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National Programme for Turkey 2013 –
Instrument for Pre-Accession Assistance

Technical Assistance for Developed Analytical Basis for Formulating Strategies and Actions Towards Low Carbon Development

Project Identification No: EuropeAid/136032/IH/SER/TR

Contract No: TR2013/0327.05.01-01/001

Component 3 – Briefing on Consultation Meeting with Buildings Sector's Stakeholders

Ankara 2018



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Abbreviations

LCDTR	Technical Assistance for Developed Analytical Basis for Formulating Strategies and Actions Towards Low Carbon Development
MoEU	Ministry of Environment and Urbanization (Beneficiary)
TAT	Technical Assistance Team



1. Summary of the Meeting

Project Name	Technical Assistance for Developed Analytical Basis for Formulating Strategies and Actions Towards Low Carbon Development	
Project No	TR2013/0327.05.01-01/001	
Date	05.11.2018, 14:30	
Location	MoEU 5 th Floor Meeting Room, Ankara, Turkey	
Name of the Meeting	Consultation Meeting with the Buildings Sector	
Participants	Ministry of Environment and Urbanization (MoEU)	Bülent YALAZI – Deputy Unit Manager. Yeliz TANIŞ – Electrical and Electronic Engineer Yıldız Ağaya ÇAĞAN – Architecture Şeyma MANAP – Urban Planner Dilek Dizili – Architecture Selma TOSUN – Deputy Unit Manager Volkan POLAT –Expert
	Technical Assistance Team (TAT)	Mykola RAPTSUN – Team Leader Aynur TOKEL – Senior Statistical, Data and Sector Liaison Expert Erdoğan ERSOY – Project Expert Teksin ÖZTEKİN – Project Interpreter
	Project Sectoral Expert(s)	Özge YILMAZ – Senior Expert- Buildings Sector Gülfem İNANER – Senior Expert- Buildings Sector

2. Agenda

- Opening speech
- Briefing on the project progress
- Briefing on component 3
- Data needs in component 3
- Discussion and evaluation of GHG mitigation actions and data needs
- Identification of participants for Working Group 3 and 4

Project Team Leader, Mr. Rapsun commenced the meeting and thanked all participants for their participation. Mr. Mykola Rapsun to give information on project progress and Component 3.

- Overall objective and purpose of the project
- Stakeholders and target groups
- Project consortium
- Expected results
- Identification of GHG mitigation actions
- Suggested actions for building sector within component 3

Following to Mr. Rapsun's presentation, senior expert Mrs. Tokel took the floor to inform participants regarding the needed data on assessment of potential GHG mitigation actions and cost for transport sector.

Please see ANNEX for detailed presentation.

Following the presentation, comments and suggestions of the participants were received. Mr. Bülent Yalazı stated that many assumptions are needed in order to determine GHG mitigation potential and said that they can share their assumptions used in their studies. He also indicated that traffic, waste and many other factors should be taken into account. He underlined that they have developed a model within the project but not implemented yet. He stated that cooling & heating systems, carbon capture, material use are covered in the model.

Selma Tosun, representative from Directorate General of Spatial Planning, indicated the need of household projections as well. She underlined that the architectural features affect cooling and heating systems.

Mrs. Yeliz Tanış, the representative from Directorate General of Vocational Services, underlined that all new buildings have energy IDs, yet this procedure has been postponed to 2020 for old buildings. She indicated that according to building typology based on the province, the unit may share the current information on BEPTR. She



stated that a total of 800 thousand buildings are registered and 655 thousand of them are consisted of new buildings.

Senior building sector expert Mrs. Gülfem Inaner made a presentation on energy simulation of a building in Gaziantep. She indicated that it is possible to obtain the energy consumption of a building by using hourly energy simulation and indicated that the modelling was done in terms of insolation using TS825. Mrs. Inaner underlined the importance of m2 information for all building types and emphasized that the assumptions will be used if no data is existed.

No amendment was requested for the suggested mitigation actions

Mr. Rapsun thanked all participants for their participation and contribution and closed the meeting.



