from oil and gas sites in the North Sea was completed; data is being analysed.

HFCs

A climate-friendly, energy-efficient transcritical CO₂ refrigeration system was put into operation at the AlSalam supermarket in Amman, Jordan.

HEAVY-DUTY VEHICLES

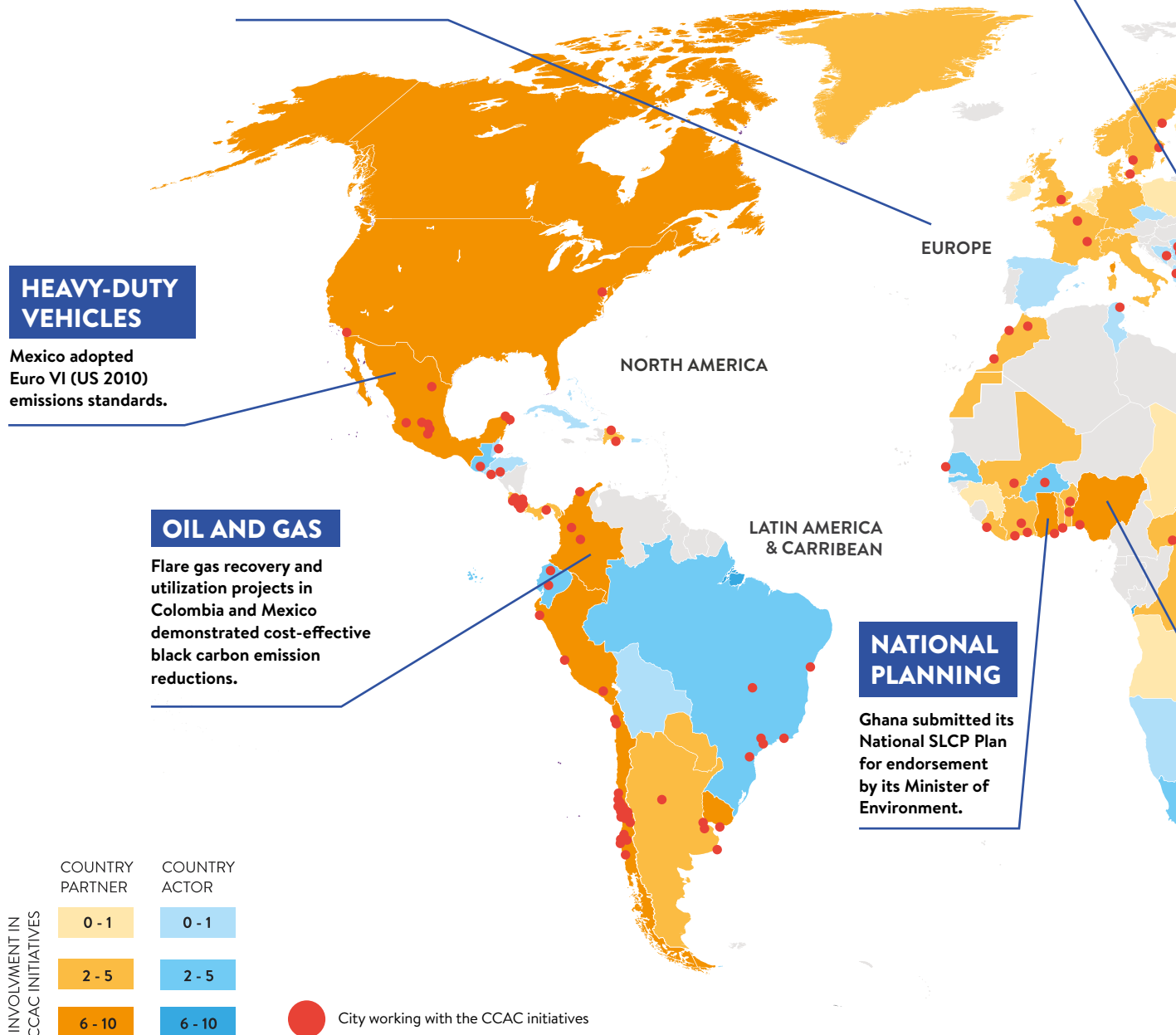
Mexico adopted Euro VI (US 2010) emissions standards.

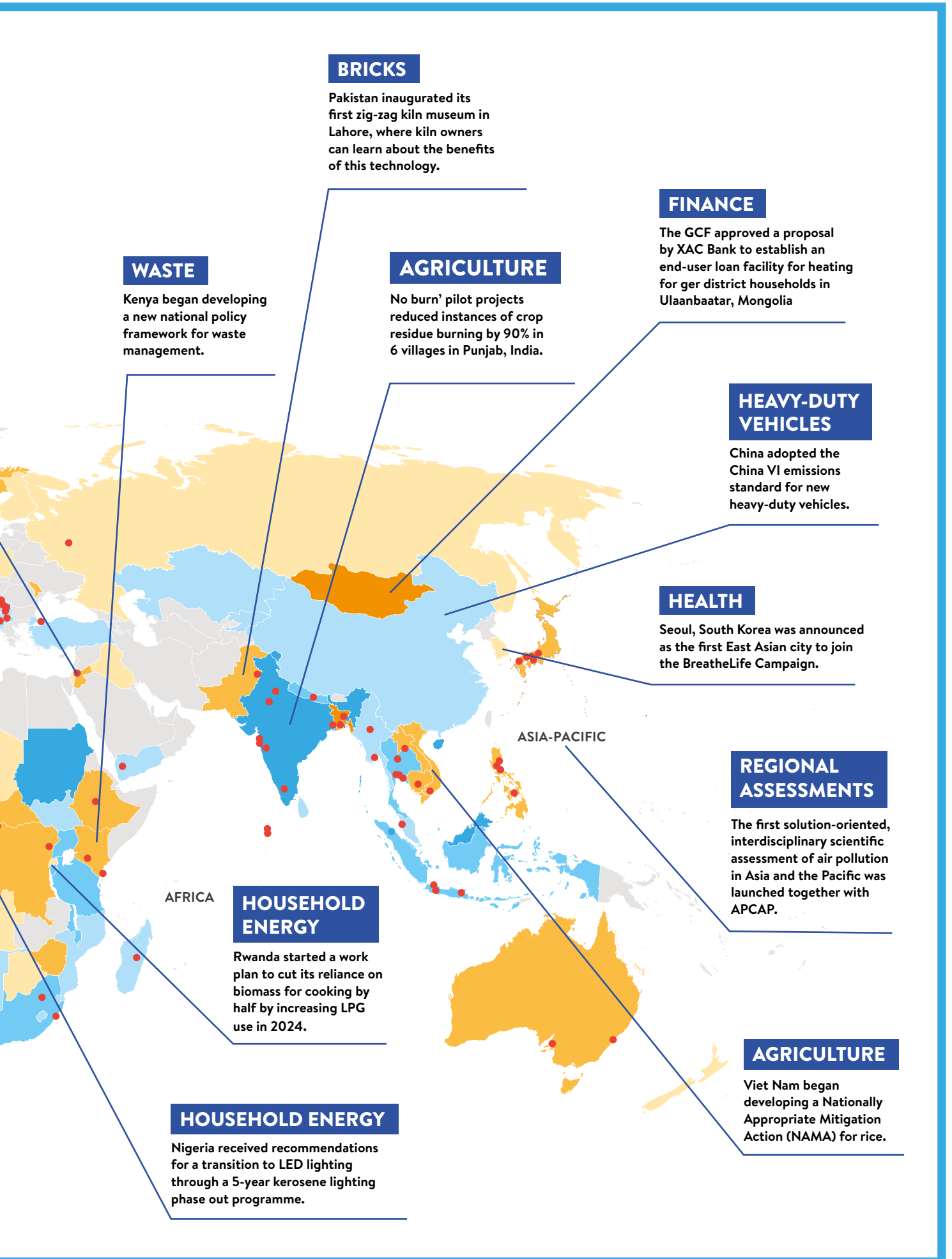
OIL AND GAS

Flare gas recovery and utilization projects in Colombia and Mexico demonstrated cost-effective black carbon emission reductions.

NATIONAL PLANNING

Ghana submitted its National SLCP Plan for endorsement by its Minister of Environment.





BRICKS

Pakistan inaugurated its first zig-zag kiln museum in Lahore, where kiln owners can learn about the benefits of this technology.

WASTE

Kenya began developing a new national policy framework for waste management.

AGRICULTURE

No burn' pilot projects reduced instances of crop residue burning by 90% in 6 villages in Punjab, India.

FINANCE

The GCF approved a proposal by XAC Bank to establish an end-user loan facility for heating for ger district households in Ulaanbaatar, Mongolia

HEAVY-DUTY VEHICLES

China adopted the China VI emissions standard for new heavy-duty vehicles.

HEALTH

Seoul, South Korea was announced as the first East Asian city to join the BreatheLife Campaign.

REGIONAL ASSESSMENTS

The first solution-oriented, interdisciplinary scientific assessment of air pollution in Asia and the Pacific was launched together with APCAP.

AFRICA

HOUSEHOLD ENERGY

Rwanda started a work plan to cut its reliance on biomass for cooking by half by increasing LPG use in 2024.

HOUSEHOLD ENERGY

Nigeria received recommendations for a transition to LED lighting through a 5-year kerosene lighting phase out programme.

ASIA-PACIFIC

AGRICULTURE

Viet Nam began developing a Nationally Appropriate Mitigation Action (NAMA) for rice.

STORIES FROM THE FIELD

COALITION STUDY LEADS TO CLEAN AIR LOANS IN MONGOLIA

Mongolian winters are notoriously cold. To keep warm many people living in Ulaanbaatar's large informal ger districts turn to wood and coal to heat their homes, blanketing the city in a thick smog, making it one of the most polluted cities in the world.

In May 2017, a team from the Climate and Clean Air Coalition and the Frankfurt School of Finance and Management (the Frankfurt School), travelled to Ulaanbaatar to meet with the Mongolian commercial bank, XacBank, to investigate setting up cheap household loans for ger residents to purchase cleaner household heating appliances to replace the inefficient traditional heat-stoves they currently use.

Working with ger residents, local and national government, academics, engineers, and technology suppliers, the team assessed the available alternatives and identified appropriate options for ger households.

The subsequent feasibility study showed a viable market for energy efficient heating appliances and helped XacBank design an Energy Efficient Consumption Loan Programme, a financial product to help poor families purchase clean heating options, reduce air pollution, and provide environmental and health benefits.

XacBank then submitted a proposal to the Green Climate Fund (GCF) for funds to implement the Energy Efficiency Consumption Loan Programme as the first energy efficient heating appliance and energy efficient housing lending programme to be implemented at scale in Mongolia. GCF funds would be combined with the XacBank commercial funds to improve access to finance for people making pre-eligible household energy efficiency investments, including energy efficient heating appliances, energy efficient housing materials for insulation retrofits, and energy efficient housing construction.

A GCF loan for \$9 million was approved. This will be combined with an additional \$9 million from XacBank and a \$1 million grant from GCF that matches a \$2.5 million grant from French NGO Groupe Energies Renouvelables, Environnement et Solidarités (GERES). The funds combine to create a \$21.5 million program, \$18 million of which will go toward energy efficient loans that have lower interest rates and lengthened loan terms. Of this \$3 million will go to loans for purchasing energy efficient heating appliances and \$15 million will be used to purchase energy efficient housing products. The \$3.5 million in grants will support complementary efforts that maximize the loan programme's impact, like disposing old heating appliances evaluating household energy use and costs, awareness raising, and capacity building.

"CCAC helped us optimize the CO₂ and black carbon emissions impact of the program", said Ms. Tuul Galzagd, Director of XacBank's Eco Banking Department. "The assessment showed that energy efficient heating alternatives need to be paired with insulation retrofit measures to lock in emissions savings. This was key in designing an efficient program and submitting a successful Funding Proposal to the GCF."



XACBANK IS HELPING PEOPLE PAY FOR CLEANER TRANSPORT AND HOUSEHOLD ENERGY PRODUCTS

CLIMATE-FRIENDLY RICE FOR BANGLADESH

Farmers in North Western Bangladesh are changing the way they grow rice, and by doing so are increasing production, saving money, and protecting the climate.

The warm, waterlogged soil of rice paddies provides ideal conditions for microbes that produce methane as they breakdown and decay any flooded organic matter. Rice cultivation is responsible for 10% of all agricultural greenhouse gas emissions globally.

For many rice growing countries the methane produced by rice paddies is a significant portion of their total greenhouse gas emissions. In Viet Nam, for example, rice cultivation is responsible for up to 17% of the country's greenhouse gas emissions.

Since 2014, the International Rice Research Institute (IRRI) has implemented a Climate and Clean Air Coalition Agriculture Initiative to provide technical and policy guidance to governments to help reduce greenhouse gas emissions from rice production.

In Viet Nam and Bangladesh IRRI introduced Alternate Wetting and Drying (AWD) rice cultivation as an effective alternative to traditional paddy rice farming. This planting method has the potential to reduce paddy rice emissions by half.

Instead of keeping their fields continuously flooded, farmers drain rice paddies two to three times during the growing season. This limits the amount of methane that is produced, does not compromise yield, and saves money for farmers, as it requires a third less water.

The Rangpur Division in Northwestern Bangladesh is one of the country's most vulnerable areas due to increasing ground water scarcity and periods of drought. Rangpur farmers are turning to AWD to manage their water resources, increase their yield and save on their irrigation costs.

The Coalition worked with IRRI to support the spread of AWD practices in Rangpur Division by working with the Northwest Focal Area Network (FAN) - a multi-sectoral network of stakeholders working on rice-based systems.



FARMERS SHARING WHAT THEY LEARNED DURING THE 2017 BORO RICE GROWING SEASON

In 2017 FAN worked with hundreds of farmers and shallow-tube well owners in 8 districts and 17 locations on testing and adopting AWD technology. The Network's inclusive approach promotes active involvement and concerted efforts by all actors. It also brings out a deep sense of ownership. Moving forward the project plans to widen knowledge across the region to drive an effective extension and communication campaign.

"Sharing AWD knowledge and actual experiences motivates other potential actors and helps duplicate the initiative," said Ahmad Salahuddin, IRRI Consultant and Representative to Northwest FAN. "We are preparing for a region-wide general network meeting to bring together framers, well owners, and high level decision makers from government, NGOs and involved stakeholders to further promote this work."

The Bangladesh government now wants to scale up AWD rice production to 20% of total rice cultivation by 2030 as part of its Nationally Determined Contributions (NDCs).

THE CCAC IN NUMBERS

OUTPUTS AND OUTCOMES FROM OUR WORK

Coalition partners work together in **11 initiatives** to enable ambitious action, mobilize support, leverage finance at scale and enhance science and knowledge ^[1]

\$54 MILLION allocated to activities

 **\$42 MILLION** ADDITIONAL CO-FUNDING FROM OUR PARTNERS

OVER 90 ENTITIES IMPLEMENTING MITIGATION ACTIONS IN 85 COUNTRIES, 107 CITIES AND 14 REGIONS

Over 100 policies and plans including improved waste management plans in 70 cities.



65  COMMITMENTS

27



new or improved laws and regulations supported in **17 countries** on waste management, heavy-duty diesel vehicles and bricks production.



48

COUNTRIES WITH INCREASED INSTITUTIONAL CAPACITY



Over 120 knowledge resources and tools.

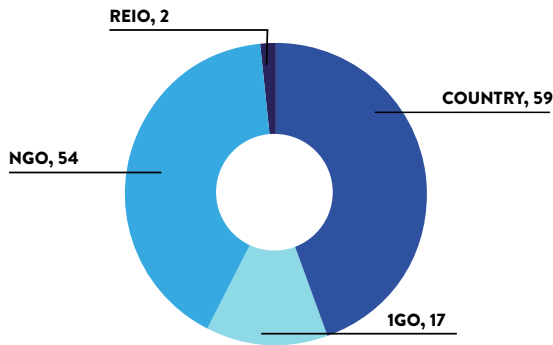
OVER 160

political awareness raising, and decision-making outreach events

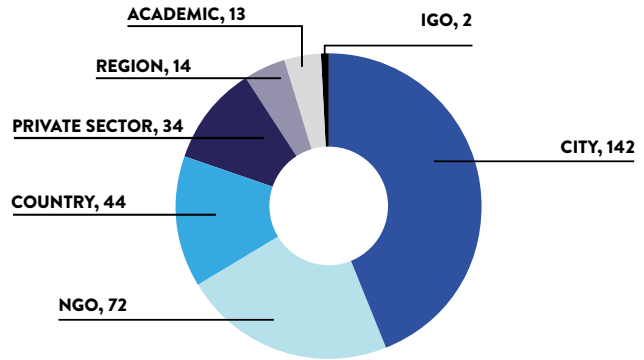
[1] Numbers presented refer to results supported by the CCAC as reported under the coalition's Demonstrating Impacts indicator framework from July 2012 to June 2018.

OUR NETWORK

132 partners committed to taking action to reduce SLCPs and over 320 other key stakeholders involved in our work



PARTNERS



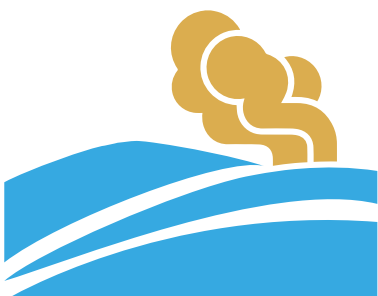
STAKEHOLDERS

SOME KEY IMPACTS ON THE GROUND

AGRICULTURE

In pilot villages in India and Peru, open burning of agricultural residue was reduced by up to 90% in the first year of initiative work. Alternate wetting and drying practices were adopted by rice farmers in Viet Nam and Bangladesh.

