



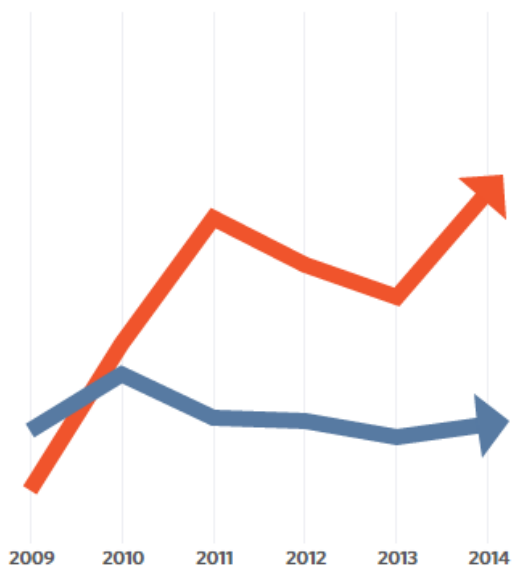
**Enabling Technology Transfer: UNFCCC
Climate Technology Centre and Network**

**Jukka Uosukainen
CTCN Director**

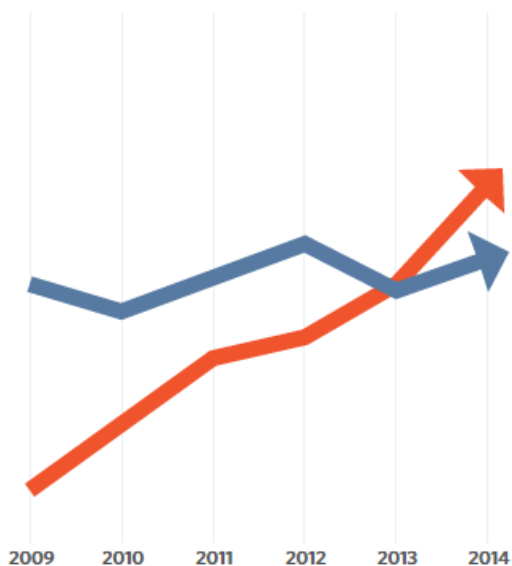
CTCN enables the deployment of Climate Technology to deliver on the Paris mandate.



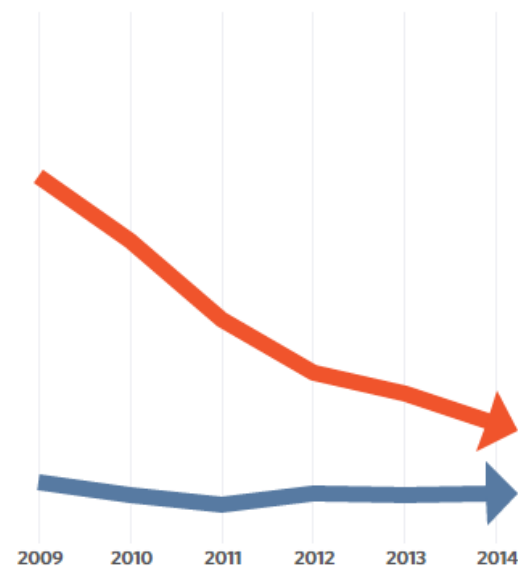
Some key trends are in our favour...



As finance (\$ billion) increases...



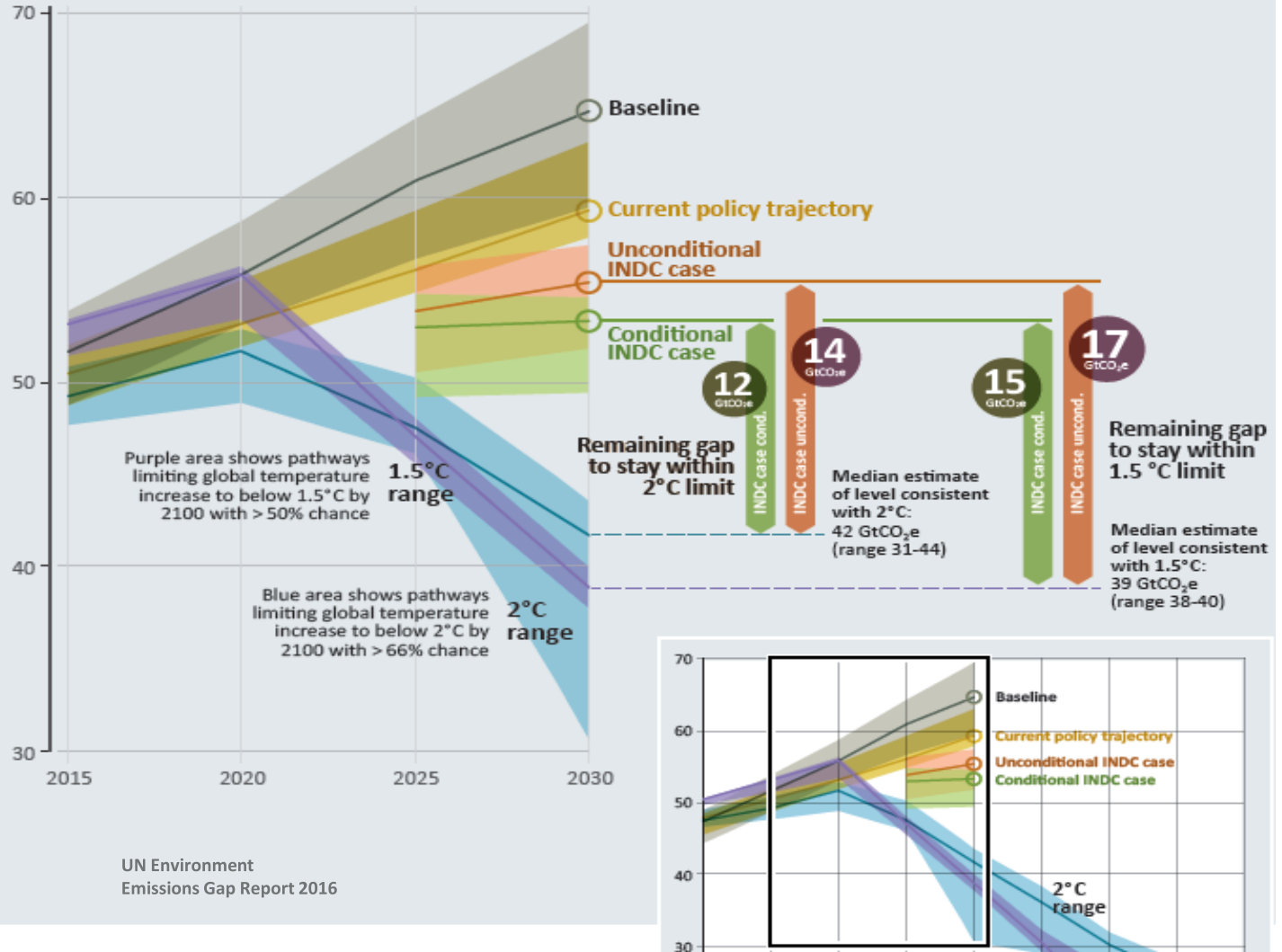
capacity⁵ (in GW) increases too, while...



electricity costs⁶ (\$/MWh) decrease dramatically.