ANNEX
Presentation(s)



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Technical Assistance for Developed Analytical Basis for
Formulating Strategies and Actions towards
Low Carbon Development



LCDTR - introduction to the Project and Component 3

Dr. Mykola Raptsun
Team Leader

November 2018, Ankara



REPUBLIC OF TURKEY
MINISTRY OF ENVIRONMENT
AND URBANISATION

Project's Overall Objective and Purpose

Project title: *Technical Assistance for Developed Analytical Basis for Formulating Strategies and Actions towards Low Carbon Development*

This project is co-financed by the European Union and the Republic of Turkey

Overall objective: To reduce anthropogenic GHG emissions to contribute to the global efforts to mitigate climate change in line with the scientific evidence

Purpose: To increase national and local capacity to prepare for medium and long term climate action towards climate resilient low-carbon development, which will gradually align with EU climate policy and legislation by providing an analytical basis to support realisation of low carbon in the long-term, specifically focusing on cost-effective climate change mitigation actions related to building, waste, transportation and agriculture sectors of the National Climate Change Action Plan (NCCAP)

Period of implementation: 36 months (June 2017 – May 2020)

Project Stakeholders and Target Groups

- **Ministry of Environment and Urbanisation –Beneficiary**
 - **Central Finance and Contracts Unit (CFCU) - Contracting Authority**
 - **Ministry of Energy and Natural Resources**
 - **Ministry of Agriculture and Forestry**
 - **Ministry of Transportation and Infrastructure**
 - **Ministry of Foreign Affairs**
 - **Coordination Board on Climate Change and Air Management**
 - **Turkish Statistical Institute**
 - **Local level governmental institutions**
 - **NGOs and private sector - with focus on the key sectors of buildings, transport, waste and agriculture**
-

Project Consortium



Consortium Leader - Human Dynamics, is a leading provider of premium public sector consulting services