**REDUCED
BY UP TO
90%**



HEALTH

Over 40 cities, regions, and countries, reaching over 79 million citizens, joined the BreatheLife campaign.



HOUSEHOLD ENERGY

A portable biogas digester was developed as an alternative to fuelwood. 1,300 units were installed in Kenya, Tanzania, India and Swaziland.



BRICKS



**OVER
4,300 KILNS**

in Bangladesh, Brazil, Colombia, India, Mexico, Nepal, Pakistan and Peru were improved to reduce emissions.

New kiln technologies increased net income by \$11.32 million and reduced black carbon emissions in Brazil, Colombia, Mexico and Peru.

SOME KEY IMPACTS ON THE GROUND

FINANCE

A household energy loan facility in Mongolia led to \$600,000 of retail loans for clean household energy appliances and an application to the Green Climate Fund for scale-up.



**\$10 MILLION
IN INVESTMENTS**



A Green Brick Programme in Bangladesh led to \$10 million in investments for efficient tunnel kiln factories.

REGIONAL ASSESSMENTS

**25
CLEAN AIR
MEASURES**

The Asia-Pacific Air Pollution Solutions report offered 25 clean air measures that could bring air quality within WHO guidelines to **1 billion people** by 2030 and **decrease expected warming by 1/3°C** by 2050.

OIL & GAS

The 9 companies participating in the Oil and Gas Methane Partnership reported 25,000 tons of methane emissions avoided over three years as well as 1,260 technology changes.

HFC



EMITS ABOUT
6,000
TIMES LESS CO₂

A technology demonstration project in a supermarket chain in Chile led to 6 more adopting transcritical CO₂ technology as alternative to HFCs. The new technology emits about 6,000 times less CO₂ over its lifetime.

WASTE

Mitigation measures were outlined for 8 Latin America cities. These could lead to emissions reductions of 17,000tCO₂e per month once implemented.

An old dumpsite in Addis Ababa was replaced with a new sanitary landfill.

HEAVY-DUTY DIESEL

Mexico developed standards for heavy-duty vehicles that will eliminate 6,800 premature deaths per year and bring single-year benefits of \$123 billion once fully implemented.



**CHINA
LAUNCHES
VI EMISSION
STANDARDS**

China launched its VI emission standards for new heavy-duty vehicles. Implementation will cut annual average PM2.5 and ozone concentrations by 5% and 2% in 2030.

NATIONAL PLANNING

Measures in Ghana's new national plan are expected to reduce black carbon emissions by 64% and methane by 67% in comparison to the projected baseline emission for 2040. Some of these measures were included in Ghana's Nationally Determined Contribution (NDC).

**REDUCE
BLACK
CARBON
EMISSIONS BY
64%**
**REDUCE
METHANE
EMISSIONS BY
67%**

1

LATEST SCIENCE

BENEFITS OF FAST ACTION TO REDUCE SHORT-LIVED CLIMATE POLLUTANTS

Full implementation of SLCP measures by 2030 could bring multiple benefits for climate, health, food security and ecosystems, while also supporting achievement of the Sustainable Development Goals (SDGs).



0.6°C OF WARMING AVOIDED BY 2050



MELTING RATE REDUCED IN THE HIMALAYAS AND ARCTIC



SEA-LEVEL RISE SLOWED BY 20% BY 2050



IRREVERSIBLE CLIMATE TIPPING POINTS AVOIDED



2.4 MILLION ANNUAL PREMATURE DEATHS AVOIDED BY 2030



52 MILLION TONNES OF ANNUAL STAPLE CROP LOSSES AVOIDED AFTER 2030

DEPOSITS OF BLACK CARBON (SOOT) ON SNOW AND ICE TRANSFORM IT FROM A REFLECTOR OF SUNLIGHT TO AN ABSORBER OF HEAT AND ACCELERATES MELTING

MULTIPLE BENEFITS PATHWAY FRAMEWORK

The 2015 adoption of the Paris Agreement set the world on a path to an ambitious climate target. Countries are committed to limiting temperature rise to well below 2 degrees Celsius, towards 1.5 degrees, while also meeting sustainable development and poverty eradication goals. To do so, the path that we take to reach the climate target is crucial.

The sources and impacts of air pollution and climate change are closely interlinked. Yet, in many countries the air pollution and climate communities operate separately, leading to missed opportunities and poorly integrated policies.

The Coalition's Scientific Advisory Panel and the Pathway Task Team (led by Norway and Chile), which was set up to explore how to frame and implement a multiple pathway approach, developed: a narrative based on the scientific evidence and policy experiences; a tool to model the temperature path based on emission data; the testing of this approach and tool in several countries; and a communication strategy.

The results, together with ministerial dialogues convened by the Coalition on how to increase ambition to bridge the emission gap, helped shape a

The CCAC Scientific Advisory Panel (SAP) developed a Pathway Tool to calculate the temperature impact of all climate forcing emissions. The tool was tested on national emissions scenarios from Norway, Finland and Chile. The International Council for Clean Transportation (ICCT) used it to analyse the temperature impact of soot-free policies for global diesel road transport.

high-level statement and Talanoa Submission by the Coalition to UNFCCC in 2018. It calls for leadership and fast action to reduce short-lived climate pollutants as part of countries' increased ambition to achieve the Paris Agreement temperature goal. This can prevent 0.6 degrees Celsius of temperature increase between now and 2050 and must happen alongside deep cuts in carbon dioxide.

The multiple benefits approach provides a framework to integrate all climate forcing air pollutants and greenhouse gas emissions, which can put us on a path that rapidly reduces the rate of warming in the

MINISTERIAL ROUNDTABLE MEETING: MINISTERS AND REPRESENTATIVES FROM COUNTRIES AND ORGANISATIONS DISCUSS THEIR VISION FOR AMBITIOUS ACTION TO REACH THE PARIS TEMPERATURE GOALS IN NEW YORK.





MAYOR OF ACCRA, GHANA PRESENTS THE CITY'S MULTI-PRONGED APPROACH TO IMPROVING AIR QUALITY AND REAPING LIVEABILITY CO-BENEFITS.

near-term, prevents millions of premature deaths from air pollution, protects against dangerous climate feedback loops, and contributes to the global sustainable development goals.

The analysis of all climate-forcers can be incorporated into different decision-making tools. Countries can use it to develop robust policies by identifying win-win scenarios, and where they need to mitigate win-loss scenarios. The framework makes it easier to track progress towards NDC pledges, understand how governments can implement and enhance their commitments, and increase government and society support for policy implementation and emissions reductions.

As examples, Norway employed a pathway framework in its 2013 analysis of climate mitigation measures up to 2030.² The Coalition is supporting 12 SNAP initiative countries to apply the framework – using the LEAP-IBC tool -- to develop national plans that consider the implications of different national strategies on global temperature and local air quality.

Using the tool, Ghana found that fully implementing their NDC commitments would produce significant near-term climate and air quality benefits, cut Ghana's contribution to global temperature rise by half and avoid 1,500 premature deaths by 2030. The analysis also showed that by increasing ambition and implementing four targeted SLCP measures, Ghana could reduce its contribution to global warming by 55% and prevent a thousand more premature deaths by 2030.³

ESTIMATED BENEFITS IN GHANA FROM IMPLEMENTING 16 SLCP MITIGATION MEASURES



PREMATURE DEATHS AVOIDED

2,560 under PAM++
1,500 under PAM+



REDUCTION IN CROP LOSS

40% under PAM++
22% under PAM+



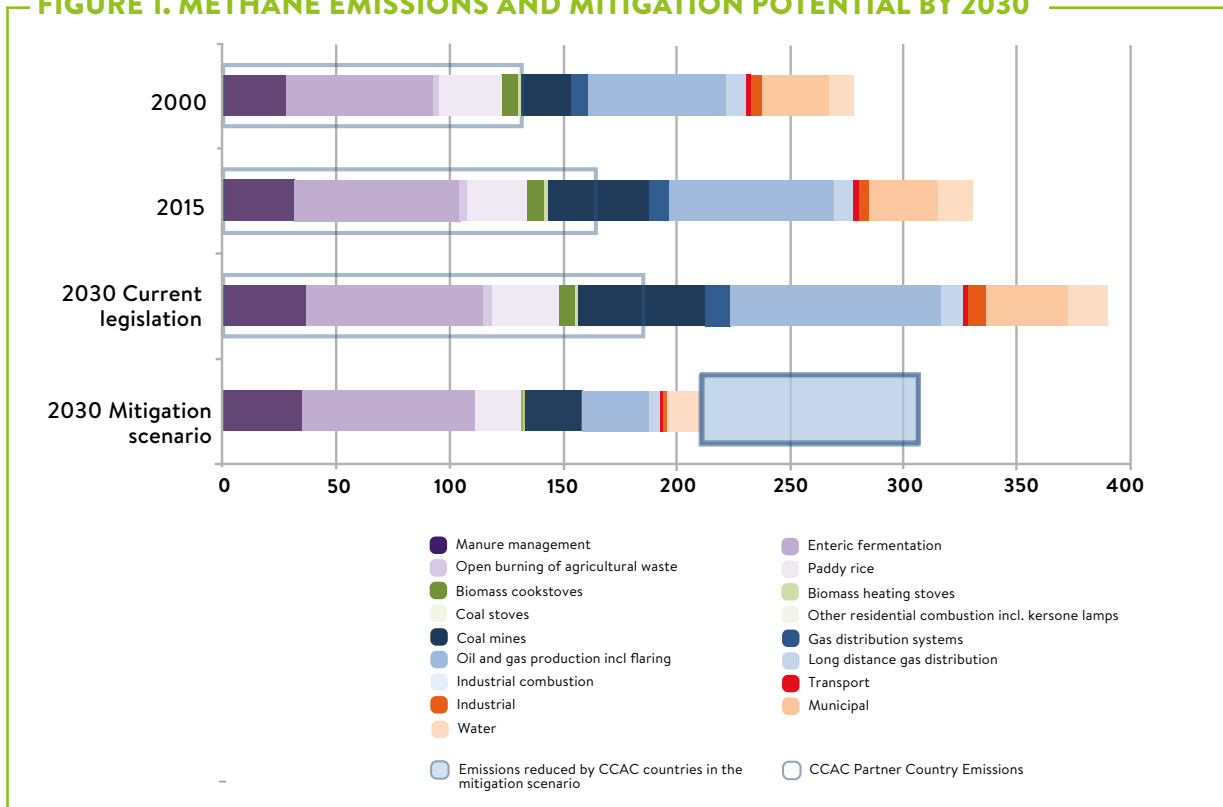
REDUCTION IN GHANA'S CONTRIBUTION TO GLOBAL TEMPERATURE INCREASES

55% under PAM++
51% under PAM+

PAM+ (implementation of NDC measures)
PAM++ (implementation of additional SLCP-focused measures)

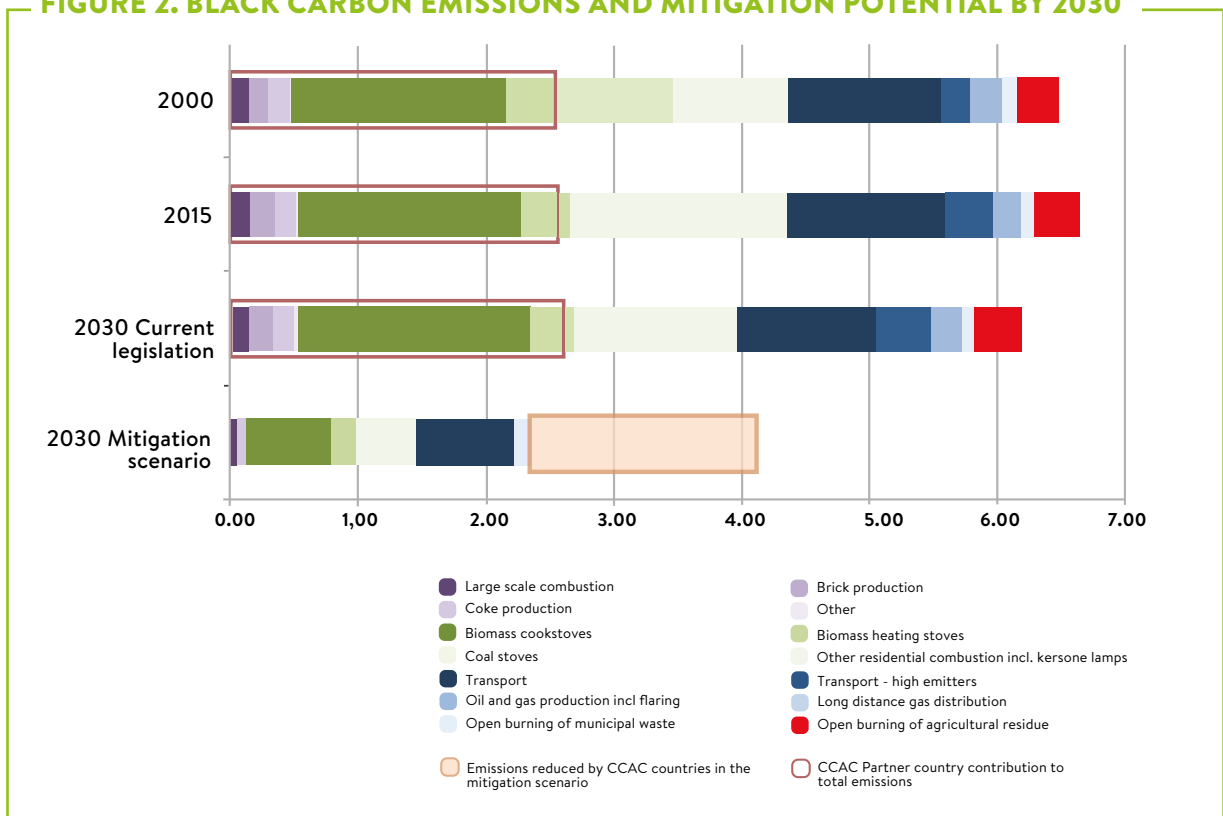
LATEST SCIENCE

FIGURE 1. METHANE EMISSIONS AND MITIGATION POTENTIAL BY 2030



The blue shaded areas represent the contribution of CCAC Partner Countries to global anthropogenic methane emissions and mitigation potential. Source: Klimont, Z. et al. (in preparation); and Klimont Z., personal communication, 9 April 2018.

FIGURE 2. BLACK CARBON EMISSIONS AND MITIGATION POTENTIAL BY 2030



The brown shaded areas represent the contribution of CCAC Partner Countries to global anthropogenic methane emissions and mitigation potential. Source: Klimont, Z. et al. (in preparation); and Klimont Z., personal communication, 9 April 2018.

SCIENTIFIC ADVISORY PANEL UPDATE

The Coalition's Scientific Advisory Panel's (SAP) annual science updates continue to summarize new influential and important scientific findings on methane, black carbon and HFCs. Since 2012, the SAP has held four Science-Policy Dialogues back-to-back with the Coalition's governance meetings.

The 4th Annual Science Policy Dialogue was held on 31 March, 2018, in Toronto, Canada, as part of the Global Methane Forum, co-organized by the Global Methane Initiative and the Coalition. It focused on three major themes, implementation and advancement of the multiple benefits pathway framework, enhancing global action on methane mitigation, and addressing uncertainties in black carbon inventories.

Four members of the SAP contributed to the IPCC 1.5°C report as chapter authors.

The 2018 Science Update found that the global warming potential of methane is around 30% higher than in IPCC's 5th Assessment Report, and that the impact of tropospheric ozone on public health may be significantly higher than previously calculated. The SAP called for additional mitigation measures in the agricultural sector, enhanced action to address emissions from waste and agriculture, and the reporting of individual climate forcer emissions to estimate the health impacts of ozone and climate impacts of methane.

Despite successes, global methane emissions are expected to rise by more than 35% (from 2000 levels) by 2030 with 90% of total man-made emissions coming from three sectors, agriculture (40%), oil gas and coal (35%) and waste (20%). Coalition Partner countries currently contribute approximately 50% of global anthropogenic methane emissions.

Recent analysis⁴ shows enhanced action on dedicated methane measures can reduce global man-made methane emissions by nearly half by 2030. Emissions

from oil and gas production could be reduced by nearly 70%, gas distribution systems by 95%, and emissions from coal mines and long-distance gas distribution by more than 50%. In the waste sector, emissions from industrial and municipal waste could be reduced by more than 80%. Very little abatement potential has been calculated for the agricultural sector, however recent work supported by the CCAC shows there is more potential.

CCAC partner countries can provide slightly more than half of the expected total mitigation potential in 2030.

The SAP published a second Science Update in 2018 – titled Addressing Black Carbon Emissions Inventories – as the Coalition's contribution to the IPCC Expert Meeting on short-lived climate forcers (SLCFs). It details the current knowledge and action on national black carbon inventories. The Update called on the IPCC to develop authoritative inventory guidance on SLCFs, including black carbon, and a comprehensive and transparent online emissions factor database. The SAP also encouraged countries to compile and share emission inventories of black carbon and co-emitted substances and promote further research to address remaining uncertainties in black carbon emissions.

While emissions are expected to decline slightly in the coming decades, additional focused action on black carbon measures can deliver an additional 60% reduction in global emissions by 2030. Residential



MEMBERS OF THE
CCAC SCIENTIFIC
ADVISORY PANEL
DISCUSS THE LATEST
SCIENCE.

LATEST SCIENCE

cooking, heating and lighting emissions could be reduced by 60%, industrial emissions by more than 75%, transport emissions by 50%, and emissions from open burning of agricultural waste can be eliminated entirely.

Coalition countries contribute approximately 40% of global black carbon emissions but could deliver nearly 50% of the total projected mitigation by 2030.

