

Methodology

The MRV system involves a range of different actors, consists of multiple components and is based on a number of legal requirements. To implement it properly, a stepwise approach has been used in order to ensure flexibility in the design and to include the actors' interests and learning experiences.

The graphic below illustrates the main steps taken when implementing the MRV system in Turkey. Further and more detailed information can be found under www.carbon-turkey.org

Step 1 Analyzing Regulation

Analyzing the regulations has been the first step of the methodology. As the regulation constitutes the main source of the MRV, analyzing it has been crucial in order to develop next steps of the project.

Step 2 Defining Requirements

Needs of the regulations have been defined. Both DMS, training materials and guidelines had to fulfill the legal and regulatory requirements.

Step 3 Defining Actors

Different training modules and guidelines have been developed for the different actors. Additionally, it has been taken into consideration that the DMS covers all actors.

Step 4 Defining Needs

DMS and trainings have been developed in accordance with the needs of the actors.

Step 5 Piloting the DMS

The DMS has been tested in-field for different sectors, so possible malfunctioning of it could be detected and corrected before actual use.



On behalf of:
Federal Ministry
for the Environment, Nature Conservation,
Building and Nuclear Safety



of the Federal Republic of Germany

This project is part of the International Climate Initiative (IKI), The German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB) supports this initiative on the basis of a decision adopted by the German Bundestag



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Ministry of Environment and Urbanisation of Republic of Turkey
General Directorate of Environmental Management
Department of Climate Change

www.csb.gov.tr
www.iklim.gov.tr

For more information you can find the detailed brochure
"MRV in Practice" under www.carbon-turkey.org

MRV IN PRACTICE

EXPERIENCE IN TURKEY WITH DESIGNING AND IMPLEMENTING A SYSTEM FOR MONITORING, REPORTING AND VERIFICATION (MRV) OF GHG EMISSIONS



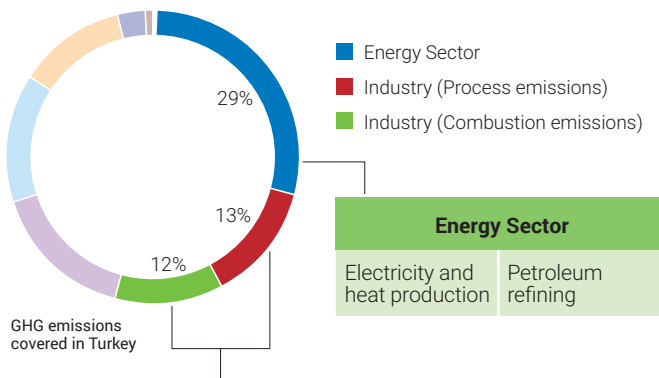
CAPACITY DEVELOPMENT PROJECT
FOR THE IMPLEMENTATION OF AN
MRV SYSTEM FOR GREENHOUSE GAS
EMISSIONS IN TURKEY

Regulatory MRV framework in Turkey

The project aims to establish an MRV system in Turkey. Since the regulatory framework had already been published with the start of the project, it created a strong base to develop its main outcome: the MRV Data Management System.

Turkey has adopted Monitoring and Reporting Regulation (EU MRR) on the 17th of May, 2014 and has built its own regulatory framework upon it.

With the regulatory framework, MRV has become mandatory to the installations above certain thresholds defined in the regulation. When Turkey's emission profile is analyzed, more than 50% of the emissions are covered by the current MRV scope.



Energy Sector	
Electricity and heat production	Petroleum refining

Industry (Combustion + Process)			
Production/Processing of			
Coke	Metal ore	Pig iron & steel	Primary & Secondary Aluminium
Non-ferrous metals	Cement clinker	Lime	Glass
Ceramics, tiles, bricks	Mineral wool	Gypsum	Pulp, paper, cardboard
Carbon black	Nitric acid, adipic acid, glyoxal acid, ammonia and bulk chemicals	H ₂ and synthesis gas	Soda ash (Na ₂ CO ₃) and sodium bicarbonate (NaHCO ₃)