...but much work remains to be done

Annual Global Total Greenhouse Gas Emissions (GtCO₂e)



Linking UNFCCC process and technology expertise

- 155 country focal points
- 250 expert implementing partners

157 requests for Technical Assistance (TA) from 67 countries

- Technology identification and prioritization
- Strengthen technology policies and regulations
- Enhance project readiness and facilitate financing
- Basis for scaled-up investment

Capacity Building and Knowledge Management

CTCN: Core Services & Sectors



↓ MITIGATION

Agriculture
Energy Efficiency
Forestry
Industry
Renewable Energy
Transport
Waste Management

SERVICE 1
Technical Assistance

SERVICE 2
Knowledge Sharing

SERVICE 3
Collaboration & Networking



↻ ADAPTATION

Agriculture & Forestry
Coastal Zones
Early Warning & Environmental Assessment
Human Health
Infrastructure, Transport & Urban Design
Marine & Fisheries
Water

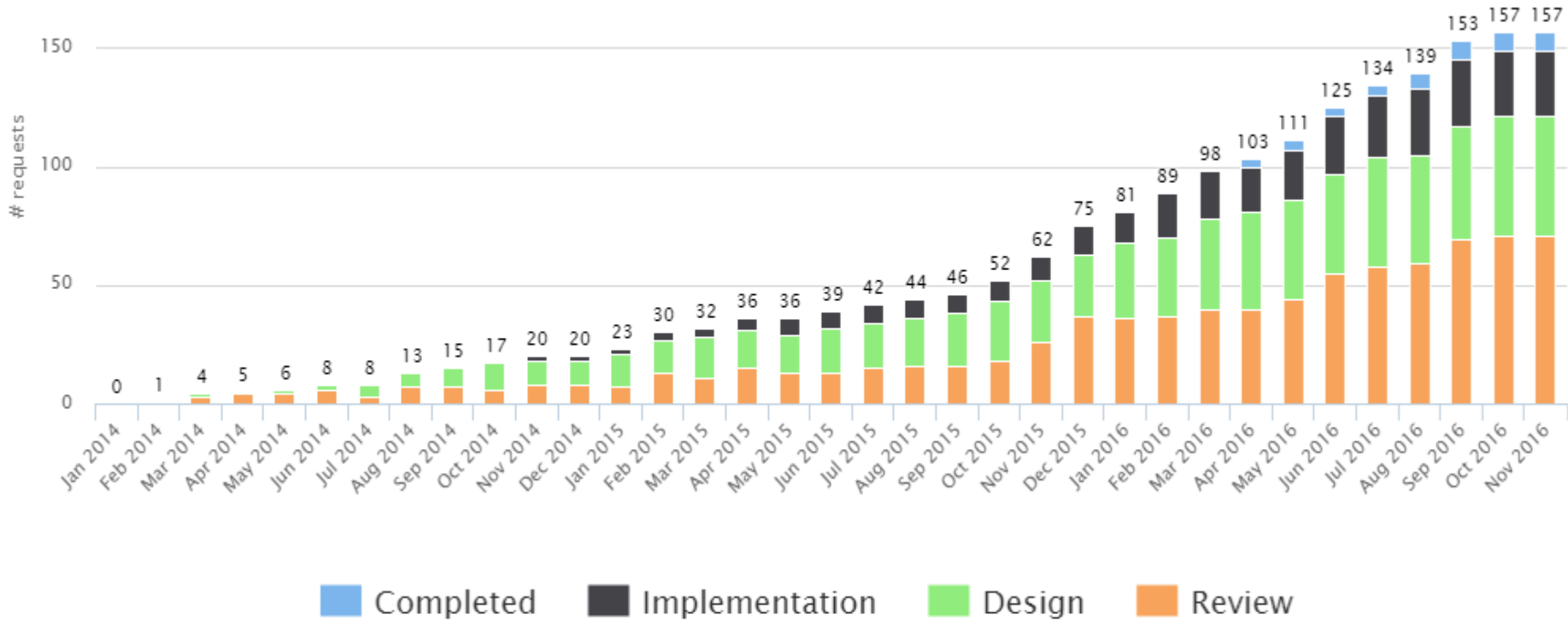
CROSS-CUTTING ISSUES:

- Community-based
- Disaster risk reduction
- Ecosystems and biodiversity
- Gender