The update on HFCs showed that full compliance with the Kigali Amendment will result in a 61% decrease in cumulative HFC emissions by 2050. On the other hand, increased ambition using existing technologies and environmentally friendly refrigerant alternatives could achieve an 85% reduction in cumulative emissions by 2050.⁵ Full implementation of dedicated SLCP measures together with enhanced ambition on HFCs could avoid 0.22°C of warming by 2030 and 0.59°C by 2050.⁶

IPCC EXPERT MEETING AND SPECIAL REPORT

There is an increasing demand from countries to develop emission inventories for short-lived climate forcers (SLCFs) beyond those covered by the Kyoto or Montreal Protocols.

Drew Shindell, Chair of the Coalition's Scientific Advisory Panel (SAP) and a coordinating lead author of the IPCC Special Report on Global Warming of 1.5°C said the report showed that measures to reduce SLCPs need to be implemented as soon as possible. "Waiting to 2030 before increasing ambition is too late, the drop in emissions is too steep to be achieved in any of the scenarios that the report authors looked at. We need change within the coming decade. We not only have to switch our trajectory from up to down but it has to drop very rapidly during the 2020's, so that by 2030 we are at half our current carbon dioxide emissions and between one and two thirds of current SLCP emissions, otherwise we can't make the 1.5°C target." These findings show the value of ramping up ambition and efforts to reduce SLCPs. To increase the inclusion of short-lived climate pollutants in climate inventories and plans, many Coalition partners and the Secretariat contributed to

Many countries in the Coalition's SNAP initiative are producing emission inventories for both short-lived climate forcers and long-lived greenhouse gases (GHG) using the LEAP-IBC tool. The tool was developed by Stockholm Environment Institute (SEI) in collaboration with the US EPA and the University of Colorado and is now available for use in 100 countries.

The GAINS model, developed by the International Institute for Applied Systems Analysis (IIASA), has global coverage and includes all key air pollutants (including black carbon) and GHGs. The model is the central tool for the development of new black carbon scenarios to address black carbon knowledge gaps and support policy for the Arctic Council and observer countries.

the IPCC Expert Meeting on SLCFs in Geneva, in May 2018. The experts identified the benefits of having authoritative emission inventory guidance from the IPCC on SLCF.⁷ A large pool of data and information on emissions is already available but a comprehensive methodology and a database of emission factors for SLCF for all sectors, that has global coverage, with regional differentiation where appropriate, is currently lacking. The Expert Meeting recommended that IPCC develops a work plan to produce a SLCF emission inventory guidance. This will be decided at subsequent IPCC sessions 2018 or 2019.

The CCAC's assessment activities and work on emission inventories can support this work and rely on two tools: the Long-range Energy Alternatives Planning - Integrated Benefits Calculator (LEAP-IBC) and the Greenhouse gas-Air pollution Interactions and Synergies (GAINS) model (see box).



DREW SHINDELL,
IPCC 1.5°C REPORT
AUTHOR AND
CCAC SCIENTIFIC
ADVISORY PANEL
CHAIR

2

GLOBAL ACTIONS

INITIATIVES

These 11 CCAC initiatives are the heart of the Coalition's work and bring together a wide range of committed actors from across the world.

The initiatives raise awareness, strengthen stakeholder capacity, produce assessment tools, increase knowledge, stimulate political will, mobilise support, advance policy processes and catalyse large-scale SLCP mitigation actions to reduce emissions in their respective sectors.



AGRICULTURE



HOUSEHOLD ENERGY



BRICKS



NATIONAL PLANNING



COOLING AND REFRIGERATION



OIL AND GAS



FINANCE



REGIONAL ASSESSMENTS



HEALTH



WASTE



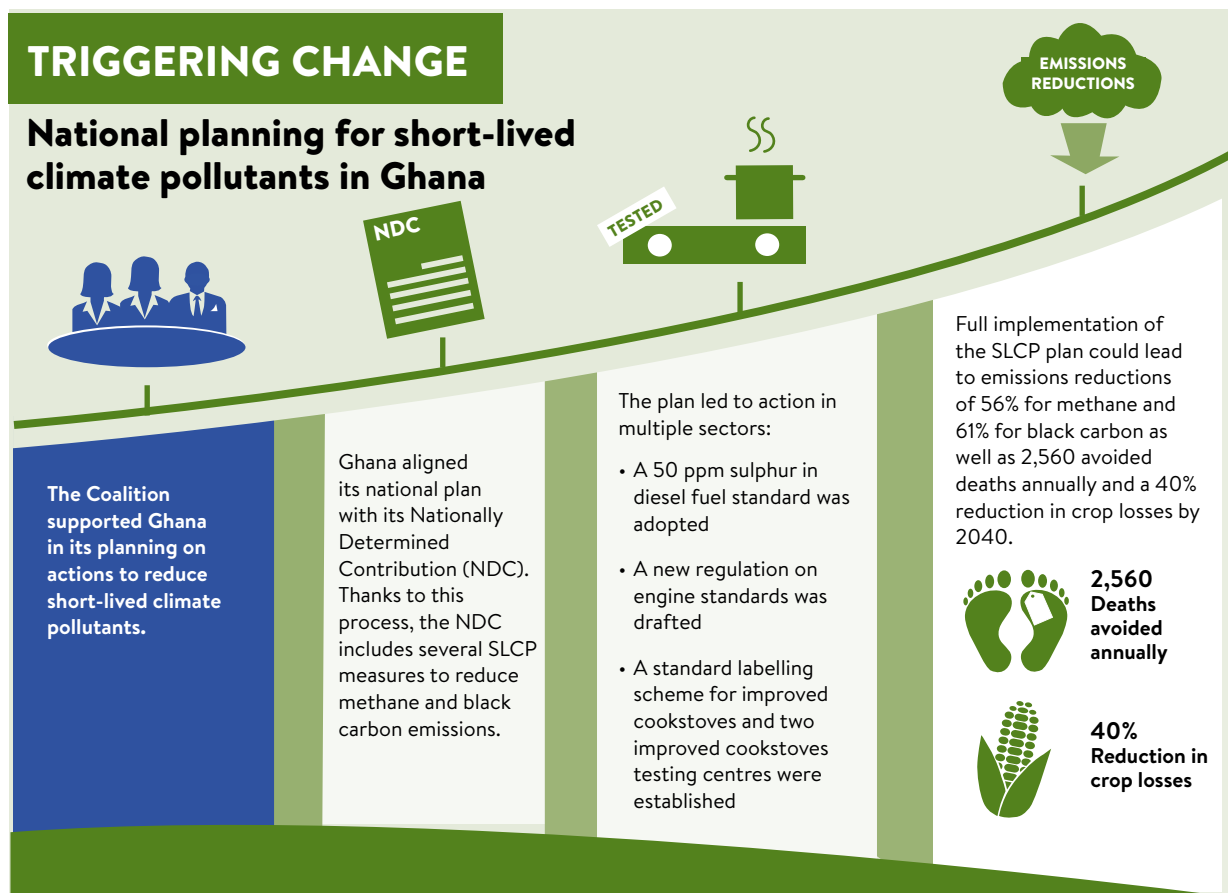
HEAVY-DUTY VEHICLES

AJAY PILLARISETTI
FROM ENVIRONMENTAL
HEALTH SCIENCES AT
THE UNIVERSITY OF
CALIFORNIA, BERKELEY,
TRAINING KENYA
MINISTRY OF HEALTH
STAFF IN AIR QUALITY
MONITORING

NATIONAL PLANNING

The goal of the SNAP (Supporting National Action and Planning on Short-Lived Climate Pollutants) Initiative is to develop capacity in partner countries to design effective national plans as a foundation for the rapid and large-scale reduction of SLCPs. It has four key objectives: support the development of

national SLCP planning processes; enhance the tools and approaches that support key steps of the national planning process; strengthen institutional capacity; and foster links and collaboration between national SLCP planning with global and regional processes, initiatives and approaches.



NEWS FROM OUR PARTNERS

In November 2017, **Canada** ratified the amendment to the Gothenburg Protocol which calls for commitments in PM2.5 reductions, encouraging focus on sources that have significant black carbon content, and for Parties to voluntarily report emissions and projections of black carbon.

Since November 2017, **Colombia** has adopted a new Climate Change Law, revised its air quality regulation and launched its Long-Term Green Growth Policy (2018- 2030). It has also developed a national plan to address climate in the energy and mining sector.

KEY ACHIEVEMENTS TO DATE*

\$8.6 MILLION allocated

\$2 MILLION
IN CO-FUNDING



31 COUNTRIES ENGAGED IN THE WORK⁸

12 COUNTRIES DEVELOPING NATIONAL PLANS

Institutional support provided to 22 ministries of environment

4 MAJOR REGIONAL EVENTS IN AFRICA, ASIA-PACIFIC, LATIN AMERICA AND THE CARIBBEAN, AND THE MIDDLE EAST AND NORTH AFRICA

INTERNATIONALLY RECOGNISED TOOL (LEAP-IBC), USED TO ESTIMATE BENEFITS OF MITIGATION STRATEGIES IN 11 COUNTRIES

2 guidelines to start national planning process.

2,060

person-days of training including national LEAP-IBC trainings and consultations, regional and global peer exchange workshops.**



2017-2018 HIGHLIGHTS

The initiative has advanced tools and processes to support national planning processes and foster integration of air quality and climate agendas. 12 countries are developing national plans on SLCPs supported by the Stockholm Environment Institute, UN Environment and many experts. They are using the process to strengthen links between air quality and climate change action and identify opportunities to reduce SLCPs, with a view to include additional measures in other plans, such as the Nationally Determined Contributions (NDCs), and National Development Plans. Ghana, Colombia and Bangladesh have submitted their National SLCP Plans for official endorsement by their ministers of environment.

Five new countries have started to receive institutional strengthening support (Benin, Cambodia, Central African Republic, Mali, and Morocco). Institutional strengthening projects were completed in Liberia and Togo and engagement with and by the countries is continuing.

The Stockholm Environment Institute officially launched the LEAP-Integrated Benefits Calculator (IBC) at the UN Environment Assembly in December 2017 and the tool is now available for use in 100 countries. It was refined to: provide improved air pollution health impact estimates, show global average temperature changes in annual time steps by different climate forcers, estimate economic impacts, and to undertake a multiple benefits pathway analysis.

The initiative provided regular opportunities to share experience and knowledge on the coordination and scaling-up of activities to reduce SLCPs: global SNAP workshop in Paris (September 2017), regional workshop in Mexico (March 2018), initiative meeting in Toronto (April 2018) and various other trainings to strengthen the institutional capacity in the countries.

REGIONAL TRAINING ON INTEGRATED INVENTORIES IN ABIDJAN, CÔTE D'IVOIRE, AUGUST 2018



HEALTH

The Health Initiative supports pilot projects that provide a model for cities to improve air quality. The initiative includes the BreatheLife campaign, led by WHO, UN Environment and CCAC, uniting governments through its network of cities, regions and countries that aspire to reach WHO guidelines

for healthier, cleaner air. It empowers the health sector to assess and monitor the costs and impacts of air pollution on people, and to advocate for and contribute to policies for cleaner air. It gives individuals concrete ways to take action against air pollution for better health and climate outcomes.

ACCRA COMMUNITY RESIDENTS AND CITY GOVERNMENT REPRESENTATIVES DISCUSS AIR POLLUTION ISSUES AT A RECENT STAKEHOLDER MEETING LEADING UP TO THE BREATHELIFE CAMPAIGN LAUNCH.



NEWS FROM OUR PARTNERS

The **World Health Organisation's** (WHO) ambient air quality database now includes more than 4300 cities in 108 countries showing that more and more countries are measuring and taking action to reduce air pollution.

ICLEI supported the Tokyo Forum for Clean Cities & Clear Skies where 22 cities signed a Declaration committing to promote diffusion of zero-emission vehicles and other next generation vehicles, and advancing measures against PM2.5 and oxidants.

UN Environment supports Addis Ababa, Kigali and Nairobi cities in developing better air quality management strategies.

KEY ACHIEVEMENTS TO DATE*

\$2.16 MILLION allocated

**\$3 MILLION
IN CO-FUNDING**



Over 40 cities,
regions, and countries,⁹
reaching over 79 million
citizens, engaged in the
BreatheLife campaign

19 OUTREACH EVENTS
TOTALLING 1400
PARTICIPANTS INCLUDING
4 BREATHELIFE EXHIBITS

BreatheLife covered
225 times in media,
2.1 million video
views, 160,000
website visits, and
over 200 million impressions of
#BreatheLife on Twitter since July 2017



AQ+ SOFTWARE TOOL FOR HEALTH
RISK ASSESSMENT OF AIR POLLUTION
DEVELOPED AND APPLIED IN ACCRA,
GHANA AND KATHMANDU, NEPAL

357

person-days of training
including local BreatheLife
workshops and training on the
AQ+ software.



2017-2018 HIGHLIGHTS

The BreatheLife campaign continued to grow, welcoming 10 cities, 3 regions and 1 country to the BreatheLife Network. The World Bank, C40 Cities, Clean Air Asia, Clean Air Institute, Global Alliance for Clean Cookstoves, ICLEI, Vital Strategies, the World Bank and the Unmask My City campaign have all committed to help scale up BreatheLife activities globally. The campaign continues to promote clean air in different communities around the world through videos and exhibits that educate people on the effects of air pollution on the human body.

The first BreatheLife Challenge was launched in May 2018 – a call for citizen action to reduce emissions from cars by walking, biking or taking public transport. Over 55,000 people participated. This challenge represented the campaign's first ever public mobilization. Participants pledged to complete a clean air marathon by walking, cycling, or using public transport instead of driving for 42km.

Pilot projects that aim to “catalyse ambitious action” and “enhance science and knowledge” are well underway in Accra, Ghana and Kathmandu, Nepal where local officials are collaborating closely with WHO, UN Habitat, ICLEI and ICIMOD to increase capacity to collect and analyse health data to clearly articulate the health and economic benefits of mitigating SLCPs and co-emitted air pollutants.

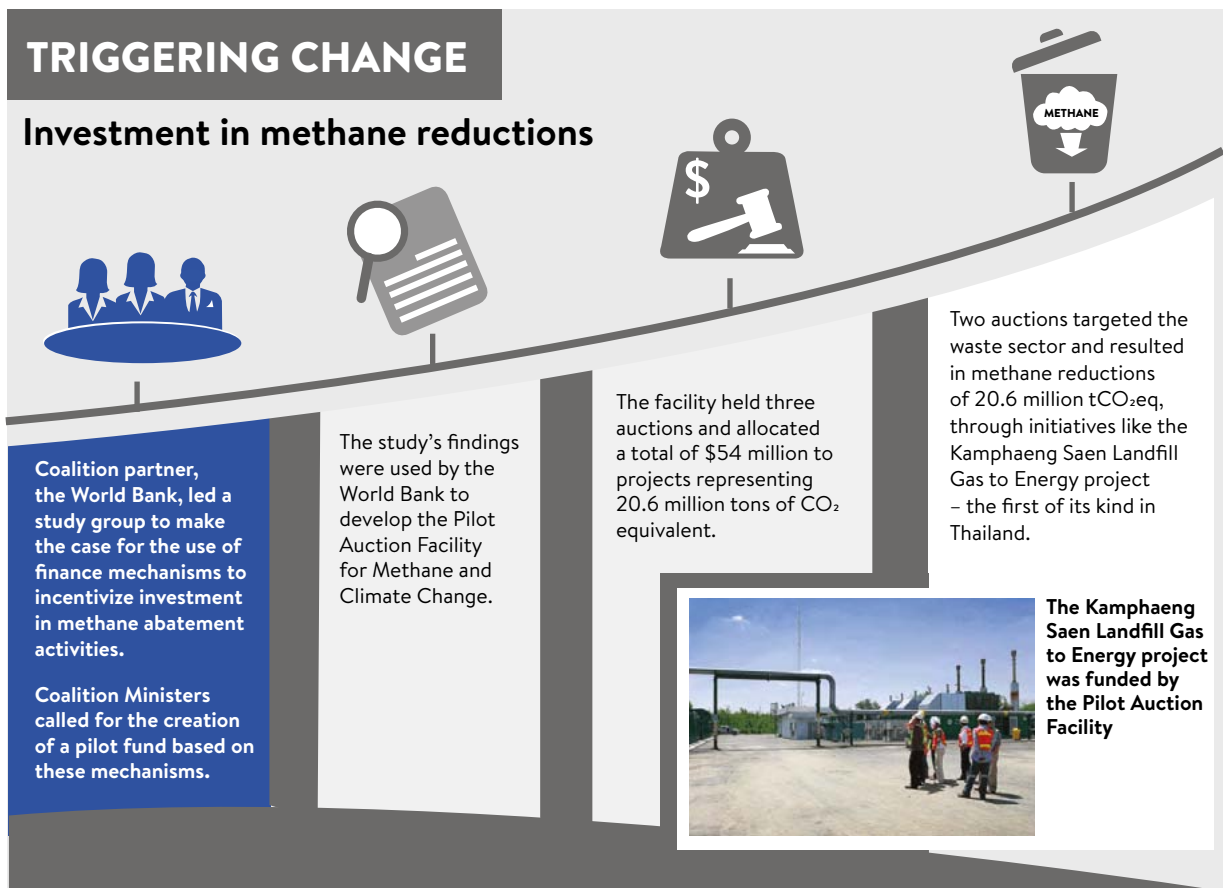
BREATHELIFE
CAMPAIGN LAUNCH
EVENT IN ACCRA,
GHANA.



FINANCE

The initiative works to unlock financial resources that support transformational actions to reduce SLCP emissions at scale. It does this by engaging key stakeholders and mobilizing public support to

attract private sector investment. The initiative also seeks to increase financial sector engagement to systematically consider the financing dimensions in each of the Coalition’s sectoral initiatives.



