

Climate Action Programme for the Chemical Industry - CAPCI

Background

Climate change is one of the most pressing challenges of our time. The Intergovernmental Panel on Climate Change (IPCC) states that without additional initiatives to reduce greenhouse gas (GHG) emissions, global warming is likely to exceed 2°C by the end of the 21st century. Achieving the objectives of the Paris Agreement and limiting global warming to 1,5°C or at least “well below 2°C” is a global challenge that requires long-term commitment and serious efforts by many different sectors.

The chemical industry sector is a major player in terms of industrial production and products for our daily life, but also for tackling climate change. The chemical and petrochemical industries account for around 10% of the world’s final energy demand and 8% of the GHG emissions (1). In 2005 the total GHG emissions of the chemical industry amounted to 2,092 million T CO_{2eq} and might more than double to 4,507 million T CO_{2eq} by 2030 (2). Beyond energy-intensive production processes, greenhouse gas emissions are linked with the entire lifecycle from raw material extraction to the use of chemical products. More than 90 percent of the manufacturing industry depends on products from chemical sector that can also provide a wide range of low-carbon solutions, e.g. materials needed for renewable energy and electro-mobility or alternatives for substances with high global warming potential (GWP). Within the chemical industry the need for reducing energy- und process-related GHG-emissions has been identified as a priority, and ambitious scenarios of a complete defossilization have been developed. They show that the respective pathways will require a high degree of innovation, e.g. Power-to-X (PtX) technologies, including hydrogen and carbon use (CCU), with a general orientation towards a circular economy (3).



Duration: March 2021 to February 2024

Budget: 2 Million Euro

Commissioned by: German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU)

Implemented by: Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)

Project Objectives

The CAPCI project aims to enable key actors in selected developing countries and emerging economies to identify and tap mitigation potentials in chemical production and associated value chains. To this end, the project will strengthen the capacities of key actors for effective climate protection in the chemical industry. For this purpose, the project aims to bring together stakeholders from the public and the private sector as well as from civil society and academia. The key partners include authorities such as the ministries of environment, that are generally responsible for climate and chemicals policies, as well as associations of the chemical industry in the partner countries. On international level, the UN Climate Secretariat with its Capacity Development Network (PCCB-Network) and the International Council of Chemical Associations (ICCA) are key partners of CAPCI.

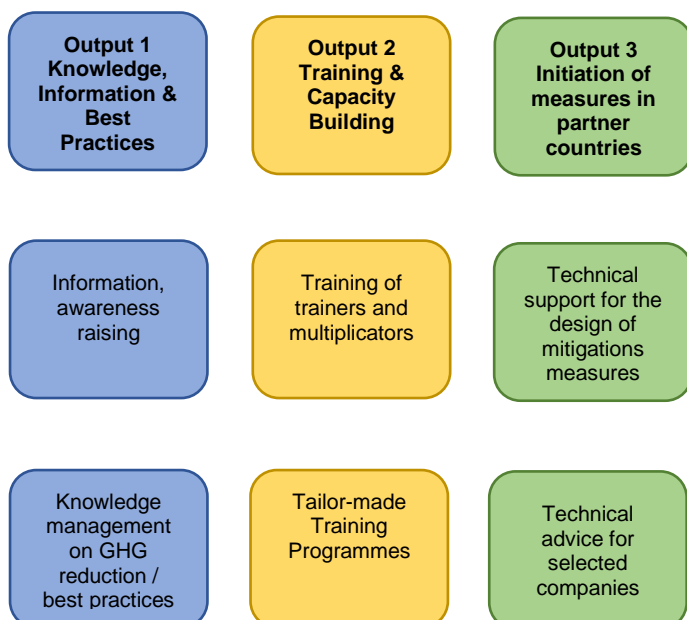
Regarding the technological options for GHG mitigation, CAPCI has a broad focus that includes energy supply and use, resource efficiency, life-cycle approaches, circular economy and options related with products as well as production. Information, capacity-building and targeted advice provided by the project are oriented at realistic and efficient pathways and solutions.

Project Approach

The conceptual approach involves information and dialogue workshops or webinars, targeted training programmes for know-how transfer and dissemination of good practices in the chemical industry. In addition, targeted advice will be provided in order to support the design of climate protection measures in the chemical industry.

Project Outcome: The capacities of key actors from the private and public sector in selected developing countries and emerging economies for designing and implementing effective measures for climate protection in the chemical sector are enhanced.

The activities of the project are assigned to three outputs:



Outlook

The project is mainly focused on information, capacity building and knowledge sharing for the mitigation of GHG in the chemical industry in developing countries and emerging economies. At the same time, these measures will be planned and executed with an action-oriented perspective. Networking and the exchange of experiences play a decisive role.

The CAPCI project is closely linked with the ISC₃ - International Sustainable Chemistry Collaborative Center (see: www.isc3.org). The mission of the ISC₃ is to shape the transformation of the chemical sector towards sustainable chemistry, thereby contributing to a more sustainable world and to a circular economy. Tackling climate change is a crucial area for a sustainable chemistry; hence CAPCI directly contributes to the ISC₃ mission.

Replicable best practices and know-how will be disseminated in close cooperation with relevant international organisations and cooperation projects that are also supported in the framework of the IKI, e.g. PROKLIMA (www.giz.de/proklima), the Nitric Acid Climate Action Group (www.nitricacidaction.org) or the International PtX Hub (<https://ptx-hub.org>)

Project measures like information and dialogue workshops and trainings are designed in close cooperation and according to the needs of partners in selected developing countries and emerging economies. This is a prerequisite for anchoring know-how as well as training and capacity building programmes within partner organizations in a sustainable manner.

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