MRV with numbers

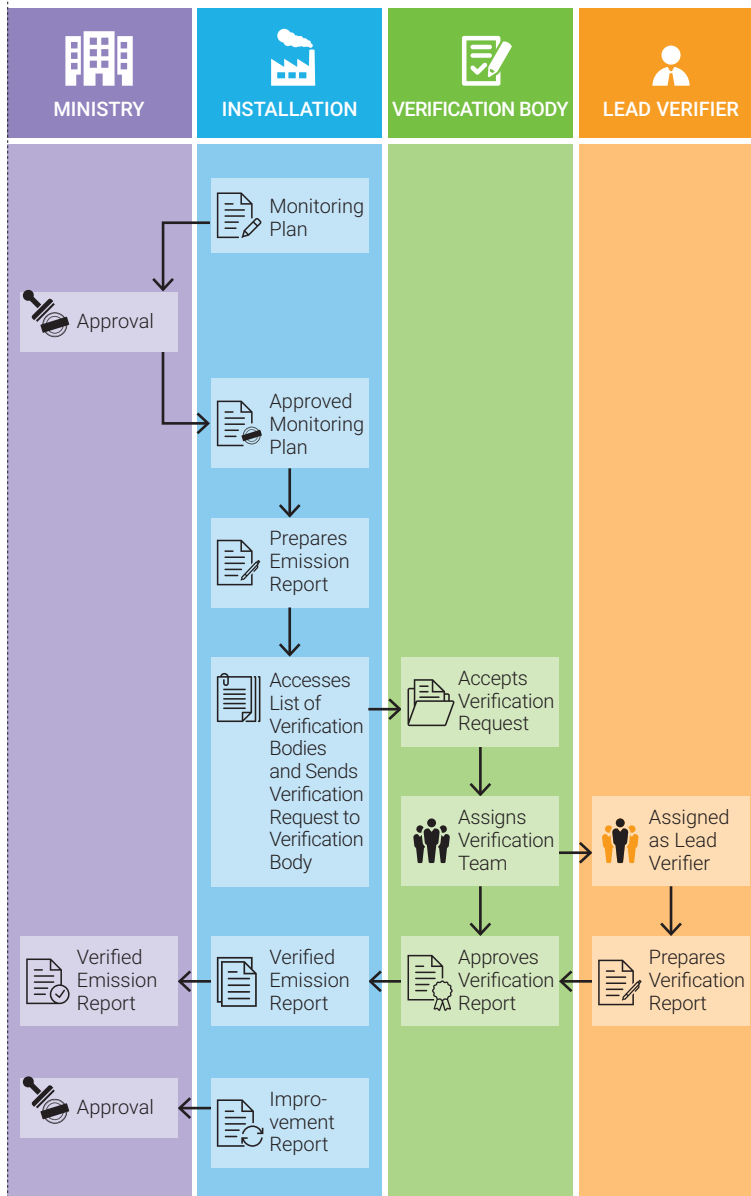
>700 installations
16 verification companies
95 lead verifiers, 54 verifiers

MRV coverage

>250 Mt CO₂ eq. (>50%)
CO₂, N₂O, PFC
Energy sector, Industry

Data Management System Architecture

A tailor-made, online MRV Data Management System with a user friendly interface has been developed. It has been designed in a way which ensured that all different actors had a clear role in the functioning MRV system in Turkey.



Capacity Building

In order to support the efficient implementation of the MRV system, the following specific trainings for all actors have been conducted and the guidelines listed below introduced.

Trainings

Target group	Training content
MoEU experts	Aspects of the MRV, sectors and DMS
Local MoEU experts	General aspects of the MRV
Operators	Details of the MRV, via sector-specific training events
Verifiers	Aspects of the MRV and principals of the verification
National Accreditation Body	Principals of verification and site visit

Guidelines

- Monitoring Plan Guideline
- Annual Emission Reporting Guideline
- Verification Guideline
- Sectoral Calculation Examples
- Monitoring and Reporting Online System Manual

Achievements at a Glance

- ✓ MRV capacity development for ~1.000 individuals, including civil servants, installation operators and associations
- ✓ Turkey specific MRV guidelines
- ✓ Turkey and sector specific training modules
- ✓ Turkey specific DMS
- ✓ Experts of MoEU can analyze the MRV data easily with the DMS
- ✓ MRV-DMS system delivers reliable data and precise information for decision makers
- ✓ MRV-DMS system provides a solid foundation for future mitigation measures
- ✓ Long-term institutionalization of capacity building through a sustainable Training Center