NEWS FROM OUR PARTNERS

As part of its development cooperation activities, in 2017, **Germany** committed to finance 25 new SLCP reduction projects worldwide, representing investments of \$260 million. The projects include sustainable waste management, urbanization, transportation and energy production.

In May 2018, **Peru** established a new fuel tax to discourage the consumption of polluting fuels and encourage use of cleaner technologies.

The European Investment Bank is working on several SLCP projects including a clean air strategy in Milan, Italy; a clean air and energy efficiency programme in Poznan, Poland; a sustainable development programme in Krakow, Poland; the URBIS program, a new dedicated advisory initiative for urban authorities, to facilitate investment in sustainable projects in European cities; and a number of waste treatment projects such as in Argentina.

KEY ACHIEVEMENTS TO DATE*

\$1.65 MILLION allocated

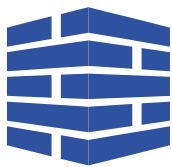
INITIATED THE WORLD BANK'S PILOT AUCTION FACILITY WHICH LED TO \$54 MILLION IN CLIMATE FINANCE TO METHANE ABATEMENT PROJECTS REDUCING 20.6 MILLION T CO₂EQ

SET UP A HOUSEHOLD ENERGY LOAN FACILITY IN MONGOLIA



▶ \$600,000 in retail loans for appliances secured

▶ \$21.5 million Energy Efficient Consumption Loan Programme with funding from the GCF



GREEN BRICK PROGRAMME IN BANGLADESH SUPPORTED \$10 MILLION IN INVESTMENTS FOR EFFICIENT TUNNEL KILN FACTORIES

4 knowledge resources and tools including feasibility studies on financing solutions and the SLCP finance innovation facility



5 INTERNATIONAL EVENTS AND 1 STAKEHOLDER CONFERENCE IN INDIA ON ACCESS TO FINANCE FOR SLCP REDUCING PROJECTS



2017-2018 HIGHLIGHTS

The Coalition's finance strategy, adopted in 2017, has three pillars: (1) creating enabling conditions (e.g. through support of national planning); (2) developing pipelines of projects for financing; and (3) leveraging finance at scale and access to funding. The strategy is now guiding our overall and initiative work.

The pilot projects to leverage finance for SLCP reduction actions have progressed. Frankfurt School-UNEP Centre for Climate and Sustainable Energy Finance completed a feasibility study of a household energy loan facility for Mongolia's Xac Bank, and identified appropriate household heating technologies and financial structuring. Xac Bank submitted a proposal to establish an end-user loan facility for Ger District households in Ulaanbaatar which was approved in October 2018 by the Green Climate Fund. Frankfurt School supported the Infrastructure Development Company Limited (IDCOL) to appraise three medium/large scale tunnel kiln projects worth over USD 10 million in Bangladesh. IDCOL is expected to finance these three projects under its Green Brick Programme.



FRANKFURT SCHOOL TEAM AND INDIAN SUSTAINABILITY CONSULTANTS EXAMINE A SOLAR POWERED AIR CONDITIONING UNIT DURING A SITE MISSION TO BANGALORE, INDIA

REGIONAL ASSESSMENTS

The Regional Assessment Initiative develops integrated assessments on SLCPs, with the goal of identifying scientifically robust emission reduction measures and policy actions that are relevant at the regional scale. It aims to create a platform for interaction and dialogue between science and policy with the goal of mobilizing ambitious national and regional support and action on SLCP emission

abatement. The development of regional integrated assessments seeks to close scientific data and information gaps, improve the understanding of local drivers of SLCP emissions, and identify local, context-appropriate and synergistic SLCP mitigation measures and policies. It also aims to enhance regionally based capacities to continue this work.

The first comprehensive, solution-oriented interdisciplinary scientific assessment of the air pollution outlook and policy measures in Asia and the Pacific was launched in response to United Nations Environment Assembly resolution on air quality.

The report identifies 25 cost-effective measures for technological and policy interventions with the following expected benefits:



Climate: Carbon dioxide emissions in 2030 could be reduced by almost 20% and methane by 45%. This would decrease the expected warming by a third of a degree Celsius by 2050 and contribute to achieving the Paris Agreement goals.



Health: One billion people could breathe clean air that meets stringent World Health Organization (WHO) standards by 2030.



Food security: Ozone-induced crop losses could be reduced by 45% for maize, rice, soy and wheat combined. The health of natural ecosystems would also improve.



Water security: A reduction in particulate emissions would slow the melting of glaciers and snowfields, reduce the risk of disasters related to glacier lake outburst floods, and help mitigate water insecurity for billions of people.



Sustainable development: Improving air quality and mitigating climate change would directly contribute to the realization of SDG 3, 11, 12 and 13.

More details at ccacoalition.org/solutions



NEWS FROM OUR PARTNERS

In June 2018, the **World Meteorological Organisation (WMO)** published the first Assessment of the Low-Cost Sensors for the measurement of atmospheric composition, including recommendations aimed at manufacturers, users and the broader air quality community.

In June 2018, the **Autonomous University of Mexico**, the **Global Alliance for Clean Cookstoves** and the **Stockholm Environment Institute**, launched the Modelling Fuelwood Savings Scenarios (MoFuSS), an open-source freeware to evaluate potential impacts of firewood harvest and charcoal production over the landscape.

In 2017, **Norway** commissioned two studies on the climate impacts and regional distribution of current black carbon and organic carbon emissions, as well as an assessment of the differences between emission regions and sectors in terms of climate impact of BC and OC.

KEY ACHIEVEMENTS TO DATE*

\$1.87 MILLION allocated



\$229,000
IN CO-FUNDING

11 POLITICAL OUTREACH EVENTS, INCLUDING WORKSHOPS IN PREPARATION OF THE REGIONAL ASSESSMENTS, REGIONAL DIALOGUES AND OTHER EVENTS TO PROMOTE REGIONAL ASSESSMENT FINDINGS.



2 major regional assessments on SLCPs and air quality issues in Latin America and the Caribbean and in Asia and the Pacific

- ▶ If fully implemented by 2030, the 25 air pollution measures outlined in the Asia-Pacific Air Pollution Solutions report could reduce CO₂ by almost 20%, methane by 45%, and black carbon by 72% over the region

2017-2018 HIGHLIGHTS

The full Regional Assessment of Short-Lived Climate Pollutants in Latin America and the Caribbean report was launched at the April 2018 Working Group meeting in Toronto, Canada. More than 90 experts from the Latin America and Caribbean region contributed as authors. A technical report titled 'Progress and Opportunities for Reducing Short-lived Climate Pollutants across Latin America and the Caribbean' was launched simultaneously and presents case studies of major SLCP measures underway and implemented in the region.

The Asia-Pacific Air Pollution Solutions report was launched at WHO's First Global Conference on Air Pollution and Health on 30 October - 1 November, 2018 in Geneva, Switzerland (page 26).



SMALLHOLDER FARMER IN MUY MUY, NICARAGUA WITH A MANURE AND KITCHEN WASTE MANAGEMENT SYSTEM THAT GENERATES ELECTRICITY FOR HIS HOME. MANURE MANAGEMENT IS IDENTIFIED AS A KEY OPPORTUNITY TO REDUCE METHANE EMISSIONS IN THE LAC REGION.

AGRICULTURE

The Agriculture Initiative focuses its activities on the sector's (and related land use practices) four largest sources of methane and black carbon

emissions: enteric fermentation in livestock, manure management, paddy rice production, and open burning of agricultural crops.



RICE FARMERS AT AN ALTERNATE WETTING AND DRYING (AWD) TRAINING SESSION IN BANGLADESH

NEWS FROM OUR PARTNERS

The **Inter-American Development Bank** completed key activities under two of its projects addressing methane emissions from the agricultural sector, including the “NAMA in the coffee sector” project in Costa Rica and “Improvement of dairy cattle production systems” in the Andean Region.

Denmark launched a USD 1.4 million subsidy programme that will support increased production of biogas per unit input of manure and reduce methane emissions.

The **International Cryosphere Initiative (ICCI)** completed an open burning project in Ukraine with funds from the Nordic Council of Ministers and support from the **Nordic Environmental Finance Corporation (NEFCO)**.

KEY ACHIEVEMENTS TO DATE*

\$8.55 MILLION allocated

RESULTS IN 20 COUNTRIES¹⁰

SUPPORTED IMPLEMENTATION OF CHANGES TO OPEN BURNING PRACTICES IN INDIA AND PERU AND ALTERNATE WETTING AND DRYING (AWD) TECHNOLOGIES IN VIET NAM AND BANGLADESH

3 POLICY INSTRUMENTS DEVELOPED

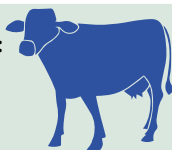
▶ Open burning: Strategic support group in the Andes and Himalayas



▶ Paddy rice: Implementation plan for Viet Nam's INDC



▶ Manure management: Integrated manure management policy in Bangladesh



HELPED MAINSTREAM METHANE AND BLACK CARBON REDUCTIONS INTO \$460 MILLION LIVESTOCK PROJECTS

72 GOVERNMENTAL AND NON-GOVERNMENTAL INSTITUTIONS ENDORSED 5 COMMITMENTS TO REDUCE EMISSIONS

40 INSTITUTIONS STRENGTHENED IN 20 COUNTRIES

16,553

person-days of training** to farmers and stakeholders



2017-2018 HIGHLIGHTS

The agriculture initiative increased political will and ambition to tackle SLCPs in the agriculture sector: 56 Country Partners endorsed the “Coalition’s Bonn Communiqué” prioritizing initiatives to reduce SLCP emissions from agriculture. The Food and Agriculture Organization (FAO) Director-General underscored the organisation’s commitment to work on livestock methane emissions. CCAC and UN Environment prepared a submission to the Koronivia Joint Work on Agriculture under the UNFCCC and recommended solutions to improve efficiency in agricultural production whilst rapidly reducing SLCPs. The initiative launched its new strategy for 2019-2022 that is aimed at an integrated approach to SLCP emissions across sectors focused on enhancing the ambition for agriculture climate actions in countries’ NDCs, financing and capacity-building for the 2019-2022 period.

The initiative continued to catalyse ambitious actions. CCAC through FAO provided support to a NAMA to reach more than 600,000 dairy farmers and reduce greenhouse gas emission intensities in the dairy sector by at least 30% in Kenya. Work with the Institute of Policy and Strategy for Agriculture and Rural Development (IPSARD) is underway to mainstream SLCP mitigation measures, related to livestock production, in Viet Nam’s planned Animal Husbandry Law as part of its Intended Nationally-Determined Contribution (INDC).

The Initiative is working with the International Cryosphere and Climate Initiative (ICCI) to increase knowledge on alternative actions and solutions and enhance awareness of open burning as a significant air quality and climate issue. Farmers are adopting no-burn practices in Huancayo, Peru with the collaboration of CARE Peru and the National Institute of Agricultural Innovation (INIA); and in Punjab, India with the collaboration of the Punjab Agricultural Management & Extension Training Institute (PAMETI). The issue of open burning generally, and the CCAC pilot project specifically, are receiving significant local and international media coverage, especially in the Himalayas due to resulting extreme air pollution events in Delhi during October-November. Open burning from 2003 to today can be tracked from CCAC supported satellite monitoring conducted by Michigan Tech University and Miami University Ohio experts.

BRICKS

The Coalition's Bricks Initiative is the only global initiative of brick producers, experts, and public policy officials working together to help make the traditional brick production cleaner and more sustainable. Its work has produced co-benefits such as improved

health, better socio-economic and labour conditions, increasing formalization of the industry, and improved quality of life for workers and local communities residing at and near traditional brick kilns.

TRIGGERING CHANGE

Cleaner brick production in Jalisco State, Mexico

The infographic is a horizontal timeline with a red background and white text. It features several icons: a group of people in a meeting, a brick kiln with a plant growing from it, a worker in a hard hat holding a document, and a map of Mexico with Jalisco highlighted. The timeline is divided into four stages, each with a text box and an image.

The Coalition led awareness raising and capacity building activities on clean, efficient brick kilns in Jalisco, Guanajuato, San Luis Potosi, Durango, and Oaxaca, Mexico.

The Government of Jalisco committed \$1 million to establish a pilot industrial park for artisanal brick production using zero-emissions technology.

Jalisco adopted a State Environmental Norm in 2018 that established criteria and technical specifications for brick production sites.

Planned replication of the industrial parks across Jalisco state could reduce brick sector emissions by 45% compared to 2015.

Governor of Mexico's Jalisco state, Aristóteles Sandoval, announcing \$1 million investment to transform the local brick sector



A TECHNICIAN IN COLOMBIA CARRIES A RATNOZE INSTRUMENT TO A BRICK KILN TO MEASURE BLACK CARBON EMISSIONS

NEWS FROM OUR PARTNERS

Following its 2006 action plan to reduce particulate matter, on 11 April 2018, **Switzerland** adopted additional measures to reduce the levels of SLCPs from small wood-heating installations and construction machinery. Additional actions to increase energy efficiency at heating installations were also taken.

KEY ACHIEVEMENTS TO DATE*

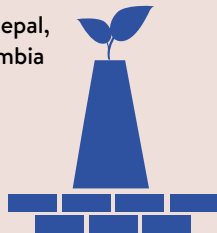
\$3.87 MILLION allocated

\$1.59 MILLION
IN CO-FUNDING

RESULTS IN 20 COUNTRIES¹¹

FIRST IMPACTS ON THE GROUND:

- ▶ Over 4,300 improved kilns in Bangladesh, Pakistan, India, Nepal, Brazil, Peru, Mexico and Colombia
- ▶ \$11.32 million increase in net income from new low-emission kilns and practices in Brazil, Colombia, Mexico and Peru



4 LAWS AND REGULATIONS DEVELOPED OR ADOPTED IN COLOMBIA, MEXICO, NEPAL AND PAKISTAN

4 NATIONAL POLICIES AND STRATEGIES IN COLOMBIA, MEXICO, BANGLADESH AND PAKISTAN

More than \$300,000 secured and committed funding for reconstruction of an efficient brick sector in Nepal following 2015 earthquake

NEPAL

29 INSTITUTIONS WITH INCREASED CAPACITY, INCLUDING 6 MINISTRIES OF ENVIRONMENT IN LATIN AMERICA AND AFRICA

7,600
person-days of training**



21 KNOWLEDGE RESOURCES AND TOOLS

2017-2018 HIGHLIGHTS

The initiative's engagement in Asia with the International Centre for Integrated Mountain Development (ICIMOD) and local experts has increased with new policies, clean technology adoption and commitments.

Several activities in Pakistan: In 2018 the Environment Protection Agency (EPA) of Punjab Province issued a directive to convert all kilns to zigzag technology. Entrepreneurs funded the construction of a zig zag kiln in Lahore that has become a demonstration site for Pakistani kiln owners to learn about and spread the benefits of the technology. ICIMOD provided a co-financing commitment of USD 250K to the National Energy Efficiency & Conservation Authority (NEECA) to develop a Global Environment Facility (GEF) Project Identification Form (PIF) for an Energy Efficient Brick Project in Pakistan.

PAKISTAN IS WORKING WITH THE COALITION AND ICIMOD TO TRAIN BRICK ENTREPRENEURS AND RAISE AWARENESS OF NEW, COST-EFFECTIVE AND SCALABLE KILN TECHNOLOGIES IN THE BRICK PRODUCTION PROCESS

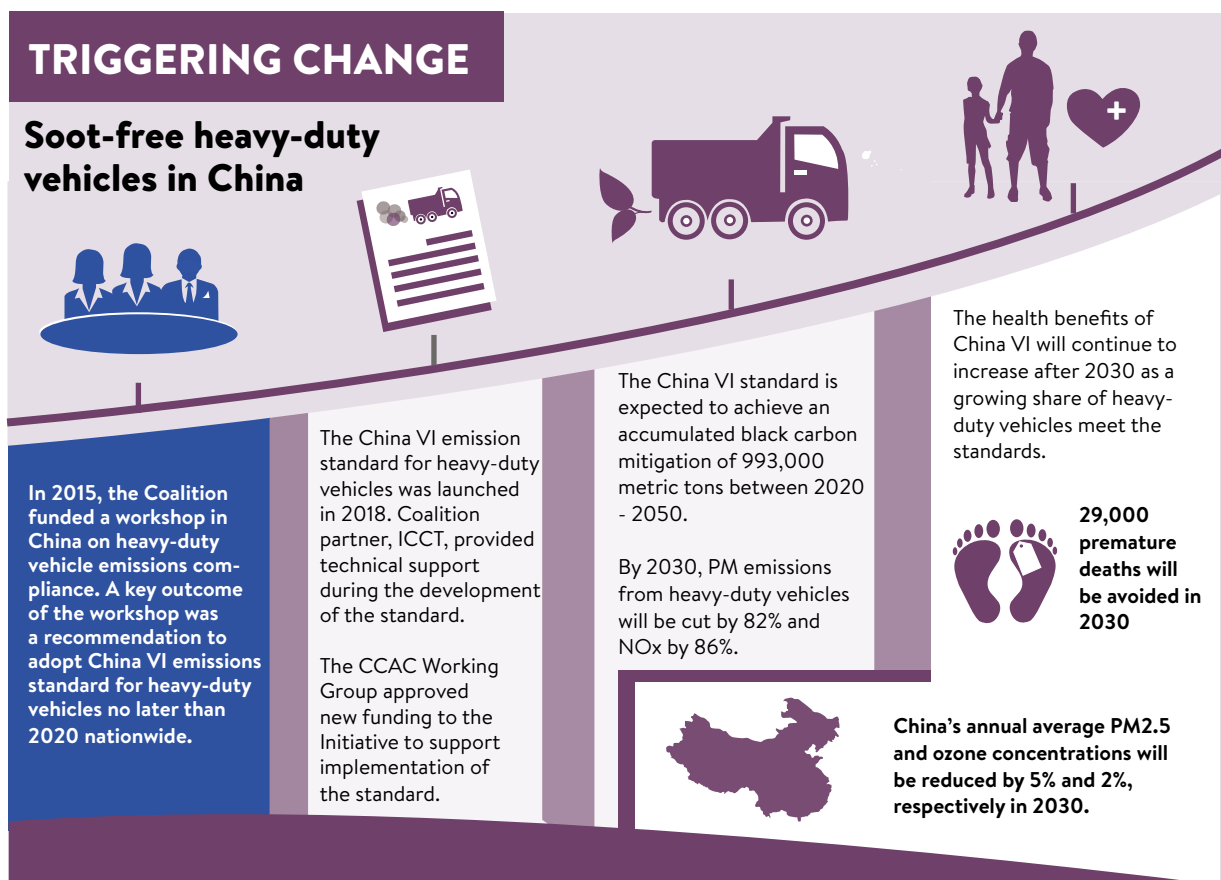


There is increased regional collaboration: The Federation of South Asia Brick Kiln Associations (FABKA) was established in Nepal and the "Kathmandu Declaration on Brick Industries in South Asia" was signed. Members resolved to modernize South Asia's fired clay brick and tile sector and make kilns less polluting and more sustainable. The Federation has members from India, Pakistan, Bangladesh and Nepal who are collaborating to remedy growing environmental and health concerns. In India, the Central Pollution Control Board and some State Pollution Control Boards issued a directive to convert Fixed Chimney Bull's Trench Kilns into zigzag firing kilns in regions with high air pollution levels. This led to the construction/retrofitting of around 1,000 zigzag kilns during 2017-18. Nepal revised its emission standard for brick kilns based on the results of a CCAC supported measurement campaign.