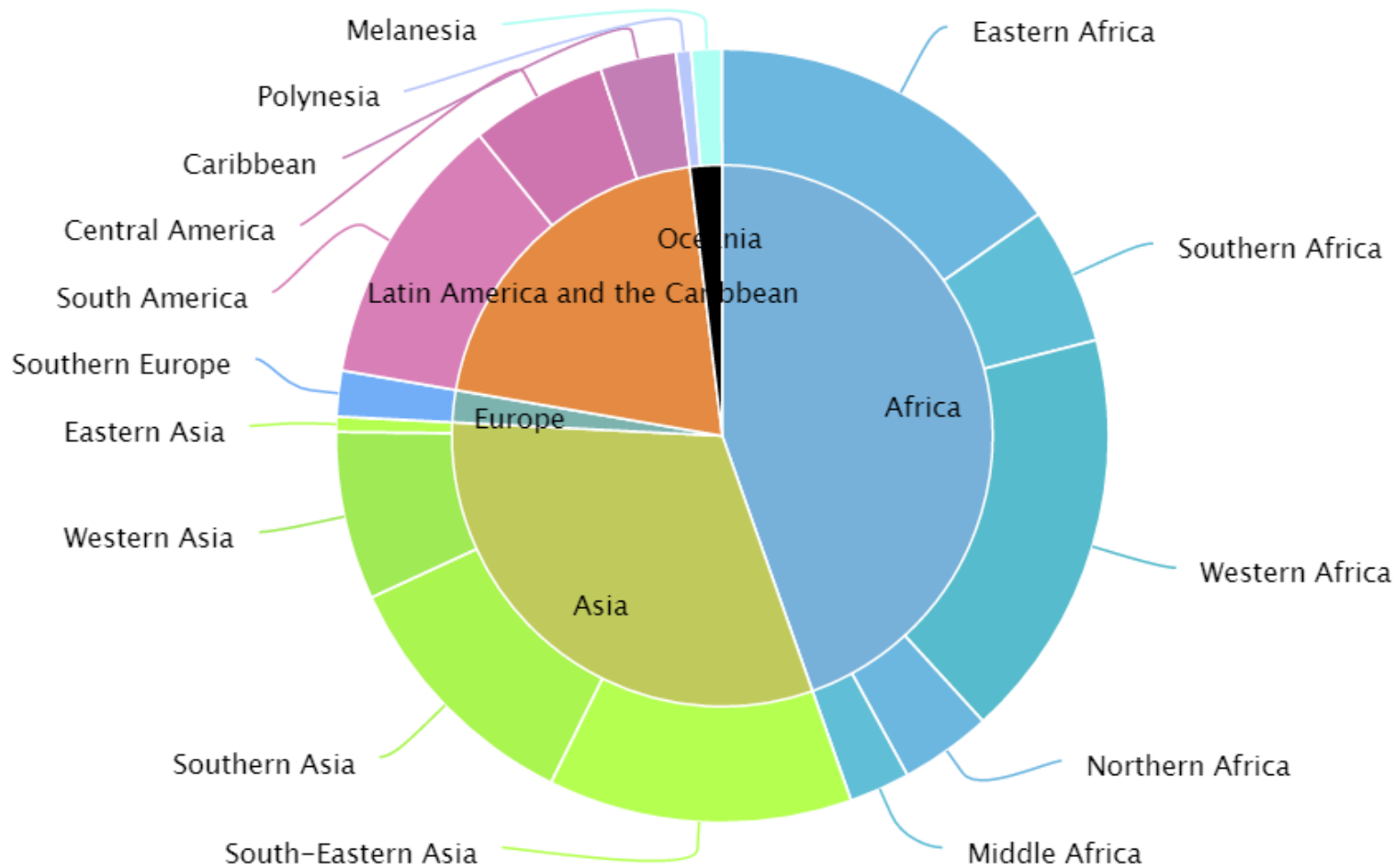
ENABLERS:

- Communications and awareness
- Economics and financial decision-making
- Governance and planning

Key service: CTCN Technical Assistance

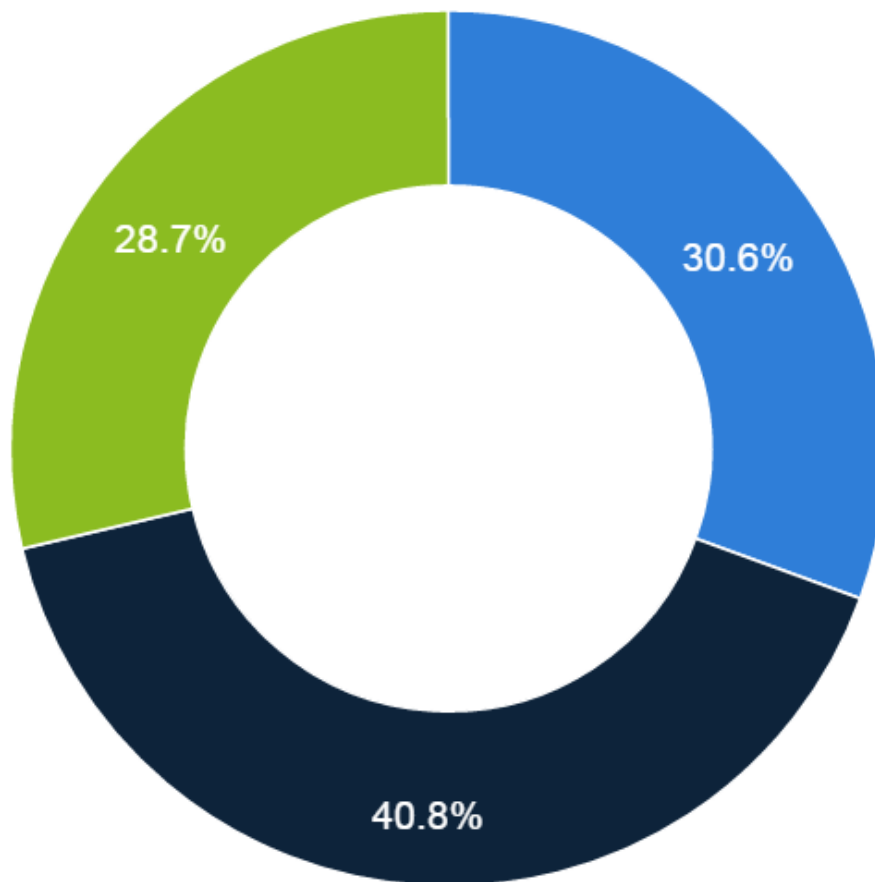


Overview of Technical Assistance: by Geographic Region



Overview of Technical Assistance:

Requests by Objective



■ Adaption ■ Mitigation ■ Adaption and mitigation

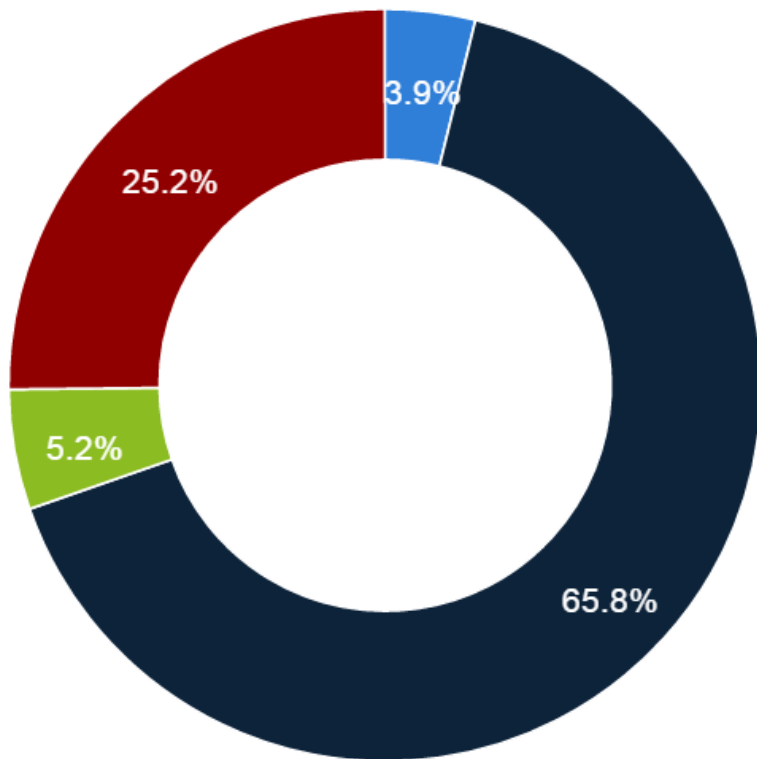
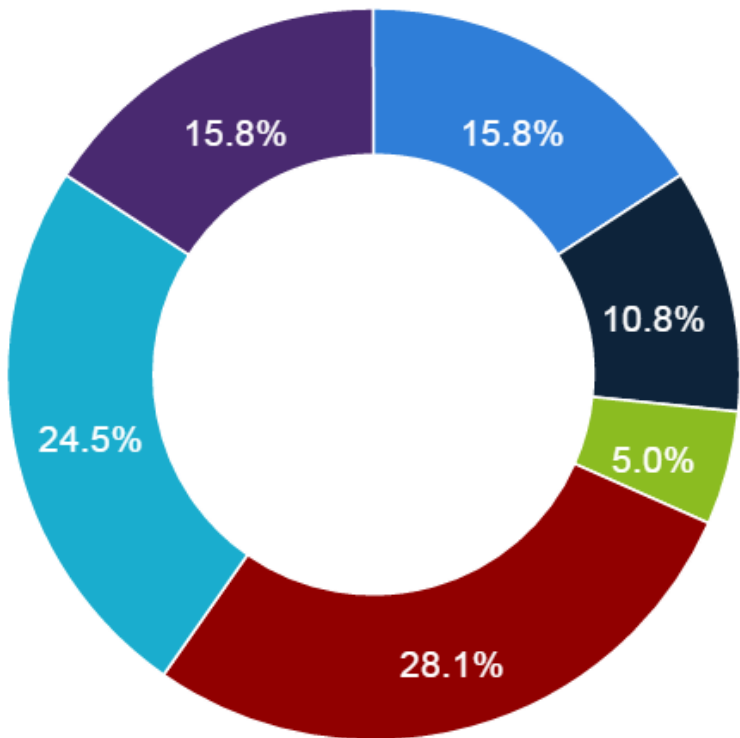


Overview of Technical Assistance:



by Type

by Scope



- Technology feasibility, piloting and deployment
- Training, awareness raising and sharing experience
- Policy, planning and law
- Project readiness and facilitating financing
- Technology identification and selection
- Research and development

- Regional multi-country
- National
- Community-based
- Sub-national

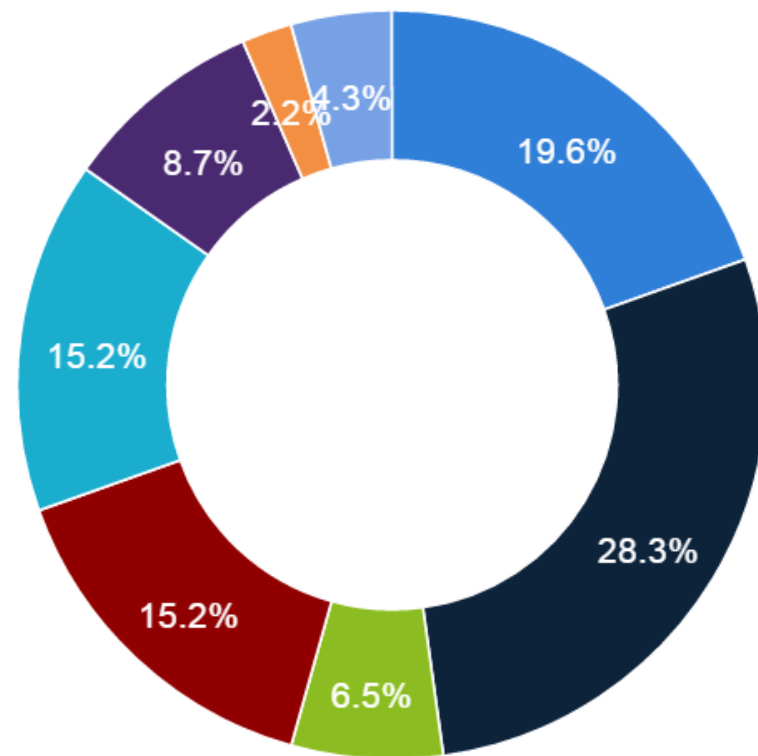
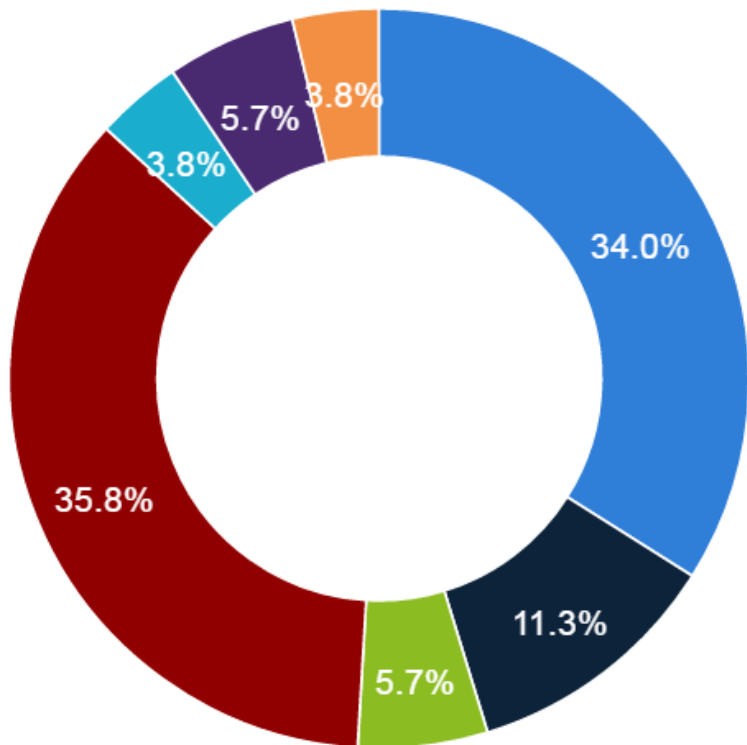


Overview of Technical Assistance Sectors:



Mitigation

Adaptation



- Renewable energy
- Transport
- Industry
- Energy Efficiency
- Waste management
- Cross-sectoral
- Agriculture

- Cross-sectoral
- Agriculture and forestry
- Early Warning and Environmental Assessment
- Coastal zones
- Marine and Fisheries
- Infrastructure, Transport and Urban design
- Human Health
- Water



