



### ACTION AREA 1 Legal & regulatory framework

- Supports to the increased biomass FIT (approved March 2020)
- Biomass Energy Project Development Guidelines for Viet Nam (2021)
- Environmental and Social Impact Assessment Guidelines for a Biomass Power Project in Viet Nam (2022)
- Proposals for biogas incentives
- Policy dialogues with high-level Government agencies
- Assessment of biomass power potential for the draft National Power Development Plan for 2021 – 2030, with vision to 2050



### ACTION AREA 2 Capacity development

- Capacity enhancement for ~250 staff of financial institutions, public & private sectors
- Pre-feasibility studies in 5 potential biogas & biomass projects
- Criteria development catalogue for a loan application & concept of re-financing mechanism for bioenergy power projects
- International Biogas Symposium (2022)
- Study trip to South Korea (2023)



### ACTION AREA 3 Technology cooperation

- Lighthouse projects with private businesses to convert fossil-fuel boilers to biomass at their factories
- 20 B2B match-making events & technology exchange forums with more than 500 participants
- Studies on sub-sector analysis, grid balance, co-firing & potential South-South cooperation in bioenergy development for Viet Nam
- Expert Help Desk channel providing the private sector with bioenergy technical supports
- Calculation of GHG emissions reduction potential of pilot initiatives under BEM project.

## CLIMATE PROTECTION THROUGH SUSTAINABLE BIOENERGY MARKETS IN VIET NAM (BEM) PROJECT

Viet Nam has strong potential for bioenergy, including post-harvesting and post-processing agro-forest residues and waste such as bagasse, straw, rice husk and livestock waste for biogas.

Bioenergy is a proper solution to ensure energy security and minimise adverse impacts on the environment while the country is embarking on an energy transition journey, aiming to achieve net-zero emissions by 2050.

With a wish to promote this type of green energy, GIZ and the Electricity and Renewable Energy Authority of Viet Nam's Ministry of Industry and Trade jointly implemented the 'Climate Protection through Sustainable Bioenergy Markets in Viet Nam' (BEM) project from 2019 to 2023. BEM is funded by the German Federal Ministry for Economic Affairs and Climate Action (BMWK) through the International Climate Initiative (IKI).

The BEM project is organised with three main Action Areas:

- ◊ Legal and Regulatory Framework ◊
- ◊ Capacity Development ◊
- ◊ Technology Cooperation ◊

After four years of unremitting efforts, the project has recorded a number of successes, marking solid advances in promoting the development and application of bioenergy in Viet Nam.

## CLIMATE PROTECTION THROUGH SUSTAINABLE BIOENERGY MARKETS IN VIET NAM

A journey towards a green Viet Nam



## I - ACTION AREA 1: LEGAL FRAMEWORK



Evaluated **BIOMASS POWER POTENTIAL** for the development of the National Power Development Plan for the 2021 – 2030 period, with a vision to 2050

Assessed biomass power potential, contributing to the development of the National Power Development Plan for the 2021 – 2030 period, with a vision to 2050

Released the **BIOMASS ENERGY PROJECT DEVELOPMENT GUIDELINES FOR VIET NAM**

Published the **Bioenergy Energy Project Development Guidelines for Viet Nam** in 2021, detailing the entire process, from project development and implementation to operation and decommissioning biomass power projects in Viet Nam to assist investors in navigating the relevant regulations pertaining to bioenergy projects in the country

Developed a proposal for a **SUPPORT MECHANISM FOR BIOGAS PROJECTS**

Proposed a **support mechanism for biogas projects** in consultation with international and national experts

Hosted high level **POLICY DIALOGUES**

Organised five **policy dialogues** with high-level Government agencies on opening up opportunities for bioenergy deployment in Viet Nam

Supported **AMENDMENTS TO THE BIOMASS FIT**, issued in March 2020

The amendments included the increase of the new FIT to 1,634VND/kWh (equivalent to 7.03 US cents/kWh) for combined heat and power (CHP) projects and 1,968 VND/kWh (equivalent to 8.47 US cents/kWh) for other non-CHP projects, aiming to elevate the biomass heat and power generation