HEAVY-DUTY VEHICLES

Roughly half of new and existing heavy-duty diesel vehicles are currently subject to world-class emission standards. The aim is to ensure that the remaining unregulated or inadequately regulated global diesel fleet will achieve the same standards. The initiative has a global transition target to reduce sulphur content

in fuels to 10 parts-per-million (ppm) by 2025, while supporting the introduction of improved vehicle emissions standards and promoting alternative sustainable transport modes, including soot-free urban transport.



NEWS FROM OUR PARTNERS

Argentina, with support from **UN Environment**, adopted an Energy Efficiency resolution for the labelling of light duty vehicles that requires fuel consumption to be declared for each new vehicle model starting in 2018. An Energy Efficiency vehicle label will be developed and applied from 2019.

In January 2018, **Togo** adopted a decree to limit the age of imported second-hand vehicles. The uncontrolled import of second-hand non-certified vehicles and their use is a public health and environmental problem in the country.

The **International Council on Clean Transportation (ICCT)** supported the International Maritime Organisation's (IMO) work on black carbon. Over the past year, the IMO has agreed on 3 ways to measure BC from ships, to ban Hydrofluoroolefin (HFO) in the Arctic and to cut international shipping's GHG emissions by at least 50% below 2008 levels by 2050.

KEY ACHIEVEMENTS TO DATE*

\$8.7 MILLION allocated



\$15 MILLION
IN CO-FUNDING

RESULTS IN 44 COUNTRIES¹²

19 LAWS AND REGULATIONS FOR IMPROVED VEHICLES AND FUEL STANDARDS IN 14 COUNTRIES

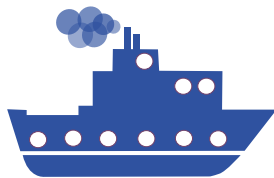


4 POLICIES AND PLANS:

- ▶ Global Sulphur Strategy supported by 38 countries
- ▶ Global Green Freight Action Plan signed by 24 governments and 33 non-state organisations and companies
- ▶ First Green Freight Strategy in Africa
- ▶ Plan for procurement of cleaner buses in Santiago de Chile

35 POLITICAL OUTREACH EVENTS (25 IN AFRICA)

19 KNOWLEDGE RESOURCES AND TOOLS SUCH AS STUDIES TO SUPPORT IDENTIFICATION OF WAYS TO MEASURE BLACK CARBON FROM SHIPS BY THE INTERNATIONAL MARITIME ORGANIZATION



810



person-days of training**

2017-2018 HIGHLIGHTS

The initiative's work led to major policy shifts in Latin America and Sub-Saharan Africa: Peru adopted and implemented Euro IV vehicle emission standards. 93% of the population will have access to 50 ppm diesel affecting 27 million people. In January 2018, Mexico revised emission standards for all new heavy-duty vehicles (trucks and buses) to permit only Euro VI standards from 1 January 2021, increasing the likelihood that Mexico achieves the 51% black carbon emission reduction target included in its NDC by 2030. Mozambique, Malawi and Zimbabwe now only permit 50 ppm fuels to be imported. Cote d'Ivoire limited second hand car imports to 5-year-old cars and 10-years-old buses and trucks.

The initiative has also accelerated the move to soot free bus fleets: The Soot-Free Clean Bus Industry Partnership was launched. Scania, BYD, Volvo Buses, and Cummins, voluntarily committed to make their portfolio of soot-free engines and buses available to 20 megacities. Istanbul, Santiago, Mexico City, and Sao Paulo committed to move to soot-free urban bus fleets. Johannesburg issued its first public tender for soot-free gas buses. The City of Sao Paulo adopted an innovative climate law that requires the early introduction of soot-free Euro VI engines and zero emission engines over the next 10 years. ICCT launched a Soot-Free Transport campaign.

The initiative, through lead implementers UN Environment and ICCT, and other partners and implementers, continues to improve the science needed to inform policies. Three new reports will help decision making on soot free technology choices: "Low-Carbon Technology Pathways for Soot-Free Urban Bus Fleets in 20 Megacities"; "Financing the Transition to Soot-free Urban Bus Fleets in 20 Megacities"; and "Global Progress Toward Soot-Free Diesel Vehicles in 2018".



REPRESENTATIVES FROM THE BUS MANUFACTURERS, SCANIA, CUMMINS, VOLVO BUSES, AND BYD, SIGN THE GLOBAL INDUSTRY PARTNERSHIP ON SOOT-FREE CLEAN BUS FLEETS

COOLING AND REFRIGERATION (HFCs)

Coalition partners are supporting the development of HFC inventories and studies, the exchange of policy and technical information, demonstration projects to validate and promote climate-friendly alternatives

and technologies, and capacity-building activities that provide information on emerging technologies and practices to move away from high-GWP HFCs and minimize HFC leakages.

TRIGGERING CHANGE

More climate-friendly refrigeration technology in Chile

The Coalition supported an HFC inventory that found Chile's commercial refrigeration sector to be the country's largest source of HFC emissions. To demonstrate the feasibility of HFC-alternative technology, the Coalition and UNDP installed a transcritical CO₂ refrigeration system in a Chilean supermarket.

The successful demonstration encouraged several stores to become early adopters of transcritical CO₂ refrigeration systems.

2 Chilean supermarket chains, Cencosud and Tottus, announced they would install the technology in all new and updated stores.

Transcritical CO₂ systems entered a wider spectrum of applications. Three distribution centres installed the technology and manufacturers now market the technology commercially.

Distribution centres are using the residual heat from the CO₂ systems to heat water, saving energy.

The Global Warming Potential of 1 transcritical CO₂ system could be 99.8% less than the technology it replaces

(1.34 tons CO₂e vs. 6144 tons CO₂e)



REFRIGERATED AISLE AT A NEW JUMBO SUPERMARKET IN VALDIVIA, CHILE. THE SUPERMARKET IS USING TRANSCRITICAL CO₂ FOR ITS REFRIGERATION.

NEWS FROM OUR PARTNERS

German **International Climate Initiative (ICI)** is executing projects with \$112.9 million in funding focused on F-gases and the waste sector. The ICI supported ODS alternatives in five partner countries where technology transfers are now underway.

In 2017, **UNDP** had a portfolio of 2,496 projects to advance sustainable cooling solutions in 120 countries worth \$829.6 million. These projects have generated cumulative climate benefits equivalent to 6.48 billion tonnes of CO₂ emissions, and increased innovative and environment-friendly alternatives.

KEY ACHIEVEMENTS TO DATE*

RESULTS IN 17 COUNTRIES¹³

OZONE AWARD

FOR POLITICAL
LEADERSHIP FOR
SUPPORTING THE KIGALI AMENDMENT



\$3.2 MILLION allocated

2 low GWP refrigeration technology demonstration projects in Chile and Jordan, and one on mobile air conditioning in India leading to



▶ 2 Chilean supermarket chains adopting transcritical CO₂ as their default technology

▶ 3 projects looking at a complete conversion of the agro-industrial sector in Chile.

14 HFC NATIONAL INVENTORIES

6 GLOBAL CONFERENCES ON SUSTAINABLE ALTERNATIVES TO HFCS

690 person-days
of training**



2017-2018 HIGHLIGHTS

The initiative is demonstrating that low-GWP technologies are feasible options in cooling supermarkets in Latin America and the Middle East. The successful installation of Chile's first transcritical CO₂ refrigeration system by UNDP in 2017 led to the installation of trans-critical CO₂ refrigeration at a second supermarket (see catalytic impact story). In 2018, AISalam supermarket in Amman, Jordan, replaced its HCFC-22 refrigerators with a new trans-critical CO₂ refrigeration system. A pioneer in the Middle East, UNIDO is demonstrating the feasibility of this technology in a high ambient temperature country, and can influence the adoption of this technology in countries with similar climatic conditions.

IGSD made progress on testing a new type of vehicle air conditioning system called secondary loop mobile air-conditioning. After designing and building the system MAHLE Behr Troy Inc. and Tata Motors Ltd. installed the prototype in a vehicle, showing promising results.

The initiative continues to increase knowledge, awareness and capacity. During the 29th Meeting of the Parties to the Montreal Protocol the Sustainable Technologies for Air Conditioning Workshop demonstrated innovative, alternative low GWP technologies with proven real-world applicability. A regional seminar on Low-GWP Technological Options for Refrigeration Systems in the Supermarket Sector showed industry stakeholders and policy-makers in Latin America the potential of HFC alternative technologies in the commercial refrigeration sector.

Viet Nam and Jordan's HFC inventories were completed by the World Bank and UNIDO respectively, providing data and information on the current supply and consumption of HFC and alternatives to ozone depleting substances, and future projections of growth patterns by substances and sector.



WINNERS OF THE OZONE AWARD FOR POLITICAL LEADERSHIP POSE FOR A SELFIE WITH CATHERINE MCKENNA (1ST ON THE LEFT), CANADA'S MINISTER FOR ENVIRONMENT AND CLIMATE CHANGE, NATHAN BORGFORD-PARNELL (3RD FROM LEFT) ACCEPTED THE AWARD ON BEHALF OF THE COALITION.

HOUSEHOLD ENERGY

The initiative is working to speed up reductions in household SLCP emissions through high-level advocacy, supporting new finance mechanisms, research, and by developing standards and testing protocols to provide clear criteria for evaluating

emissions reductions for improved cookstoves, heatstoves, and fuels. The initiative aims to mainstream sustainable household energy into NDCs and other relevant strategies.

TRIGGERING CHANGE

International standards for cookstove emissions

The infographic features a central upward-sloping line with several icons: a meeting, a cookstove, a document, and a stove with a pot. Text boxes are connected to this line, describing the funding, standard development, implementation, and impact.


The Coalition funded the Clean Cooking Alliance to develop black carbon emissions standards for cookstoves.

The standards helped to inform the first-ever ISO guidelines on clean cookstoves, which include mandatory and voluntary testing of PM2.5 emissions as well as criteria for evaluating efficiency, safety and durability.

Ghana, Guatemala, Kenya, and Nigeria are taking steps to implement the ISO guidelines in their national standards.

Nearly half of the world's population – three billion people – cook using dirty fuels and stoves. The ISO guidelines are expected to reduce the risks of cookstoves to health and safety, and facilitate the large-scale adoption of clean cooking solutions.

An improved cookstove demonstration in Keonijhar, India during the technology exchange programme between the Nigerian Rural Women Energy Security (RUWES) Initiative and the Indian Project Surya



NEWS FROM OUR PARTNERS

In September 2017, **Poland** passed a regulation establishing new ecodesign requirements and standards for solid fuel boilers in line with EU directives. In Poland over 90% of black carbon emissions come from fuel combustion, 65% of which is from stationary combustion in the residential sector and off-road vehicles and machineries.

In Manitoba, **Canada**, funds from an emissions tax on coal were used to support the transition from coal to biomass. Manitoba plans to phase out its last remaining coal facility by 2019.

KEY ACHIEVEMENTS TO DATE*

\$4.76 MILLION allocated



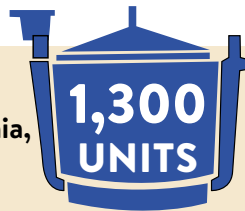
\$7 MILLION
IN CO-FUNDING

11 COUNTRIES ENGAGED¹⁴

Supported adoption of the first-ever international standard for laboratory testing of cookstoves

5 NATIONAL COOKSTOVES STANDARDS IMPLEMENTATION PLANS IN KENYA, GUATEMALA, NIGERIA, GHANA AND UGANDA.

1,300 biogas digester units in Kenya, Tanzania, India and Swaziland.



GLOBAL COMMUNICATION CAMPAIGN ON CLEAN DOMESTIC HEATING 'BURN RIGHT' AND 4 SIMILAR CAMPAIGNS IN CHILE, VERMONT, US, AND SWEDEN

20 INSTITUTIONS IN SENEGAL, GHANA, KENYA, INDIA, SWAZILAND, MALAWI, NEPAL, NIGERIA AND UGANDA STRENGTHENED

20 POLITICAL OUTREACH EVENTS



14 knowledge resources and tools such as black carbon measurement methods and testing protocols and the Household Air Pollution Intervention Tool (HAPIT)

653 person-days of training on clean cookstoves**



2017-2018 HIGHLIGHTS

A first ever international standard for laboratory testing of cookstoves was published in 2018. The protocol includes emissions testing for black carbon (BC), organic carbon (OC) and elemental carbon (EC). Emissions testing for PM2.5 and Carbon Monoxide (CO) are mandatory, while BC, OC and EC are voluntary. The ISO standard provides a basis for national cookstove policies and programs, and incentives for manufacturers and developers to improve stove quality and performance, with leadership from the Clean Cooking Alliance and the Kenya Bureau of Standards.

A Black Carbon Testing Protocol was developed by the International Cryosphere Climate Initiative (ICCI) for domestic heating and beta-tested in 6 different laboratories in 6 different countries.

A new climate finance mechanism for projects that reduce BC and other SLCPs from cookstoves and fuels was launched by the Gold Standard.

Progress was made in the transition to clean lighting in Nigeria: UN Environment's United for Efficiency team completed a country assessment that detailed the black carbon reductions and financial and energy savings from moving to clean lighting. PowerforAll finalized an analysis of the economic impact of an accelerated transition from the use of kerosene for lighting to the use of off-grid solar as well as a risk assessment on the use of dry cell batteries, kerosene lamps and other fossil fuel based lighting products. The Coalition presented a set of recommendations to the government for the transition to clean modern LED lighting and energy access for all Nigerians by 2030 and a five year kerosene lighting phase out programme.

The initiative supports the Clean Cooking Alliance (formerly Global Alliance for Clean Cookstoves) efforts to provide low black carbon emitting cookstoves. From 2010-2016, Alliance partners distributed or sold 80.9 million clean cookstoves. By 2020 the Alliance aims to distribute over 100 million cleaner stoves.

OIL AND GAS

The Coalition's Oil & Gas Initiative aims to reduce SLCP emissions from oil & gas industry operations, focusing on methane and black carbon. The Initiative has four components: the Oil & Gas Methane Partnership (OGMP), developing and demonstrating

technology to reduce black carbon from gas flares, studies to measure methane emissions from global oil and gas infrastructure, and providing peer-to-peer technical assistance to policy makers and regulators in developing countries



ONE OF THE BRITISH ANTARCTIC SURVEY'S TWIN OTTER AIRCRAFT, ADAPTED TO PERFORM METHANE EMISSIONS MEASUREMENTS FROM OIL AND GAS SITES IN THE NORTH SEA.



NEWS FROM OUR PARTNERS

In March 2018, Alberta, **Canada** adopted a new Upstream Petroleum Industry Flaring, Incinerating, and Venting Directive for all upstream petroleum industry wells and facilities.

The government of Canada is supporting the \$6.9 million 4-year global FlareNet Strategic Network to provide a quantitative understanding of flare-generated pollutant emissions.

KEY ACHIEVEMENTS TO DATE*

\$4 MILLION allocated

RESULTS IN 14 COUNTRIES¹⁵

9 COMPANIES ENGAGED IN THE OIL AND GAS METHANE PARTNERSHIP REPRESENTING MORE THAN 10% OF THE WORLD MARKET¹⁶

25,000 TONS

of methane emissions avoided over three years

OVER 1,260 TECHNOLOGICAL CHANGES REPORTED BY PARTNER COMPANIES

\$6.6 million allocated by BP, CNPC, ENI, Equinor, Pemex, Petrobras, Shell, Total, Saudi Aramco, Repsol and the Environmental Defense Fund for methane emission measurements studies



2 INTERNATIONAL EVENTS TO PRESENT THE OIL AND GAS METHANE PARTNERSHIP AND OTHER RELEVANT INTERNATIONAL INITIATIVES



OGMP Technical Guidance Documents (TGDs) for companies and Global Database of Oil and Gas Infrastructure developed

120 person-days of training**



2017-2018 HIGHLIGHTS

In May 2018, OGMP companies submitted their third round of annual reports to UN Environment. Like previous years, public versions will be released by the end of 2018. Nine companies reported this year, compared to eight the year before. The number of surveyed assets increased by 10 to 66 over the past year, and the number of countries in which participating assets are located is now 14, up from 9 countries the previous year.