Key Trends

- Support for Nationally Determined Contributions
- Catalysing Finance for Technology Deployment
- Gender and Technology

Key Sectors

- Early Warning Systems for Adaptation
- Industrial Energy Efficiency
- Waste to Energy

Trend: Support for NDC

Develop a National Adaptation Monitoring System in Columbia

Challenge

- Changing rainfall patterns are increasing rural vulnerability and land degradation

CTCN action

- Design early warning system
- Strengthen collaboration to support climate resilience of crop production
- Road map to scale up financing
- Adjust and validate drought early warning and forecasting technologies

Intended Impacts

- Reduce crop losses; improve yields and farmer livelihoods



Challenge

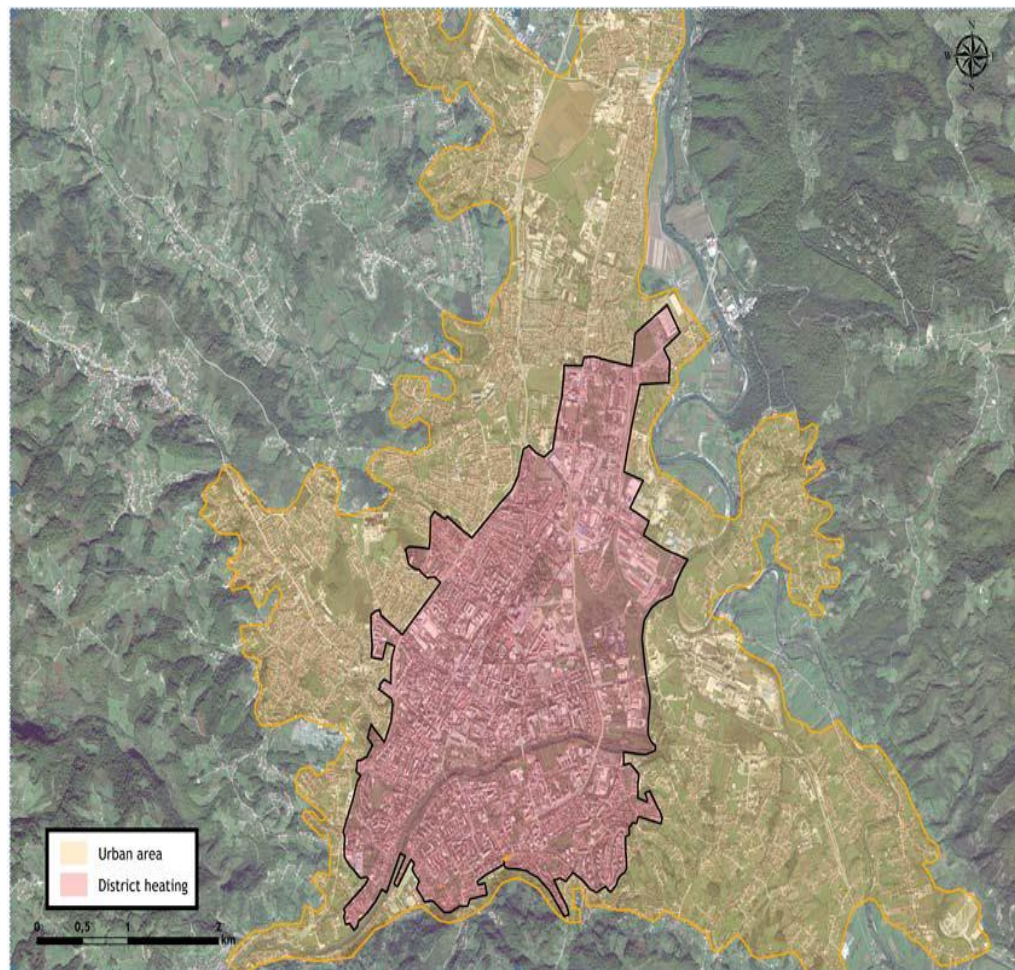
- Significant air pollution & energy losses from individual heating
- Financial pressure on city and District Heating company

CTCN action

- Policy/regulatory gap analysis
- Investment and policy development plan

Intended Impacts

- Supported successful EBRD loan application (~€42m) for:
 - Equipment (biomass boilers) and network upgrade;
 - Refinancing to improve the utility's business model



DISTRICT HEATING SUPPLY AREA
Banja Luka, Bosnia & Herzegovina

Trend: Gender and Climate Technology

Mainstreaming gender for a climate-resilient energy system in West Africa

Challenge

- Include women in capacity building to improve energy & environmental systems

CTCN action

- Build country capacity to undertake gender audits in the energy sector
- Support data services & research
- Develop gender-responsive project screening tools & demonstration projects

Intended Impacts

- Contribute to increased deployment of climate- and gender-smart investments, mainstreaming into energy policy/programs



Challenge

- Changing rainfall patterns are increasing rural vulnerability and land degradation

CTCN action

- Design early warning system
- Strengthen collaboration to support climate resilience of crop production
- Road map to scale up financing
- Adjust and validate drought early warning and forecasting technologies

Intended Impacts

- Reduce crop losses, and improve yields and farmer livelihoods



Failed maize crops in Ghana's Upper West Region. N.Palmer, CGIAR

Challenge

- Modern energy efficiency & industrial symbiosis options untapped in Senegal

CTCN action

- Identify high-potential technology and process improvements in 5 key sectors
- Develop recommendations and disseminate best practice
- Develop pilot implementation plan

Intended Impacts

- Design technology solutions with potential to deliver 10% reduction in energy consumption & GHG emissions