Completed **ENVIRONMENTAL & SOCIAL IMPACT ASSESSMENT GUIDELINES FOR A BIOMASS POWER PROJECTS IN VIET NAM**

Completed the **Environmental and Social Impact Assessment (ESIA) Guidelines for a Biomass Power Project** in Viet Nam in 2022, which have been developed to adhere to the analysis and evaluation framework set by international financial institutions, and encompass specific instruction sheets

## II - ACTION AREA 2: CAPACITY BUILDING

**CAPACITY DEVELOPMENT FOR NEARLY 250 PARTICIPANTS**, including government officials, project developers, investors and staff of financial institutions (virtually and in-person)

- ▶ **100 government officials** were equipped with essential knowledge about bioenergy projects, including the approval process and project implementation
- ▶ **50 engineers, consultants, project developers/investors** were trained on technical assessment and opportunities to develop the bioenergy market in Viet Nam
- ▶ **50 engineers and project developers and investors** were trained on pre-feasibility studies of biogas projects in livestock and cassava starch processing sectors
- ▶ **50 staffs of financial institutions and banks** underwent training that emphasised economic opportunities and development potential of bioenergy market in Viet Nam

Implemented **PRE-FEASIBILITY STUDIES FOR 5 POTENTIAL BIOENERGY PROJECTS** utilising biogas for power and biomass for electricity and heat generation. Three of them are ready to invest and have found suitable equipment suppliers.

Collaborated with several local financial institutions to create **A CRITERIA CATALOGUE FOR A LOAN APPLICATION FOR BIOENERGY PROJECTS**, and developed a concept for a re-financing mechanism through international resources

### INTERNATIONAL BIOGAS SYMPOSIUM

Hosted the 'Biogas development in Viet Nam in the light of COP26: Potential and challenges' symposium in Hanoi in October 2022, which welcome more than 120 participants. The conference focused on a range of topics, highlighting the potential and challenges in developing biogas resources on medium and large scales in Viet Nam and international experience in applying biogas technologies for large-scale power generation.

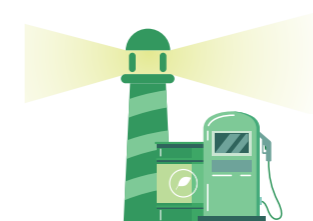
Exceptional university and high school students were honoured for their scientific research initiatives on biogas technology applications.

### STUDY TRIP TO SOUTH KOREA

Organised a study trip to South Korea to facilitate the exchange of international experience on bioenergy development in March 2023. The Vietnamese delegation, which comprised of representatives from relevant governmental ministries, provincial agencies, and financial institutions, engaged in meetings and discussions with their South Korea's counterparts, delving into Korea's energy transition process.

The trip also linked a Korean biomass energy development corporation with Hau Giang province and successfully connected with Viet Nam's Ministry of Agriculture, and Rural Development to receive a project combining agriculture and solar power for rural areas.

## III - ACTION AREA 3: TECHNOLOGY COOPERATION



### LIGHTHOUSE PROJECTS

Cooperated with businesses, such as Sanofi Viet Nam & Decathlon Viet Nam, to implement Lighthouse projects on converting fossil fuels to using biomass for their industrial factories



### MATCH-MAKING EVENTS

Organised nearly 20 business networking events and technical and technology exchange forums between suppliers and users related to bioenergy, both in-person and online, attracting the participation of more than 500 delegates.



### RESEARCH ON BIOENERGY POWER

Conducted 6 studies on potential of industries for bioenergy development (or sub-sector analysis), the role of bioenergy for grid balance, co-firing at coal-fired power plants in Viet Nam, potential of South-South cooperation in bioenergy development, and new technological solutions for bioenergy



### EXPERT HELP DESK

Established an Expert Help Desk channel to provide exceptional support to the private sector in Viet Nam's bioenergy sector, connecting them with local and international experts for the sustainable development of the country's bioenergy market



### CALCULATION OF GHG EMISSIONS

Calculated greenhouse gas emissions of pilot projects within the project's framework to measure its impact on the reduction of greenhouse gas emissions.