The CCAC Methane Science Studies have begun. Independent scientists started conducting measurements. Information from these studies will help prioritise effective actions and policies to reduce methane emissions from the production and delivery of oil and natural gas. In the Gulf of Mexico, aerial and ship-based methane measurements were taken. In the North Sea, a week of flights in specialised aircraft measured methane concentrations.

Oil and gas companies in Colombia and Mexico committed to participate in an initiative to identify, evaluate and advance cost-effective opportunities to achieve significant black carbon emission reductions at production facilities by recovering and using gas that would otherwise be flared.

In Colombia peer-to-peer regulatory work led by CCAP took off with workshops on international best practices and potential regulatory approaches for government officials and the private sector.

TECHNOLOGY DEMONSTRATION PROJECTS IN MEXICO AND COLOMBIA HAVE INTRODUCED INNOVATION AND CHANGE THAT REDUCED BLACK CARBON EMISSIONS.



WASTE

The initiative is enabling cities, with the support of their regional and national governments, to move along the waste hierarchy in a coordinated and cohesive manner. It is fostering partnerships, political

will and technical capacity in order to reduce methane and black carbon from the municipal solid waste (MSW) sector and provides multiple environmental, economic and health benefits.

TRIGGERING CHANGE

Organic waste treatment in São Paulo, Brazil

Municipal Solid Waste Initiative Network member city, São Paulo, received support from the Coalition to develop an organic waste strategy and the assessment of the pilot composting plant in 2014.

By 2017, the composting plant was operating at full capacity, diverting almost 5,000 tons of organic waste from landfills per year.

A second composting plant, with capacity to divert 10 tons of organic waste per day, was launched in 2018. Three additional plants will soon be operational and 14 more will be added by 2020.

São Paulo is encouraging new generations to properly manage waste with its organic waste handbook for schools.

The handbook is also being used in Switzerland and the Dominican Republic.

By properly disposing of organic waste, São Paulo's 1,500 municipal schools can prevent emissions equivalent to 40,000 tons of CO₂ annually.



SAO PAULO, BRAZIL: CHILDREN ARE ENCOURAGED TO MANAGE AND APPLY COMPOST IN SCHOOL GARDENING ACTIVITIES

NEWS FROM OUR PARTNERS

In 2017, the **Global Methane Initiative (GMI)** released an assessment of methane emission reduction potential from several landfills in **Mexico** to help understand feasibility of methane capture and use in some key landfills.

The **Swedish Environmental Protection Agency** provided funding to **ABRELPE** to develop a one-year pilot project in Santos, a Brazilian city member of the Initiative, to fight marine litter by preventing land-sources of solid waste.

KEY ACHIEVEMENTS TO DATE*

\$6.34 MILLION allocated



\$1.13 MILLION
IN CO-FUNDING

**RESULTS IN 39 COUNTRIES¹⁷
AND OVER 80 CITIES
PARTICIPATING IN 6
REGIONAL CITY NETWORKS**

2 NATIONAL REGULATIONS IN KENYA AND GEORGIA AND 2 MUNICIPAL DECREES IN CAMBODIA AND THE PHILIPPINES

84 PLANS DEVELOPED TO SUPPORT 70 MUNICIPALITIES MOVE TOWARD REDUCING SLCPs

1 open dumpsite closure and opening of a new sanitary landfill in Addis Ababa



25 LOCAL AND NATIONAL INSTITUTIONS WITH INCREASED CAPACITY TO ADDRESS MSW ISSUES



22 KNOWLEDGE RESOURCES AND TOOLS

23 POLITICAL OUTREACH EVENTS

1,520

person-days of training** to municipalities officials and other stakeholders



2017-2018 HIGHLIGHTS

The initiative shifted significantly from direct, one-on-one assistance to cities, to regional city networks and scaling up south-south collaboration, peer-to-peer exchanges and information sharing. The sixth regional city network was launched: the network of Southeast European, Middle Eastern, and Central Asian Cities with the support of Serbian Solid Waste Association (SeSWA).

The initiative continued to support Kenya in its development of a national policy framework to foster and enable better waste management practices through Center for Clean Air Policy (CCAP) and helped the Philippines incorporate SLCP mitigation measures into its solid waste management plan with the assistance of Institute for Global Environmental Strategies (IGES).

With the support of U.S. Environmental Protection Agency, a number of new tools and resources were developed and used by municipal solid waste sector decision makers and practitioners to assess and implement SLCP mitigation projects. New and/or updated tools include: Solid Waste Emissions Estimation Tool, OrganEcs model, Landfill Gas Project Screening Tool, Anaerobic Digester Project Screening Tool, and Financing Readiness Questionnaire.



A STUDY GROUP IN BRAZIL LEARNS ABOUT THE IDEAL CONDITIONS FOR WINDROW COMPOSTING AND HOW TO TAKE TEMPERATURE MEASUREMENTS.

SOLUTION CENTRE AND EXPERT ASSISTANCE

The first key strategy of the 5-Year Strategic Plan (“Catalyse ambitious actions”) includes “Provid[ing] support to Partners and key stakeholders to develop, enhance and implement national policies and action plans to reduce SLCPs, including actively facilitating peer-to-peer engagement to Partners who commit to take strong action to substantially reduce their SLCP emissions at scale. The CCAC will deploy Trust Fund resources in support of such engagement, where appropriate.

To facilitate this, the CCAC launched in September 2016 an SLCP Solution Centre, hosted by the CCAC Secretariat and drawing on the experts from partners and initiatives, to increase access of policy-makers and their technical services to solutions and technical assistance related to SLCPs.

The Solution Centre is a place where you can find resources, training materials, and expert advice on a range of measures and policies to help reduce emissions of short-lived climate pollutants.

Check it out at <http://www.ccacoalition.org/en/solution-centre>

EXPERT ASSISTANCE SERVICE

Our Expert Assistance is a no-cost service that connects practitioners to our extensive network of partners and professionals for consultation and advice on a range of short-lived climate pollution issues and policies.

The service supports requests from policy makers and civil servants working to reduce black carbon, methane and HFCs in specific sectors or as part of overall mitigation planning and implementation.

These requests can be related to guidance on technological options, mitigation measures (like those carried out by our initiatives), funding opportunities, application of measurement tools, and policy development.

In 2017-2018, 8 requests were supported through the service and the CCAC Secretariat responded directly to several minor questions by orienting requestors towards relevant information sources, partners, publications or websites.

If you are a national or local government representative with a question or technical assistance need related to short-lived climate pollutants, contact us via our website: <http://www.ccacoalition.org/en/solutioncenter/expert-assistance> or at secretariat@ccacoalition.org

HIGHLIGHTS

Development of emission standards in

Rwanda (ongoing): Rwanda aims to put in place ambitious action on air quality in 2018 and requested assistance for the development of air pollution standards. The Environmental Compliance Institute (ECI) is helping Rwanda develop Motor Vehicle, Non-Road Mobile Machinery and Thermal Plant, the standards have been drafted and are currently under review by Rwanda Standards Board & relevant stakeholders.

Scale up parliamentary action on SLCPs in Latin America (completed):

In pursuit of greater commitment on SLCPs from parliamentarians, Paraguay requested Expert Assistance to help relay messaging on the importance of SLCP-limiting measures and their contribution to curbing short-term warming rates at the XVI General Assembly of the Parliamentary Confederation of the Americas (COPA -25 February-01 March 2018). The Coalition supported the participation of Dr. Graciela Binimelis de Raga, Co-Author of the Regional Assessment for SLCPs in Latin America and the Caribbean and a member to the Scientific Advisory Panel. As a result a Declaration on Short-Lived Climate Pollutants was ratified wherein the Members of the Committee on the Environment and Sustainable Development consider it essential and a priority for COPA member nations and parliamentary assemblies to take measures to reduce SLCPs.

3

THE COALITION

“ It is not irrelevant how we reach the Paris temperature targets. To succeed in the long term, we need to choose a path that will slow the rate of global warming in the near term. By reducing both short-lived climate pollutants such as methane, black carbon and HFCs and long-lived gases like CO₂, we increase our chance of success. ”

OLA ELVESTUEN

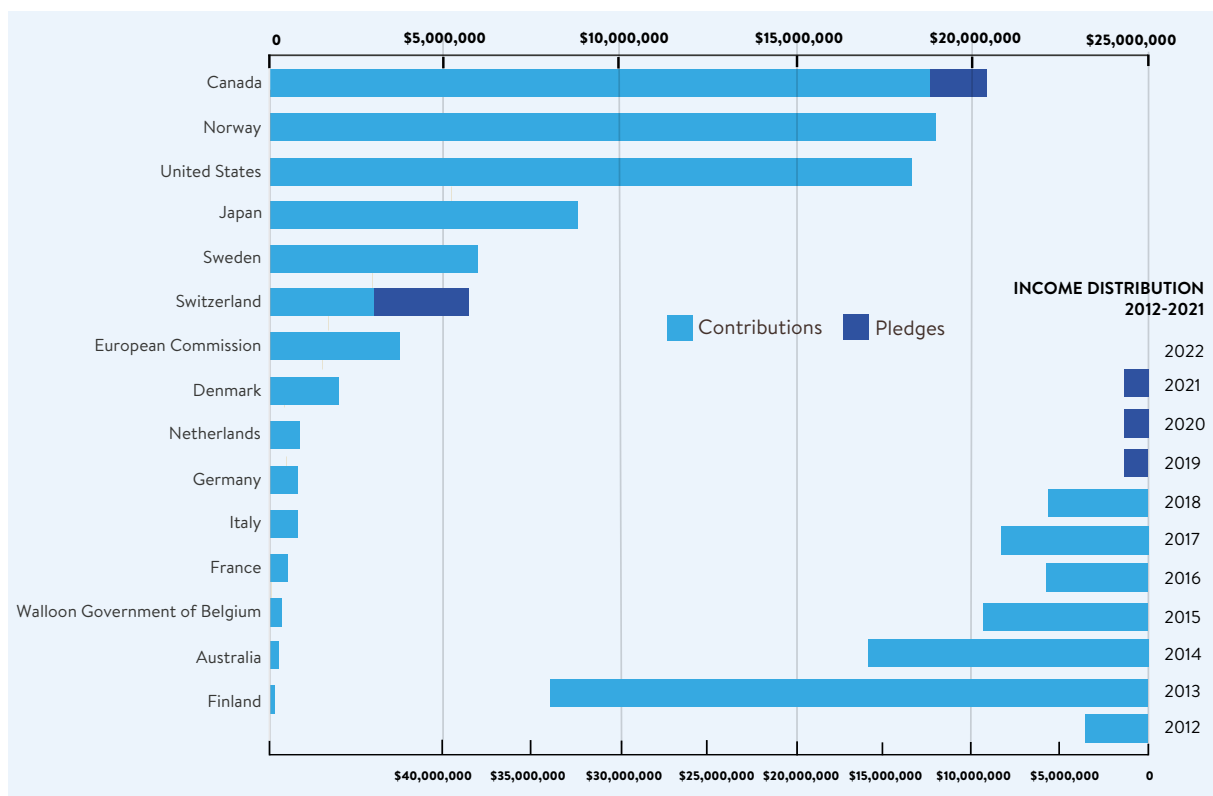
**NORWAY'S MINISTER OF
CLIMATE AND ENVIRONMENT**

PARTICIPANTS
AT THE CLIMATE
AND CLEAN AIR
COALITION'S
24TH WORKING
GROUP MEETING
IN BANGKOK,
THAILAND

TRUST FUND

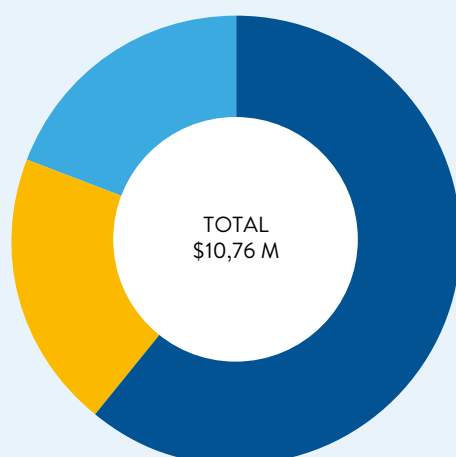
BY SEPTEMBER 2018

CONTRIBUTIONS TO THE TRUST FUND, RECEIVED AND PLEDGED 2012 -2022



COUNTRY	CONTRIBUTIONS	PLEDGES	TOTAL
Canada	\$18,806,848	\$1,534,462	\$20,341,310
Norway	\$18,867,922	—	\$18,867,922
United States	\$18,244,574	—	\$18,244,574
Japan	\$8,667,000	—	\$8,667,000
Sweden	\$5,874,882	—	\$5,874,882
Switzerland	\$2,929,489	\$2,733,869	\$5,663,358
European Commission	\$3,526,046	—	\$3,526,046
Denmark	\$1,817,223	—	\$1,817,223
Netherlands	\$745,776	—	\$745,776
Germany	\$704,536	—	\$704,536
Italy	\$642,849	—	\$642,849
France	\$500,279	—	\$500,279
Walloon Government of Belgium	\$238,847	—	\$238,847
Australia	\$148,134	—	\$148,134
Finland	\$112,740	—	\$112,740
TOTAL	\$81,836,148	\$4,268,331	\$86,104,479

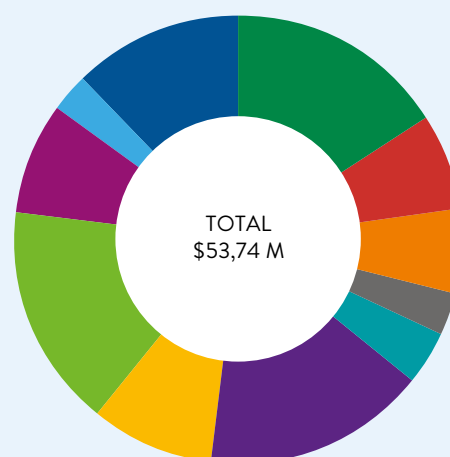
COALITION BUDGET (ANNUAL)



	EXPENSES		APPROVED BUDGET
	2017	2018	2019
INITIATIVES			
<i>Sub-total</i>	\$5,440,000	\$6,000,000	\$5,500,000
INSTITUTIONAL SUPPORT			
HLA/WG/SC Meetings	158,011	165,000	170,000
Participant Support	210,552	350,000	350,000
Outreach & communications	137,932	120,000	120,000
Support to SAP	50,012	50,000	50,000
Solution Centre	125,630	400,000	400,000
Initiative Support (Contractors)	868,200	875,000	875,000
<i>Sub-total</i>	\$1,550,337	\$1,960,000	\$1,965,000
MANAGEMENT & ADMINISTRATION 19%			
Salaries	1,522,138	1,510,000	1,510,000
Rent, Equipment, Telecom etc.	24,501	40,000	40,000
Secretariat Travel (WG & HLA)	140,526	150,000	150,000
Other Travel	48,767	80,000	80,000
Admin Support	46,232	90,000	90,000
External evaluations		40,000	40,000
<i>Sub-total</i>	\$1,782,164	\$1,910,000	\$1,910,000
Programme Support Cost (PSC)	868,425	885,100	845,500
TOTAL BUDGET	\$9,640,926	\$10,755,100	\$10,220,500

Graphic corresponds to 2018 Coalition Budget
PSC = UN Programme Support Cost

ALLOCATION BY INITIATIVE SINCE 2012



INITIATIVE	SPENT/ALLOCATED (WITHOUT PSC)
16% Agriculture	\$8,545,227
7% Bricks	\$3,872,435
6% Cooling and Refrigeration	\$3,199,590
3% Finance	\$1,647,577
4% Health	\$2,155,224
16% Heavy-Duty Diesel	\$8,699,346
9% Household Energy	\$4,759,107
16% National Planning for SLCPs	\$8,589,125
8% Oil and Gas	\$4,062,033
3% Regional Assessments	\$1,875,100
12% Waste	\$6,336,350
TOTAL	\$53,741,114

ACTIVITY IMPLEMENTATION

Initiatives	\$53,741,114
Contracted	86%
Implementation rate - reported expenditures	73%

Includes April 2018 WG funding decisions on concept notes; without PSC

CCAC IN SHORT

GOVERNANCE STRUCTURE AND SECRETARIAT

The Coalition's governance structure brings together all partners from States, non-governmental organisations (NGOs), intergovernmental organisations (IGOs) and the business community (see *CCAC Framework Document HLA/SEP2014/04A*).

The Coalition elects two co-chairs on a rotational bases from state partner countries. They have played an important leadership role, together with their ministers.

Since its start in 2012, the following co-chairs have led the Coalition:

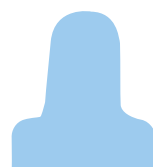
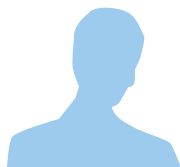
Nigeria Bahijjahtu Abubakar,
U.S. Jonathan Pershing,
Sweden Annika Markovic,
Norway Hanne Bjurstrom,
Chile Marcelo Mena Carrasco,
Canada Rita Cerutti, Dany Drouin & Charles Haines,
Kenya Alice Kaudia,
Switzerland Yuka Greiler (as of Oct. 2018).

HIGH LEVEL ASSEMBLY

Ministers of state partners and the heads of non-state Partners meet at least once per year to provide strategic direction and leadership to the Coalition.