Sector: Waste to Energy

Bio-waste minimization for low-carbon rice production in Vietnam

Challenge

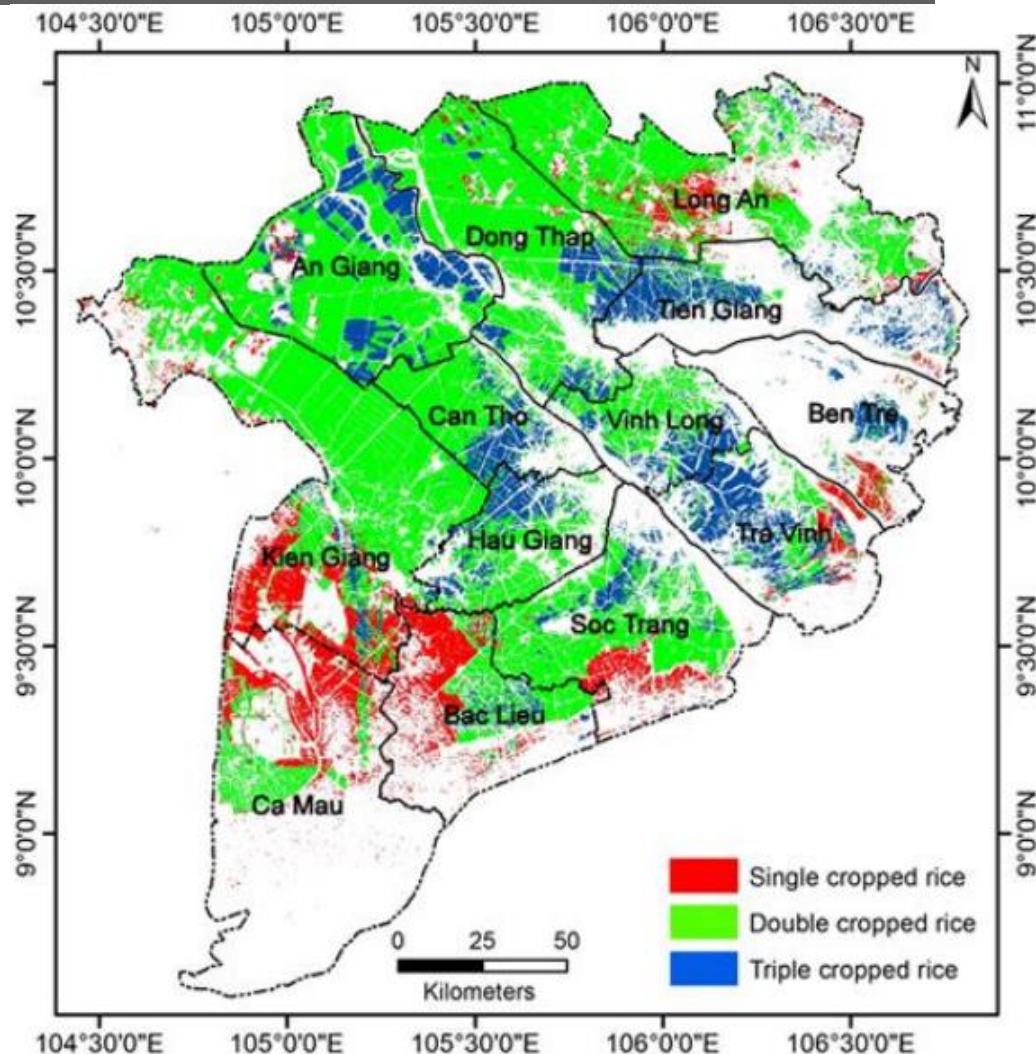
- Reduce waste and emissions and increase efficiency in the rice production process

CTCN action

- Develop decision-making tool based on technology assessment
- Assess financing options, support external financing proposals

Intended Impacts

- Pilot GHG emission reduction & potential for sectoral replication



CTCN TA outcomes contribute to UN SDG and form the basis for multilateral investment



CLIMATE CHANGE ADAPTATION Agriculture and forestry



Benin

THIS PROJECT ADVANCES:

The Dominican Republic's Nationally Determined Contribution to:

- Contribute to the emissions reduction target by enabling accessible and enduring energy efficiency technologies (LED lights) that leapfrog lower-performing lighting technologies
- Promote transition and further application of LED technologies for industries, small and medium-sized enterprises and households



CLIMATE CHANGE MITIGATION Cross sectoral



What is climate technology?

Any equipment, technique, practical knowledge or skill needed to reduce greenhouse gas emissions and/or adapt to climate change. This includes modern and traditional technologies

Learn more about CTCN technology transfer

Visit: www.ctc-n.org
Email: ctcn@unep.org
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The CTCN is the operational arm of the UNFCCC's Technology Mechanism and is hosted by United Nations Environment Programme (UNEP) and the United Nations Industrial Development Organization (UNIDO).

The CTCN gratefully acknowledges the support of:



Agro-meteorology

CONNECTING COUNTRIES TO CLIMATE TECHNOLOGY SOLUTIONS

The Climate Technology Centre and Network promote the transfer of climate technologies at the request of developing countries energy-efficient, low-carbon and climate resilient development.

By connecting stakeholders with technology experts from around the world, the CTCN delivers customized capacity building and technical assistance aligned with national climate objectives.

Green technology deployment in Senegal's industrial sector



Senegal
Applicant: Bureau de Mise à Niveau des Entreprises du Senegal
National Designated Entity: M. Issakha Youm
Centre d'Etudes et de Recherches sur les Energies Renouvelables
Duration: 7 months
Status: Under implementation
Budget: 50,000 USD
Technical Assistance Planned by: UNIDO
Implemented by: Soltes SA

CONNECTING COUNTRIES TO CLIMATE TECHNOLOGY SOLUTIONS

The Climate Technology Centre and Network promotes the transfer of climate technologies at the request of developing countries for energy-efficient, low-carbon and climate-resilient development.

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CHALLENGE

Senegal has a growing industrial sector. However, modern options for energy efficiency and industrial symbiosis remain untapped.

CTCN ASSISTANCE

- Conduct resource-efficient and cleaner production assessments of 3 priority sectors to identify high-potential technology and process improvements
- Develop a set of recommendations (policy, regulatory, financial, technical, etc.) for each sector and an implementation plan for a pilot enterprise in each sector
- Identify and disseminate best practices for development of an eco-industrial park with a focus on industrial symbiosis (including energy and material resources treatment and recovery, waste valorisation, use of renewable energy and sustainable material substitutes, and by-product reuse and recycling)

INTENDED IMPACT: Carbon emission abatement

- Design of technology solutions that can result in a reduction of up to 10% in energy consumption and greenhouse gas emissions in each pilot enterprise
- Recommendations that can be replicated and scaled-up nationally in other industrial enterprises to multiply impact

THIS PROJECT ADVANCES:

Chile's Nationally Determined Contribution to:

- Support replacement of fluorescent refrigerants to advance Chile's national mitigation targets
- Contribute to national needs for capacity building and technology transfer



CLIMATE CHANGE ADAPTATION Infrastructure, Transport, Urban Design



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Indonesia

THIS PROJECT ADVANCES

Thailand's Nationally Determined Contribution to:

- Promote and strengthen Integrated Water Resources Management (IWRM) practices
- Strengthen disaster risk reduction and reduce the population's vulnerability to climate risk and extreme weather events
- Strengthen climate modelling capacity while promoting collaboration among relevant agencies
- Establish effective early warning system and enhance the adaptive capacity of national agencies



What is climate technology?

Any equipment, technique, practical knowledge or skill needed to reduce greenhouse gas emissions and/or adapt to climate change. This includes traditional, modern and high-tech technologies.