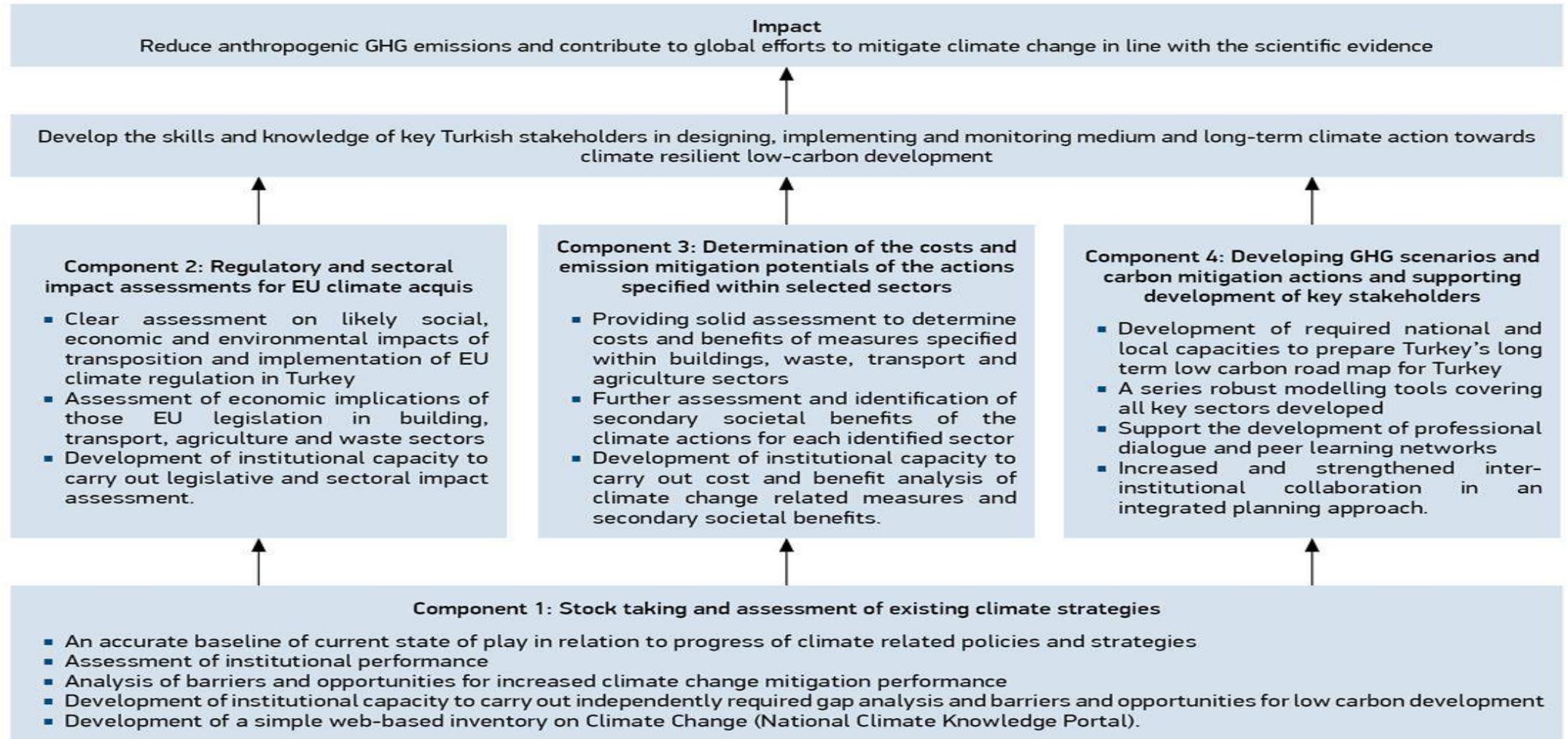


The Regional Environmental Centre for Central and Eastern Europe (REC) is an international organisation with a mission to assist in addressing environmental issues



Agriconsulting Europe S.A. (AESA), is a leading international development consulting firm that has been in operation since 1994.

Expected results



Component 1: *Stock taking and assessment of existing climate strategies (1)*

ACTIVITY, REPORT	CONTENT
<p>Activity 1.1.1 Review and analysis of the status of the climate related strategies policies, plans, and legislation (Status Report, 105 p.)</p>	<ul style="list-style-type: none"> ▪ Introduction ▪ GHG Emission for Turkey: Trends and Projections ▪ Setting Macroeconomic Outlook for Predefined Term (2053) ▪ Review of Existing Turkish Legal and Political Framework on Climate Action and Low Carbon Development ▪ Conclusions, Recommendations and Inputs for Further Analysis
<p>Activity 1.1.2 Identification of the sectoral development policies intended to meet the GHG emissions reduction targets (Demand Status Report, 91 p.)</p>	<ul style="list-style-type: none"> ▪ Introduction ▪ Development Policies and GHG Emission Reduction Targets in Buildings Sector ▪ Development Policies and GHG Emission Reduction Targets in Waste Sector ▪ Development Policies and GHG Emission Reduction Targets in Transportation Sector ▪ Development Policies and GHG Emission Reduction Targets in Agriculture Sector ▪ Conclusions and Recommendations
<p>Activity 1.2 Legislative and institutional gap analysis to improve low carbon development and climate change mitigation performance (Gap Analysis Report, 133 p.)</p>	<ul style="list-style-type: none"> ▪ Introduction ▪ Legal Framework for Low Carbon Development ▪ Political and Legislative Gap Analysis ▪ Governance and Institutional Framework for Low Carbon Development ▪ Conclusions and Recommendations

Component 1: *Stock taking and assessment of existing climate strategies (2)*

<p>Activity 1.3 Identification and analysis of the political, financial, institutional and technological barriers and opportunities for low carbon development (Barriers and Opportunities Report, 143 p.)</p>	<ul style="list-style-type: none">▪ Introduction▪ Analysis of Cross-cutting Barriers and Opportunities in Turkey▪ Analysis of Barriers and Opportunities in Buildings Sector▪ Analysis of Barriers and Opportunities in Waste Sector▪ Analysis of Barriers and Opportunities in Transportation Sector▪ Analysis of Barriers and Opportunities in Agriculture Sector▪ Conclusions and Recommendations
<p>Activity 1.1-1.3 Four summarised and collated reports (Consolidated Baseline Report, 161 p.)</p>	<ul style="list-style-type: none">▪ Executive Summary▪ Introduction▪ Status Report – Review of Existing Strategies Related to Climate Change▪ Demand Status Report - Review of the Sectoral Development Objectives and Policies in Relation to GHG Emission Reduction Commitments for Agriculture, Buildings, Transport, and Waste Sectors▪ Gap Analysis Report – Identification and Assessment of the Political, Legislative, Institutional and Governance Gaps towards LCD▪ Barriers and Opportunities Report – Identifying and Analysing the Problems, Lock-ins and Solutions towards LCD▪ Conclusion

The reports can be downloaded from the project's website:
<http://www.lowcarbonturkey.org/technical-reports/>

Component 2: *Regulatory and sectoral impact assessments for EU climate acquis*

2.1 Four Regulatory Impact Assessment Reports (RIAs) for the EU climate acquis (Emission Trading, Effort Sharing Decision, Carbon Capture and Storage, and Fuel Quality Directives) to be transposed into the national legislation. Assessments will identify and describe the problems to be addressed, establish objectives, formulate policy options and assess the impacts of this options

2.2 Sectoral Impact Assessment Reports (Building, Transport, Waste and Agriculture) – to analyse positive and negative impacts of the EU climate acquis on sectoral competitiveness, access to markets, public procurement, etc.