STEERING COMMITTEE

The Steering Committee is made up of the two co-chairs, six state partners, two IGO representatives, and two NGO representatives elected for staggered two-year terms. The SC provides oversight support and recommendations to the HLA and WG. The current SC members are: Canada and Kenya (co-chairs), Chile, Japan, Liberia, Norway, Canada/Switzerland, the Food and Agriculture Organization of the United Nations (FAO), the International Centre for Integrated Mountain Development (ICIMOD), the Institute for Governance and Sustainable Development (IGSD) and International Union of Air Pollution, Prevention and Environmental Protection Associations (IUAPPA).



WORKING GROUP

Focal points are appointed by each Coalition partner, and come together once or twice per year to strategize, share experience and oversee all Coalition activities.

SCIENTIFIC ADVISORY PANEL

Up to fifteen renowned scientists are members, the UN Environment Chief Scientist serving ex officio.

SECRETARIAT

The Secretariat is hosted by UN Environment in Paris, France, and works to support the Coalition in the administration of the CCAC Trust Fund and governance, supporting the initiatives, the Solution Centre and the Scientific Advisory Panel, and undertaking advocacy & communication work with partners.

Head of Secretariat

Helena Molin Valdes

Senior Fellow

Dan McDougall

Science & Regional Assessments:

Valentin Foltescu
Nathan Borgford-Parnell
Hanxiang Cong

Programme Management

Seraphine Haeussling

Partnership & Programme

James Morris
Tatiana Kondruchina

Communication & Knowledge Sharing

Tiy Chung
Carrie Dodds

SNAP Initiative Coordinator & Solution Centre

Elsa Lefèvre

Agriculture & Bricks Initiatives

Catalina Etcheverry

Household Energy & Finance Initiatives

Yekbun Gurgoz

Heavy-Duty Diesel Vehicles, HFC Initiatives

Denise Sioson

Oil & Gas Initiative

Philip Swanson / Denise Sioson

Waste Initiative

Sandra Mazo-Nix

Health Initiative

Sandra Cavalieri

Special Advisor/Demonstrating Impact

Sophie Bonnard

Administrative Team:

Rima Dabbagh
Isabelle Simeidou
Tara Bukow / Zena Hilton

Interns:

Adèle Fardoux / Hwajin Kim

COALITION
PARTNERS AT THE
23RD WORKING
GROUP MEETING IN
BANGKOK, THAILAND,
OCTOBER 2018



CCAC IN SHORT

CALENDAR MEETINGS AND TASK FORCES 2017-2018

WORKING GROUP MEETINGS

21st Working Group (25-26 September 2017, Paris, France) – focused on preparations for the 2017 High Level Assembly with focus on agriculture and waste actions, including a draft communique with voluntary action commitments; steps to improve the Coalition’s efforts to leverage finance at scale to reduce short-lived climate pollutants; further discussions with the Scientific Advisory Panel on their proposed pathways approach to reach the Paris temperature goal and sustainable development, and progress on metrics as a follow-up to the April 2017 Working Group.

22nd Working Group (11 November 2017, Bonn, Germany) – devoted to preparations for the Coalition’s High Level Assembly taking place on 14 November 2017.

23rd Working Group (19-20 April 2018, Toronto, Canada) – held back to back to the Global Methane Forum on 16-18 April 2018, and the Science Policy Dialogue on short-lived climate pollutants, co-hosted with the Global Methane Initiative. Discussion topics included steps for developing the “Pathway Approach”, Coalition Budget & Work Plan 2018-2019, funding allocations, priority topics/themes and format for the 2018 High Level Assembly.

HIGH-LEVEL ASSEMBLY

8th High Level Assembly (14 November 2017, Bonn, Germany) focused on actions on methane and black carbon in the agriculture and municipal solid waste sectors to help accelerate the implementation of the Paris Agreement in the near-term, and took stock of progress towards the early ratifications of the Kigali Amendment to phase down the use of HFCs.

STEERING COMMITTEE

The Steering Committee met monthly throughout the year to prepare the ground for Working Group and High Level Assembly discussions. For example, the Steering Committee over the last year have reviewed and developed recommendations on concept notes for CCAC funding together

with a Funding Proposal Task Team (to which all donors are invited to participate), met to define strategic priorities for the 2018-2019 period and an accompanying Coalition budget, and led key strategic tasks such as how to engage subnational governments within the Coalition’s institutional arrangements.

HEALTH TASK FORCE

The Health Task Force supports the development of the BreatheLife campaign, and met on the margins of the CCAC Working Group meetings on 26 September 2017 and 24 April 2017 (together with the Household Energy Initiative). Task Team members will support outreach to bring cities and countries to the BreatheLife Campaign Network.

PATHWAY APPROACH TASK TEAM

The Pathway Approach Task Team was established by decision of the Working Group in April 2017. The Task Team developed a discussion paper addressing key questions and facilitated a discussion at the September 2017 Working Group meeting. The Task Team will continue its work to the end of April 2018 to work with partners to collect case studies and perform practical tests of the pathway approach in more coalition countries



ALICE AKINYI
KAUDIA,
CLIMATE & CLEAN
AIR COALITION
CO-CHAIR (KENYA)

PARTNERS, IMPLEMENTERS AND ACTORS - BY INITIATIVE

132 PARTNERS, 61 STATE AND REIO, 17 IGO AND 54 NGO PARTNERS (AS OF OCTOBER 2018)
ACTIVELY PARTICIPATING IN THE WORK OF THE COALITION AND ITS INITIATIVES

STATE AND REIO (61)

- Argentina
- Australia
- Bangladesh
- Belgium
- Benin
- Cambodia
- Canada
- Central African Republic
- Chad
- Chile
- Colombia
- Congo, Democratic Republic of the
- Costa Rica
- Cote d'Ivoire
- Denmark
- Dominican Republic
- Ethiopia
- ECOWAS Commission*
- European Commission
- Finland
- France
- Germany
- Ghana
- Guinea, Republic of
- Iraq, Republic of
- Ireland
- Israel
- Italy
- Japan
- Jordan
- Kenya
- Korea, Republic of
- Laos
- Liberia
- Luxembourg
- Maldives, Republic of the
- Mali
- Mexico
- Moldova, Republic of
- Mongolia
- Morocco, Kingdom of
- Netherlands
- New Zealand
- Nigeria
- Norway
- Pakistan
- Panama, Republic of
- Paraguay
- Peru
- Philippines
- Poland
- Russian Federation

- Rwanda
- Sweden
- Switzerland
- Togo
- United Kingdom
- United States
- Uruguay
- Viet Nam
- Zimbabwe

IGOs (17)

- Asian Development Bank (ADB)
- European Investment Bank (EIB)
- Food and Agricultural Organisation of the United Nations (FAO)
- Inter-American Development Bank (IDB)
- Inter-American Institute for Cooperation on Agriculture (IICA)
- International Centre for Integrated Mountain Development (ICIMOD)
- Nordic Environment Finance Corporation (NEFCO)
- Organisation for Economic Co-operation and Development (OECD)
- Regional Environmental Center (REC)
- UN-Habitat
- UN Development Programme (UNDP)
- UN Economic Commission for Europe (UNECE)
- UN Environment Programme
- UN Industrial Development Organization (UNIDO)
- World Bank
- World Health Organization (WHO)
- World Meteorological Organization (WMO)

NGOs (54)

- ABRELPE
- Asian Institute of Technology (AIT)
- Bellona Foundation
- BSR
- C40 Cities Climate Leadership Group
- Caucasus Environmental NGO Network (CENN)
- CDP
- CEID Colombia
- Center for Human Rights and Environment (CEDHA)
- Centre for Clean Air Policy (CCAP)
- Centre for Science and Environment (CSE)
- Centro Mario Molina Chile
- Clean Air Asia
- Clean Air Fund
- Clean Air Institute
- Clean Air Task Force
- Climate Markets & Investment Association (CMIA)
- Climate Works Foundation
- Earthjustice
- Environmental Defense Fund (EDF)
- Environmental Investigation Agency (EIA)
- EvK2CNR Committee
- FIA Foundation
- Clean Cooking Alliance (Formerly the Global Alliance for Clean Cookstoves)
- Global Methane Initiative (GMI)
- GLOBE Foundation
- Guraghe Development Association (Ethiopia)
- I4CE - Institute for Climate Economics
- ICLEI - Local Governments for Sustainability
- Institute for Advanced Sustainability Studies (IASS)
- Institute for Energy and Environment (IEMA)
- Institute for Global Environmental Strategies (IGES)
- Institute for Governance and Sustainable Development (IGSD)
- International Climate Change Partnership (ICCP)

- International Council on Clean Transportation (ICCT)
- International Cryosphere Climate Initiative (ICCI)
- International Institute for Sustainable Development (IISD)
- International Network for Environmental Compliance and Enforcement (INECE)
- International Solid Waste Association (ISWA)
- International Union of Air Pollution, Prevention and Environmental Protection Associations (IUAPPA)
- Molina Center for Strategic Studies in Energy and the Environment
- Natural Resources Defense Council (NRDC)
- Network for Environment and Sustainable Development in Africa (NESDA-REDDA)
- Oxfam International
- Stockholm Environment Institute (SEI)
- Smart Freight Centre
- Swiss Foundation for Technical Cooperation (Swisscontact)
- TERRE Policy Centre
- The Energy and Resources Institute (TERI)
- Union Internationale des Transports Publics (UITP)
- Vital Strategies
- World Resources Institute (WRI)
- Wuppertal Institute
- Youth Climate Lab (YCL)

THE COALITION

ACTORS - OTHER ORGANISATIONS INVOLVED IN THE INITIATIVE

AGRICULTURE

- Climate Change, Agriculture and Food Security Research Program (CCAFS)
- Eastern Research Group (ERG)
- Global Research Alliance on Agricultural Greenhouse Gases (GRA)
- Great Lakes Climate Network (RCGL)
- International Livestock Research Institute
- Livestock & Poultry Environmental Learning Center (LPELC)
- Miami University in Ohio
- Michigan Technological University
- New Zealand Agricultural Greenhouse Gas Research Centre (NZAGRC)
- Transparency and Economic Development Initiatives (TED)
- Tropical Agricultural Research and Higher Education Centre (CATIE)
- University of Vermont
- World Biogas Association

BRICKS

- Arcadis
- Centro de Innovación Aplicada en Tecnologías Competitivas (CIATEC)
- Climate and Health Research Network (CHERN)
- Federation of Nepalese Brick Industries (FNBI)
- Great Lakes Climate Network (RCGL)
- Greentech Knowledge Solutions (GKSPL)
- MinErgy Nepal
- Skat Inc.
- Stratus Consulting
- The Brooke Organisation
- The Gold Standard Foundation
- University of Illinois

HEAVY-DUTY VEHICLES

- Association for Southeast Asian Nations
- Deutsche Umwelthilfe e.V. (DUH)
- Fundación Centro de Gestión Tecnológica e Informática Industrial (CEGESTI)
- Gadjah Mada University Center for Transportation and Logistics Studies
- Gibraltar
- KPBB (Komite Penghapusan Bensin Bertimbel)

- Mexican Center for Environmental Law (CEMDA)
- Ultraclean Fuel Limited (UCF)

FINANCE

- AURAIA
- Cbalance
- ClimateKIC
- Global Fund for Cities Development (FMDV)
- Gold Standard Foundation
- Infrastructure Development Company Limited (IDCOL)
- International Biofuel Association
- Nexleaf
- Standard Microfinance Bank
- TeamCobyNigeria
- Xac Bank

COOLING AND REFRIGERATION (HFCs)

- Air-Conditioning, Heating, and Refrigeration Institute (AHRI)
- Alliance for Responsible Atmospheric Policy
- ASHRAE, Inc.
- Australian Refrigeration Association
- Centro Studio Galileo
- Chemours
- CLASP
- European Partnership for Energy and the Environment (EPEE)
- Honeywell
- Ingersoll Rand
- North American Sustainable Refrigeration Council (NASRC)
- Refrigerants Australia
- Refrigerants, Naturally!
- Shecco
- The Coca-Cola Company

URBAN HEALTH

- Abidjan-Lagos Corridor Organization (ALCO)
- AirQualityAsia (Sustainable World Inc.)
- ClimateCare
- Health and Environment Alliance (HEAL)
- Health Care Without Harm
- International Institute for Energy Conservation (IIEC)
- Rural Women Energy Security (RUWES)
- The Global Climate and Health Alliance
- Vital Strategies
- World Medical Association

HOUSEHOLD ENERGY

- Abidjan-Lagos Corridor Organization (ALCO)
- Alliance for Green Heat
- Argentina
- ClimateCare
- Deutsche Umwelthilfe e.V. (DUH)
- ECOWAS Centre for Renewable Energy and Energy Efficiency (ECREE)
- Entrepreneurs du Monde
- Envirofit
- Frankfurt School of Finance and Management
- Fundacion Solar
- Global LPG Partnership (GLPSP)
- Gold Standard Foundation
- Hivos
- Microsol
- Nexus
- Pan-American Health Organisation (PAHO)
- Project Gaia
- UN Environment DTU Partnership

OIL & GAS

- Carbon Limits
- Carleton University
- CDT de GAS (Gas Technology Development Center)
- Clearstone Engineering Ltd
- Eastern Research Group (ERG)
- GHGSat | Global Emissions Monitoring
- Mansarovar
- Oil and Gas Climate Initiative (OGCI)
- Pacific Rubiales
- Pembina Institute
- Petroleum Technology Alliance of Canada (PTAC)

Partner companies of the CCAC Oil & Gas

- Methane Partnership and/or methane science studies:
- BG Group
 - CNPC
 - Equinor
 - ENI
 - Neptune Energy International SA
 - PEMEX
 - Petrobras
 - PTT
 - Repsol
 - Saudi Aramco
 - Shell
 - Statoil
 - Total

REGIONAL ASSESSMENTS

- Centre for Climate Research and Development (CCRD)
- NASA Goddard Institute for Space Studies (NASA-GISS)
- USP

NATIONAL PLANNING FOR SLCPS

- Oxfam

WASTE

- A2A Group
- Abt Associates
- Bluefield
- Eastern Research Group (ERG)
- Gevalor
- Global Environment Center Foundation (GEC)
- Fundación Centro de Gestión Tecnológica e Informática Industrial (CEGESTI)
- Indonesia (Directorate General of Solid Waste, Hazardous Waste and Hazardous Substance Management, Ministry of Environment and Forestry)
- Network of Associations of Local Authorities in South-east Europe (NALAS)
- SCS Engineers
- Serbian Solid Waste Association (SeSWA)
- WASTE advisers on urban environment and development
- World Biogas Association
- United Nations Centre for Regional Development (UNCRD)

Together with the cities of

- Abidjan (Cote d'Ivoire)
- Accra (Ghana)
- Addis Ababa (Ethiopia)
- Amman (Jordan)
- Antananarivo (Madagascar)
- Arequipa (Peru)
- Avellaneda (Argentina)
- Bangkok (Thailand)
- Bangui (Central African Republic)
- Barranquilla (Colombia)
- Battambang (Cambodia)
- Boras (Sweden)
- Brasilia (Brazil)
- Buenos Aires (Argentina)
- Butembo (DR Congo)
- Cali (Colombia)
- Cancun (Mexico)
- Cebu (Philippines)
- Concepción (Chile)
- Copenhagen (Denmark)
- Cordoba (Argentina)
- Cotonou (Benin)

*4 partners in final stages of approval as of September 1

ACTORS cont...