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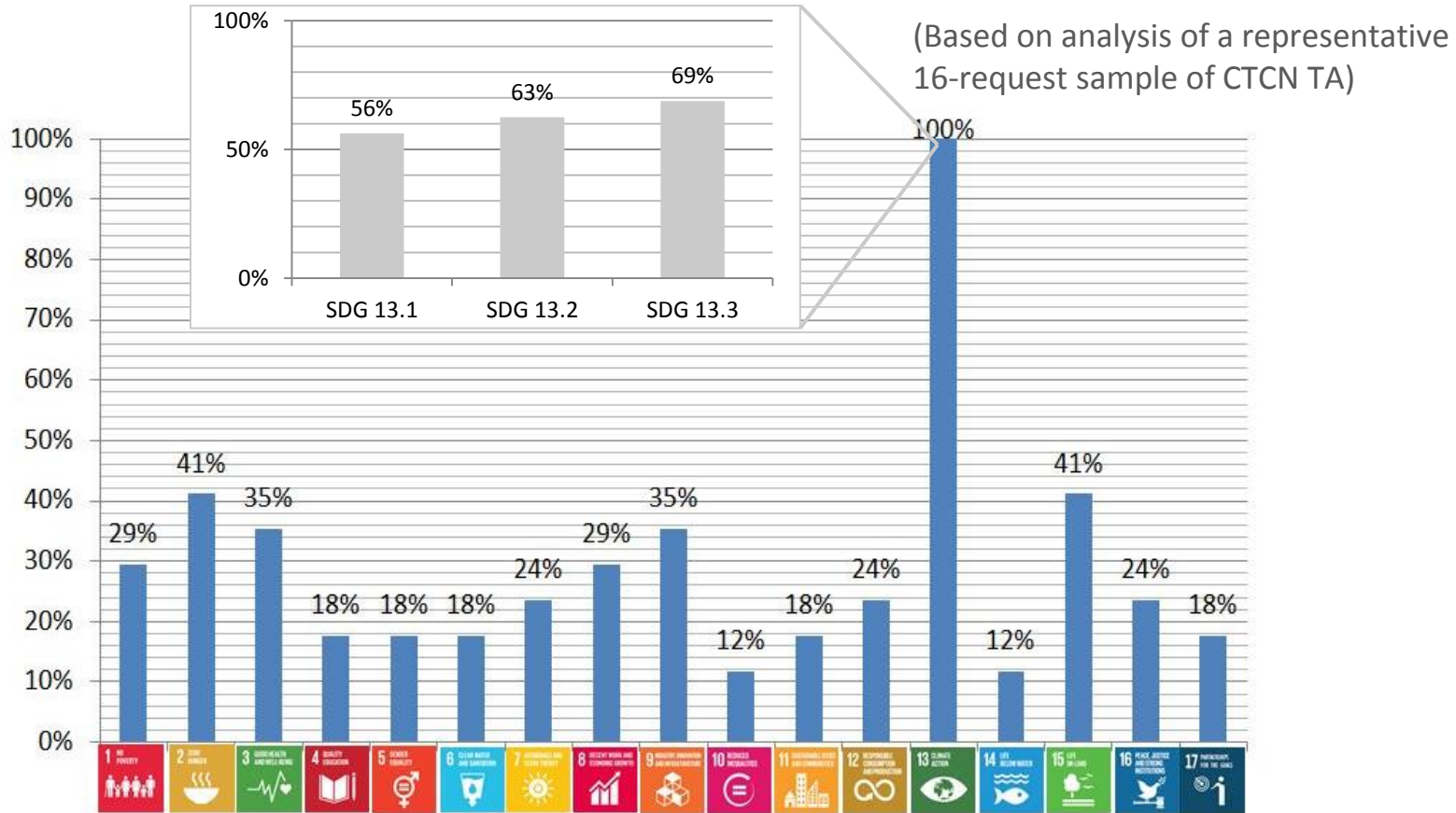


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Measuring TA impact by contribution to SDG



SDG 13: Take urgent action to combat climate change and its impacts

13.1 - Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries

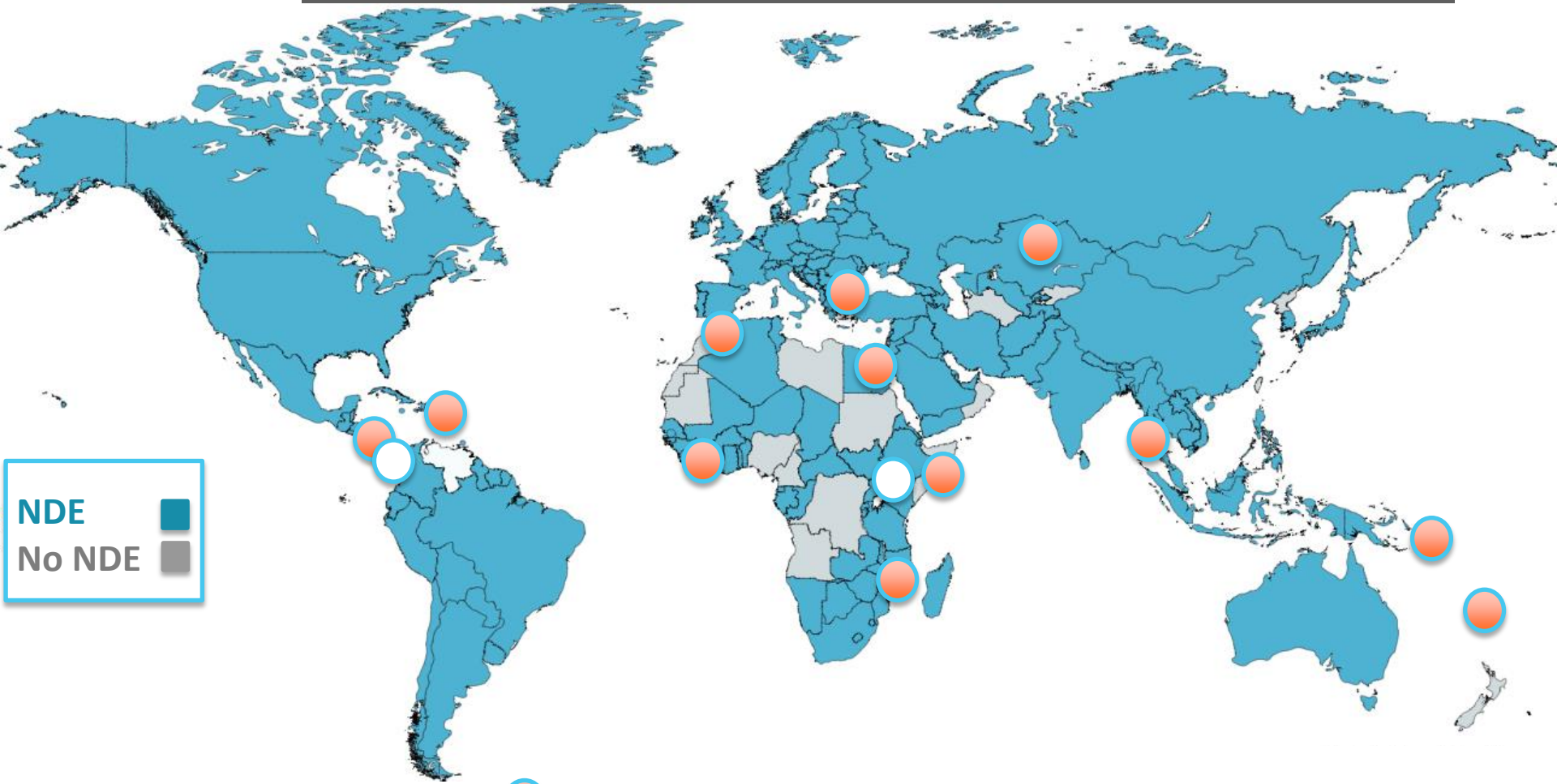
13.2 - Integrate climate change measures into national policies, strategies and planning