Component 3: Determination of the costs and emission mitigation potentials of the actions specified within the buildings, waste, transport and agriculture sectors of the NCCAP and other policy documents

3.1 Assess the GHG emission mitigation potentials of at least ten actions in the focus sectors (buildings, waste, transport and agriculture) of the project

3.2 Assess the financial costs and benefits of the actions analysed in activity 3.1

3.3 Identify and analyse other potential positive and negative non-financial societal gains and losses of the analysed mitigation actions

Component 4: *Developing GHG scenarios and carbon mitigation actions and supporting development of key stakeholders*

4.1 Carry out GHG scenario modelling for focus sectors of the project

4.2 Identify carbon mitigation activities entailing significant benefits to Turkey with a perspective to reconcile climate, growth, and energy security in the selected sectors

4.3 Capacity building for key stakeholders (training, coaching and mentoring services, study visits)

Strategic principles of the Project implementation

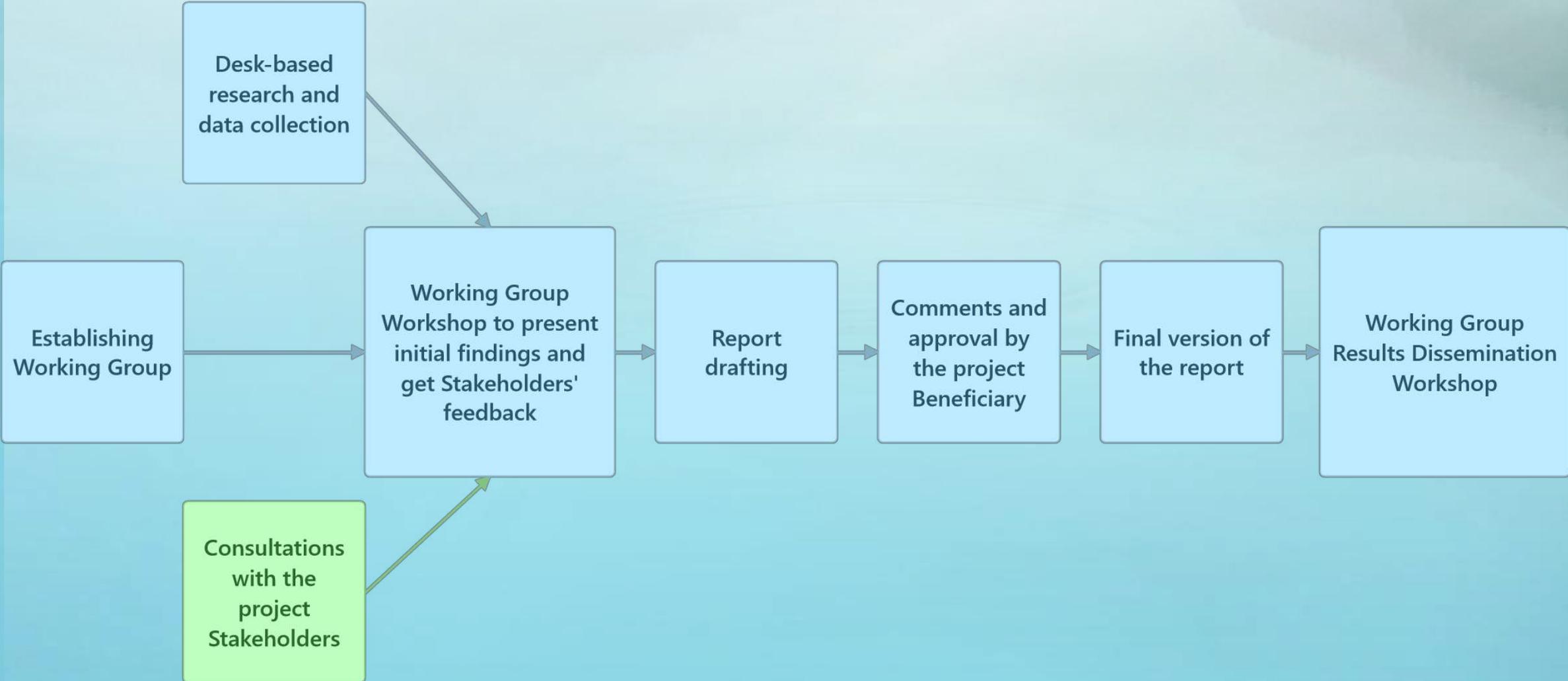
Principle 1: Results-orientated, solution-driven approach