Cuenca (Ecuador)
 Curitiba (Brazil)
 Dakar (Senegal)
 Dar es Salaam (Tanzania)
 Delhi (India)
 Dhaka (Bangladesh)
 Douala (Cameroon)
 Durban (South Africa)
 Fes (Morocco)
 Ho Chi Minh City (Viet Nam)
 Jakarta (Indonesia)
 Johannesburg (South Africa)
 Kitakyushu (Japan)
 Lagos (Nigeria)
 Lahore (Pakistan)
 Lima (Peru)
 Lomé (Togo)
 Male (Maldives)
 Map Ta Phut (Thailand)
 Metropolitan Area of the Valley of Aburrá (Colombia)
 Montevideo (Uruguay)
 Nairobi (Kenya)

Naucalpan (Mexico)
 New York (USA)
 Nis (Serbia)
 Novi Sad (Serbia)
 Ouagadougou (Burkina Faso)
 Panvel (India)
 Penang (Malaysia)
 Phitsanulok (Thailand)
 Porto Novo (Benin)
 Puerto Morelos (Mexico)
 Puerto Varas (Chile)
 Queretaro (Mexico)
 Quezon (Philippines)
 Quito (Ecuador)
 Rayong (Thailand)
 Rio de Janeiro (Brazil)
 San Diego (USA)
 San Francisco (USA)
 San Pedro (Côte d'Ivoire)
 Sana'a (Yemen)
 Santos (Brazil)
 Sao Paulo (Brazil)
 Siem Reap (Cambodia)

Sikasso (Mali)
 Stockholm (Sweden)
 Surabaya (Indonesia)
 Toluca (Mexico)
 Tunis (Tunisia)
 Umea (Sweden)
 Vienna (Austria)
 Vientiane (Loa PDR)
 Vina del Mar (Chile)
 Yangon (Myanmar)



PARTICIPANTS
 AT THE 23RD
 WORKING
 GROUP MEETING
 IN BANGKOK,
 THAILAND

LEAD PARTNERS

COALITION PARTNERS WITH AN ACTIVE
 ROLE IN COORDINATING, MONITORING AND
 GUIDING THE WORK OF THE INITIATIVE

IMPLEMENTERS

COALITION PARTNERS AND ACTORS RECEIVING
 COALITION FUNDS TO IMPLEMENT AN ACTIVITY
 OR INITIATIVE

INITIATIVE	LEAD PARTNERS	IMPLEMENTERS
AGRICULTURE	<ul style="list-style-type: none"> • Bangladesh • Canada • European Commission (EC) • Food and Agriculture Organization of the United Nations (FAO) • Ghana • International Cryosphere Climate Initiative (ICCI) • Japan • New Zealand • Nigeria • United States • Uruguay • World Bank 	<ul style="list-style-type: none"> • CARE Peru • Dienst Landbouwkundig Onderzoek (DLO)/ Wageningen University • Food and Agriculture Organization (FAO) of the United Nations • Institute of Policy and Strategy for Agriculture and Rural Development (IPSARD) • International Center for Tropical Agriculture (CIAT) • International Cryosphere Climate Initiative (ICCI) • International Rice Research Institute (IRRI) • Punjab Agricultural Management & Extension Training Institute (PAMETI)
BRICKS	<ul style="list-style-type: none"> • Center for Human Rights and Environment (CEDHA) • Colombia • Institute for Advanced Sustainability Studies (IASS) • Institute for Governance and Sustainable Development (IGSD) • International Centre for Integrated Mountain Development (ICIMOD) • Mexico • Switzerland • World Bank 	<ul style="list-style-type: none"> • Corporación Ambiental Empresarial (CAEM) • Center for Human Rights and Environment (CEDHA) • International Centre for Integrated Mountain Development (ICIMOD) • National Institute of Ecology and Climate Change (INECC) • Mountain Air Engineering • Swiss Foundation for Technical Cooperation (Swisscontact)

THE COALITION

INITIATIVE	LEAD PARTNERS	IMPLEMENTERS
HEAVY-DUTY VEHICLES	<ul style="list-style-type: none"> • Canada • International Council on Clean Transportation (ICCT) • Switzerland • UN Environment • United States 	<ul style="list-style-type: none"> • Abidjan - Lagos Corridor Organization ALCO • AIT Thailand Centro Mario Molina Chile (CMMCh) • CFU Moldova • Clean Air Asia • Dar Rapid Transit Agency (DART) Tanzania • DGEC Benin • DNACPN Mali • DOE Botswana • DOE Malawi • ECO Asia Mongolia • Energy and Water Utilities Regulatory Authority (EWURA) Tanzania • EPA Ghana • FME Nigeria • IFES Bangladesh • Institute of Environmental Studies (IES) • International Council on Clean Transportation (ICCT) • Komite Penghapusan Bensin Bertimbel (KPBB) • MINESUDD Ivory Coast • Ministry of Energy and Mineral Development (MEMD) Uganda • Ministry of Energy and Mines (MEM) Burundi • MIREME Mozambique • MME Togo • NADCC Nigeria • Northern Corridor Transit and Transport Coordination Authority (NCTCA) • NPA Ghana • PIEA Kenya • Pustral Indonesia • Rwanda Environment Management Authority (REMA) • Sustainable Transport Africa (STA) • UN Environment • ZERA Zimbabwe
HFCs	<ul style="list-style-type: none"> • Canada • United States 	<ul style="list-style-type: none"> • Institute for Governance and Sustainable Development (IGSD) • UN Development Programme (UNDP) • UN Environment • UNIDO • World Bank
HOUSEHOLD ENERGY	<ul style="list-style-type: none"> • Chile • Finland • Global Alliance for Clean Cookstoves/United Nations Foundation (GACC) • International Cryosphere Climate Initiative (ICCI) • Nigeria • Peru • Poland • TERRE Policy Centre • UN Development Programme (UNDP) • UN Environment 	<ul style="list-style-type: none"> • Global Alliance for Clean Cookstoves (GACC) • International Cryosphere Climate Initiative (ICCI) • Mountain Air Engineering • Nexleaf • North Carolina University • RUWES • Stockholm Environment Institute (SEI) • UN Development Programme (UNDP) • UN Environment
OIL & GAS	<ul style="list-style-type: none"> • Netherlands • Nigeria 	<ul style="list-style-type: none"> • Clearstone Engineering Ltd • UN Environment • Center for Clean Air Policy (CCAP) • Clean Air Task Force (CATF) • Petroleum Technology Alliance (PTAC) • CEID Colombia

INITIATIVE	LEAD PARTNERS	IMPLEMENTERS	
WASTE	<ul style="list-style-type: none"> • C40 Cities Climate Leadership Group • Canada • International Solid Waste Association (ISWA) • Japan • Mexico • UN Environment Technology Center • United States • World Bank 	<ul style="list-style-type: none"> • Brazilian Association of Solid Waste Management (ABRELPE) • C40 Cities Climate Leadership Group • Center for Clean Air Policy (CCAP) • Fundación Centro de Gestión Tecnológica e Informática Industrial (CEGESTI) • Gevalor • Global Environment Center Foundation (GEC) • Institute for Environmental Strategies (IGES) • International Solid Waste Association (ISWA) • Regional Resource Centre for Asia and the Pacific (RRCAP) • Serbian Solid Waste Association (SeSWA) • Swedish EPA • TERRE Policy Centre • The Energy and Resources Institute (TERI) • UN Environment Technology Center 	
FINANCE	<ul style="list-style-type: none"> • European Investment Bank (EIB) • Nordic Environment Finance Corporation (NEFCO) • UN Environment Finance Initiative • World Bank 	<ul style="list-style-type: none"> • FS-UNEP Collaborating Centre of Frankfurt School of Finance and Management gGmbH • UN Environment Finance Initiative • UNEP DTU Partnership • Microsol • World Bank • CDP 	
URBAN HEALTH	<ul style="list-style-type: none"> • Clean Air Asia • ICLEI • International Centre for Integrated Mountain Development (ICIMOD) • Norway • UN Environment • UN Habitat • United States • Vital Strategies • World Bank • World Health Organization 	<ul style="list-style-type: none"> • Clean Air Asia • Clean Air Institute • International Centre for Integrated Mountain Development (ICIMOD) • ICLEI • UN Environment • UN Habitat • World Health Organization 	
REGIONAL ASSESSMENT	<ul style="list-style-type: none"> • Institute for Advanced Sustainability Studies (IASS) • International Centre for Integrated Mountain Development (ICIMOD) • International Union of Air Pollution, Prevention and Environmental Protection Associations (IUAPPA) • Mexico • Stockholm Environment Institute (SEI) • UN Environment 	<ul style="list-style-type: none"> • Institute for Environmental Strategies (IGES) • Stockholm Environment Institute (SEI) • UN Environment 	
NATIONAL PLANNING FOR SLCPS	<ul style="list-style-type: none"> • International Union of Air Pollution, Prevention and Environmental Protection Associations (IUAPPA) • Institute for Governance and Sustainable Development (IGSD) • Mexico • Molina Center for Energy and the Environment (MCE2) • Morocco • Stockholm Environment Institute (SEI) • UN Environment • United-States 	<ul style="list-style-type: none"> • Bangladesh • Benin • Cambodia • Central African Republic • Chile • Colombia • Cote d'Ivoire • Ethiopia • Ghana • International Union of Air Pollution, Prevention and Environmental Protection Associations (IUAPPA) • Institute for Governance and Sustainable Development (IGSD) • Jordan • Kenya • Liberia • Mali • Maldives • Mexico • Moldova 	<ul style="list-style-type: none"> • Molina Center for Energy and the Environment (MCE2) • Morocco • Nigeria • Paraguay • Peru • Philippines • Stockholm Environment Institute (SEI) • Togo • UN Environment • Uruguay

THE COALITION



The Climate and Clean Air Awards present a snapshot of efforts from every corner of the globe, from every level of society, and across numerous sectors, to reduce short-lived climate pollutants. The 2018 awardees come from diverse backgrounds including local and national government, academia, the private sector and NGOs.

The 2018 Climate and Clean Air Awards were announced at a special ceremony during the Global Climate Action Summit, in San Francisco, USA. The Pisces Foundation and the Institute for Governance and Sustainable Development supported the ceremony as part of Super Pollutant Day.

2018 CLIMATE AND CLEAN AIR AWARDS HONOUREES

GROUND BREAKING CONTRIBUTION TO SCIENCE AND KNOWLEDGE AWARD



Dr Veerabhadran Ramanathan, Distinguished Professor of Climate and Atmospheric Sciences at Scripps Institution of Oceanography, University of California at San Diego
For his pioneering work on short-lived climate pollutants and outspoken voice for urgent action on global warming and air pollution.

Photo: Helena Molin Valdes, Head, CCAC Secretariat, Dr. Veerabhadran Ramanathan and Ricardo Lara, California State Senator



Dr Mario Molina, Nobel Laureate: 1995 Nobel Prize in Chemistry
For his scientific achievements that galvanized international policy action on climate change and air quality

Photo: Helena Molin Valdes, Head, CCAC Secretariat, Dr. Mario Molina and Ricardo Lara, California State Senator

AWARENESS & ADVOCACY AWARD



Leonardo DiCaprio, environmentalist, philanthropist, and actor
For his support for urgent climate action through his personal activism and the initiatives of the Leonardo DiCaprio Foundation.

Photo: Dr. Maria Neira, WHO, Helena Molin Valdes, Climate & Clean Air Coalition, and Terry Taminin, CEO of the Leonardo DiCaprio Foundation

POLICY LEADERSHIP FOR TRANSFORMATIONAL CHANGE



Catherine McKenna, Minister for Environment and Climate Change, Canada
For her instrumental role in introducing short-lived climate pollutant policy in Canada and rallying support to lead the Kigali Amendment into force.

Photo: Catherine McKenna accepting her Climate and Clean Air Award via video

ENABLING ACTION AWARD



Photo: Erik Solheim, UN Environment Executive Director and Hal Harvey

Hal Harvey, CEO Energy Innovation
For transforming philanthropic investment in climate action and promoting practical, results-driven solutions.

ENABLING POLICY AWARD



Photos: (left to right) Jose Luis Dominguez, Sub secretario de Transporte, Ministry of Transportation and Communications, Chile; Gianni López Ramírez, Director Centro Mario Molina Chile; Manuel Pulgar Vidal Head of Climate and Energy Practice, WWF International; Helena Molin Valdes, CCAC Secretariat

Centro Mario Molina Chile and the Ministry of Transport and Communications, Chile

For their joint efforts to implement actions to reduce diesel air pollution.

TRANSFORMATIVE POLICY AWARD



Photo: (left to right) HE Hui, Senior Researcher, China Regional Lead, ICCT; GONG Huiming, Program Director, Transportation Program, Energy Foundation China; HE Kebin, Professor and Dean, School of Environment, Tsinghua University

Ministry of Ecology and Environment, China; The Vehicle Emission Control Center of the Ministry of Ecology and Environment, China; Energy Foundation China; The International Council for Clean Transportation; and Tsinghua University

For a comprehensive suite of policies, which address the climate and health impacts of diesel engines.

INNOVATIVE POLICY AWARD



Photo: (left to right) Helena Molin Valdes, Head, Climate and Clean Air Coalition Secretariat; Shrinath Bhimale, Leader of House, Pune Municipal Corporation; Alice Kaudia, Co-Chair, Climate and Clean Air Coalition; Mukta Tilak, Mayor of Pune; Yogesh Mulik, Chairman Standing Committee, Pune Municipal Corporation; Suresh Jagtap, Joint Municipal Commissioner, Pune Municipal Corporation

Pune Municipal Corporation

For its innovative waste management solutions that reduce short-lived climate pollutant emissions and generate economic opportunity.

TECHNOLOGY AWARD



Photo: James Shaw, New Zealand Minister for Climate Change; Oliver Kynaston, COO, SimGas; Helena Molin Valdes, Head, CCAC Secretariat

SimGas

For its innovative model to produce safe cooking fuel and reduce pollutant emissions through the use of domestic biogas digesters in East Africa.

BEHAVIOURAL CHANGE AWARD



Photo: Mamunur Rashid, Sr. Coordinator, RDRS Bangladesh accepts the award during the CCAC's 23rd Working Group meeting

RDRS Bangladesh

For its work to promote alternate rice farming practices that reduce methane emissions and support the wellbeing of farmers.

ENDNOTES

* Numbers presented relate to results supported by the CCAC since 2012 as per cumulative reporting under the coalition's Demonstrating Impacts indicator framework.

** Calculated based on person hour data assuming 8 hours/day trainings.

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- Norway's analysis analyzed changes in the six Kyoto gases: CO₂, methane, N₂O, HFCs, PFCs, SF₆, as well as short-lived climate forcers black carbon (BC), organic carbon (OC), NO_x, and SO₂. Norwegian Environment Agency, Climate mitigation measures up to 2030: Short term climate effects and health effects. <http://www.miljodirektoratet.no/Documents/publikasjoner/M494/M494.pdf>
- Source: Ghana's draft national plan

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- The 2017 GAINS model analysis on methane

Page 18

- UNEP (2017) 2017 Emissions Gap Report, Chapter 6; Höglund-Isaksson et al., 2017.
- UNEP (2017) 2017 Emissions Gap Report, Chapter 6.
- <https://www.ipcc.ch/apps/eventmanager/documents/52/050920180955-INF4EM-SLCF.pdf>

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- Bangladesh, Benin, Cambodia, Central African Republic, Chad, Chile, Colombia, Congo DR, Costa Rica, Cote d'Ivoire, Dominican Republic, Ethiopia, Ghana, Republic of Guinea, Jordan, Kenya, Laos, People's Democratic Republic, Liberia, Republic of the Maldives, Mali, Mexico, Republic of Moldova, Mongolia, Morocco, Kingdom of, Nigeria, Panama, Paraguay, Peru, Togo, Uruguay, and Zimbabwe

Page 23

- Santiago de Cali, Colombia; Santo Domingo, Dominican Republic; Seoul, Republic of Korea; Vancouver, Canada; Santa Rosa, Philippines; Accra, Ghana; Mexico City, Mexico; Mount Barker, Australia; San Antonio Texas, United States; Santiago, Chile; Talca, Chile; Hualqui, Chile; Concepcion, Chile; Chiguayante, Chile; Washington DC, United States; London, United Kingdom; Oslo, Norway; Bolton - Greater Manchester, UK; Bury - Greater Manchester, UK; Manchester - Greater Manchester, UK; Oldham - Greater Manchester, UK; Rochdale - Greater Manchester, UK; Salford - Greater Manchester, UK; Stockport - Greater Manchester, UK; Tameside - Greater Manchester, UK; Trafford - Greater Manchester, UK; Wigan - Greater Manchester, UK; Catalonia region, Spain; Campeche, Mexico; Plateau, Benin; Chaco, Argentina; Gossas, Senegal; Basque Country, Spain; Lombardy, Italy; Azuay, Ecuador; Greater Manchester City Region, United Kingdom; Jalisco state, Mexico; Valle de Aburra, Colombia; Morelos, Mexico; Caldas, Colombia; Walloon Region, Belgium; Mongolia; and Singapore

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- Argentina, Bangladesh, Benin, Burundi, Colombia, Ethiopia, Kenya, Malawi, Mali, Peru, Tanzania, Thailand, Uganda, Uruguay, Burkina Faso, India, Pakistan, Senegal, Sri Lanka, and Viet Nam

Page 31

- Bangladesh, Brazil, Chile, Colombia, India, Mexico, Morocco, Kingdom of, Nepal, Pakistan, and Peru

Page 33

- Argentina, Australia, Bangladesh, Benin, Botswana, Brazil, Burundi, Chile, China, Colombia, Congo DR, Costa Rica, Cote d'Ivoire, Dominican Republic, Ecuador, Ethiopia, Ghana, Indonesia, Jordan, Kenya, Lesotho, Malawi, Mali, Mexico, Moldova, Republic of, Mongolia, Morocco, Kingdom of, Mozambique, Namibia, Nigeria, Paraguay, Peru, Philippines, Rwanda, South Africa, South Sudan, Swaziland, Tanzania, Thailand, Togo, Turkey, Uganda, Uruguay, Zimbabwe

Page 35

- The Bahamas, Bangladesh, Cambodia, Canada, Chile, Colombia, Ghana, India, Indonesia, Jordan, Kyrgyzstan, Maldives, Republic of the, Mongolia, Nigeria, South Africa, Thailand, and the United States

Page 37

- India, Ghana, Kenya, Tanzania, Uganda, Nigeria, Czech Republic, Guatemala, Norway, Poland, and Sweden

Page 39

- Colombia, Canada, Congo DR, France, Mexico, Angola, Nigeria, Italy, Kazakhstan, Thailand, United States, Norway, Spain, and United Kingdom
- BP, Engie E&P, Eni, Pemex, PTT, Repsol, Shell, Statoil and Total

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- Argentina, Bangladesh, Brazil, Benin, Cambodia, Chile, Colombia, Ecuador, Viet Nam, Congo DR, Cote d'Ivoire, India, Japan, Indonesia, Ethiopia, Pakistan, Ghana, Jordan, Kenya, Laos, People's Democratic Republic, Philippines, Tanzania, Mexico, Albania, Nigeria, Belize, Bosnia Herzegovina, South Africa, Denmark, Peru, Thailand, Togo, Uruguay, Madagascar, Malaysia, United States, Myanmar, Serbia, and Sweden



The Climate and Clean Air Coalition is the only global partnership that addresses air pollution and climate change in an integrated way, through fast action to reduce short-lived climate pollutants – methane, HFCs, black carbon, and tropospheric ozone – that delivers multiple benefits for climate, health and development goals.

The Coalition was launched in 2012 as an action-oriented, flexible and multi stakeholder partnership. We have a strong track record of driving political and policy changes, of delivering sectoral mitigation actions, and advancing SLCP mitigation planning at the national and subnational levels, as well as increasing the scientific understanding of the importance of short-lived climate pollutant mitigation.

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- ccacoalition.org



The Coalition's work is made possible by the efforts of all collaborating partners and the donors to the Climate and Clean Air Coalition Trust Fund. These donors include: Canada, Norway, United States, Japan, Sweden, Switzerland, European Commission, Denmark, Netherlands, Germany, Italy, France, Walloon Government of Belgium, Australia and Finland.



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