13.3 - Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning



CTCN activities build capacity:

- Empowering focal points at national level
- Sharing experience at regional level through network meetings
- Thematically focused learning
- LDC Incubator Programme
- Secondment Programme

Knowledge Sharing & Capacity Building

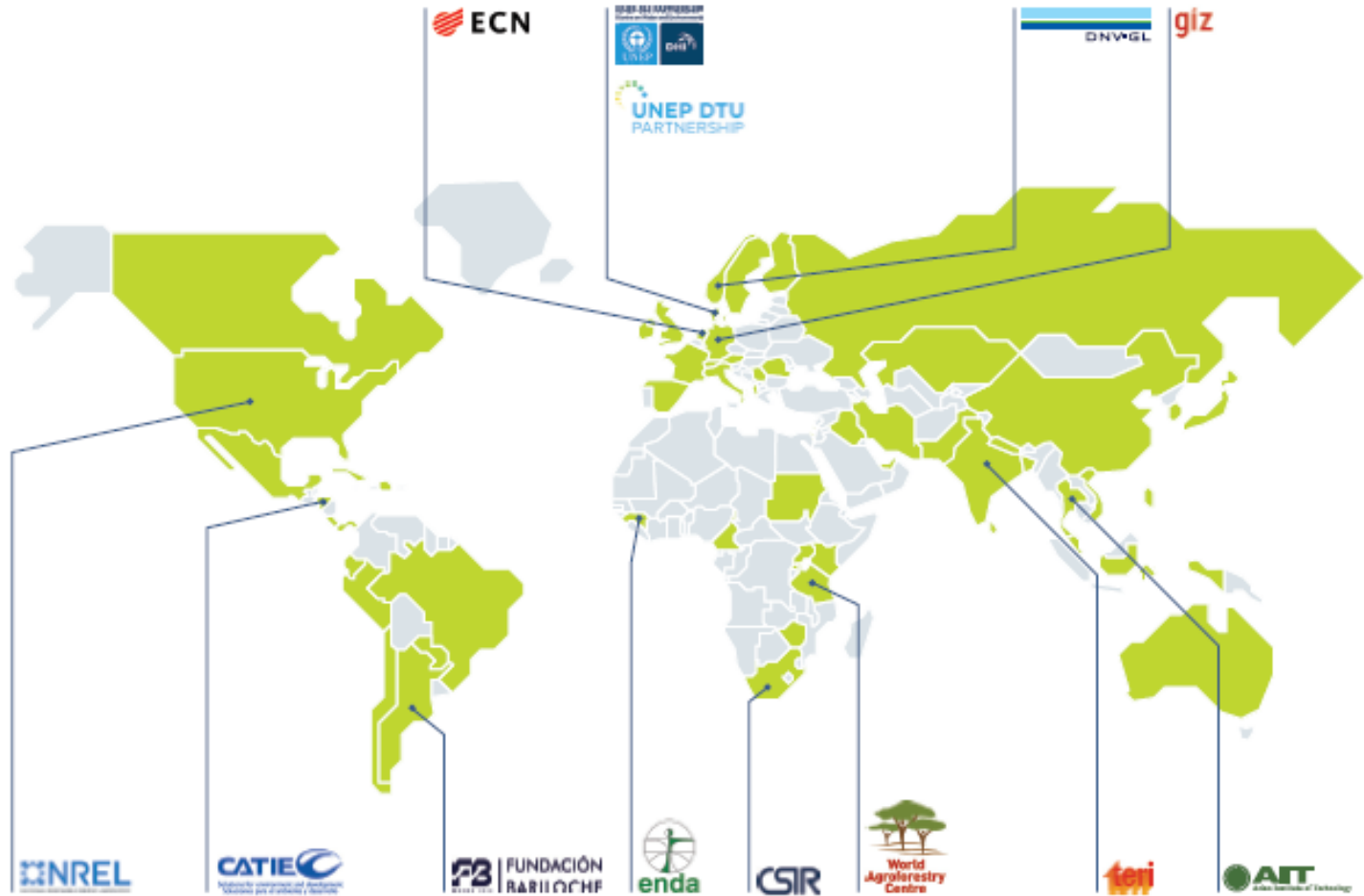


NDE 
No NDE 

 Regional fora
 Stakeholder fora



Global distribution of Consortium Partners; Network members in 50+ countries



● Network members are based in over 50 countries

CTCN Network draws from many different types of organizations



Carrying strong Paris mandate into COP22

- Focused on implementation + delivering value
- Technology Framework

Matching DC needs with private sector solutions

- Stakeholder Forums in priority sub-regions
- Engagement with Business Dialogues
- Stronger Developed Country NDE Engagement

Enhancing Linkages with the Financial Mechanism

- GEF Pilot Programmes
- GCF collaboration under Readiness & PPF

Thank you



CLIMATE TECHNOLOGY CENTRE & NETWORK



Norwegian Ministry
of Foreign Affairs



European
Commission

UDENRIGSMINISTERIET
DANIDA

Canada



METI
Ministry of Economy, Trade and Industry

 **環境省**
Ministry of the Environment


MINISTRY FOR FOREIGN
AFFAIRS OF FINLAND



Comhshaol, Pobal agus Rialtas Aitiúil
Environment, Community and Local Government

Governments of Switzerland
and Germany