Principle 2: Promoting dialogue and collaboration with relevant stakeholders from the public, private and non-governmental sector

Principle 3: Deep understanding of the sectoral and local situation

Principle 4: Prioritizing capacity development

Participatory approach to policy & strategy analysis



Component 3: identification and selection of the actions for GHG mitigation potentials and costs assessment

Phase
1

- Preliminary sectoral GHG mitigation actions screening and evaluation

Phase
2

- Consultations with the project stakeholders

Phase
3

- Selection of the actions (at least 10) for GHG mitigation potentials and costs assessment

Criteria for GHG mitigation actions selection

- Belong to four project target sectors - transport, buildings, agriculture and waste
- Included in NCCAP and/or other governmental strategic documents
- Cost effectiveness
- High potential for GHG emission reduction
- Other non-financial societal criteria – social, economic, environmental, etc.

Sectoral GHG emissions in 1990 and 2016

Sector	GHG Emissions (kt CO ₂ -eq)		GHG Emissions in total (%)	
	1990	2016	1990	2016
Transport Sector	26968.90	81841.20	12.8	16.5
Buildings Sector	27215.06	56837.30	12.9	11.5
Agriculture Sector	42402.30	56485.70	20.1	11.4
Waste Sector	11090.59	16181.19	5.3	3.3
Total for 4 Sectors	107676.85	211345.39	51.1	42.6

Buildings sector: actions suggested based on preliminary screening

Suggested actions for Buildings sector	Selection Criteria		
	Including in National Climate Change Action Plan (NCCAP)	Cost Effectiveness* (EUR/tCO ₂)	Mitigation Potential* (MtCO ₂)
Increasing usage rate of energy efficient appliances in buildings (higher than A+)	√	-205	0.9
Improving energy performance of existing buildings(improved insulation and energy-efficient windows)	√	-152 to -157	4.5 to 11.2
Energy efficient buildings - heating and cooling system	√	-300** (for cooling) -42 to -106 (for heating)	1.0 (for cooling) 1.2 to 6.9 (for heating)
Dissemination of green building, passive building and nearly zero energy building applications	√	?	?
Fuel shifting in buildings from high emission intensity to low (renewable energy)	√	?	?
Increasing usage rate of LED lighting system in buildings	√	-300	1.0

* Abatement cost and potential values are taken from, “The Demand for GHG emissions Reductions: An investors’ MACC for Turkey, prepared for EBRD” report as reference.

Data Needs-General Information

Data needs

Possible data source

- Population, population growth rate

TurkStat

- GDP, GDP growth rate

Directorate of Strategy
and Budget ?,
TurkStat

- Sectoral growth rate

?

- Complete Energy balance table
- Sectoral Energy Consumption
- Fuel prices and projections

Ministry of Energy and
Natural Resources
(MENR)

Data Needs-Building Sector

Data needs	Possible data source
Current building stock specifications; number of dwelling, household per dwelling, insulation status, future building stocks expectations etc.	TurkStat
Commercial building specifications	TurkStat
Political baseline projections (coal, natural gas, cogeneration, solar penetration etc.)	Ministry of Energy and Natural Resources (MENR)
Building directives and their corresponding energy consumptions etc.	MENR Ministry of Environment and Urbanisation
Demands (water heating, space heating, refrigeration etc.)	?

GHG mitigation scenario development frameworks

- “No regrets”/”win-win” scenarios (cost-effective actions only)
 - Limited costs scenarios - actions up to a certain cost per unit of emissions reduction
 - Emission reduction target based scenarios (including INDC, NCCAP, and others)
 - Mitigation relative to the baseline,
 - Mitigation relative to emissions in some historical year,
 - Mitigation relative to some indicator such as CO₂/capita or CO₂/\$
 - Scenarios which include specific measures or technologies selected because of their perceived economic, social , and technical feasibility.
-

LCDTR – expected impacts in Turkey

Implementation of the LCDTR's capacity building activities will facilitate:

- Harmonization to EU climate change legislation (EU climate acquis) and Complying with UN Sustainable Development Goals
- Reduction of environmental pollution from using fossil fuels (CO₂ co-pollutants - sulfur dioxide (SO₂) and nitrogen oxides (NO_x))
- Attraction of investments in energy efficiency and renewable energy
- Support of jobs growth in hi-tech industries (photovoltaics, high capacity batteries, smart grid technologies, etc.)
- Decrease of country's dependency on fossil fuel import (net import in 2015 was 103.6 Mtoe and total energy supply - 128.8 Mtoe (IEA))



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Thank you for your attention!

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