



SECOND NATIONAL COMMUNICATION OF TURKEY

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**Ministry of Environment and Urbanization
Climate Change Department**

December 7, 2011

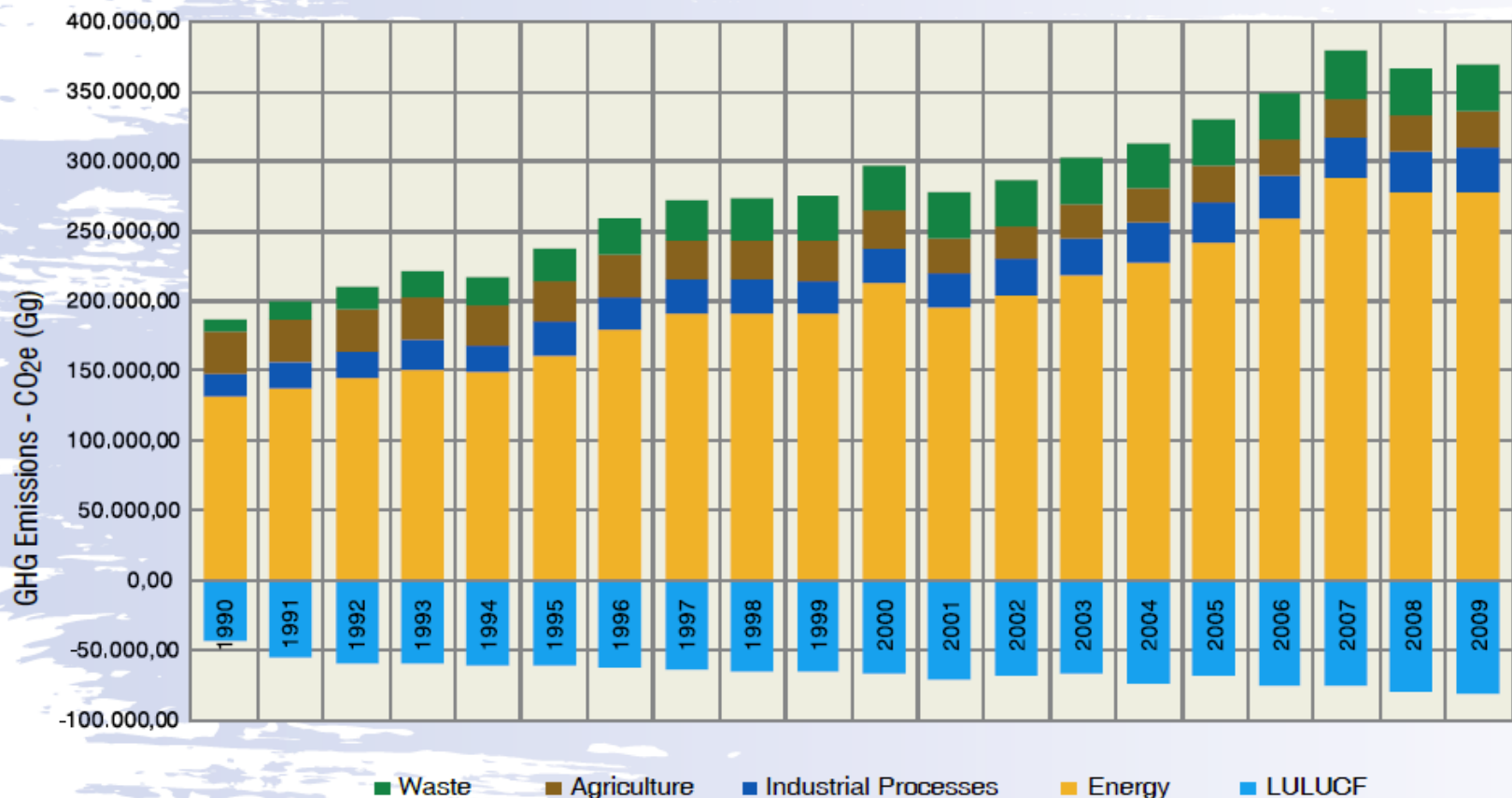
National Circumstances

- Indicators for years 1990 and 2008

INDICATORS		1990	2008	1990-2008 (% Change)
SOCIO-ECONOMIC	GDP (PPP)* (<i>billion 2000 US\$</i>)	306.90	831.16	170.82
	Population (<i>million people</i>)	56.20	71.08	26.48
	Per capita GDP (PPP) (<i>2000 US\$/person</i>)	5,466.00	11,693.00	113.92
ENERGY	Total Primary Energy Supply (<i>MTOE</i>)	53.00	98.50	85.85
	Total Electricity Generation (<i>billion kWh</i>)	57.50	198.40	245.04
	Per Capita Primary Energy Supply (<i>TOE/person</i>)	0.94	1.39	47.87
	Per Capita Electricity Generation (<i>kWh/person</i>)	1,020.00	2,791.00	173.63
	Per Capita Electricity Consumption (<i>kWh/person</i>)	1,024.00	2,400.00	134.38
	Energy Intensity of Economy (<i>TOE/thousand 2000 US\$-PPP</i>)	0.17	0.12	-29.41

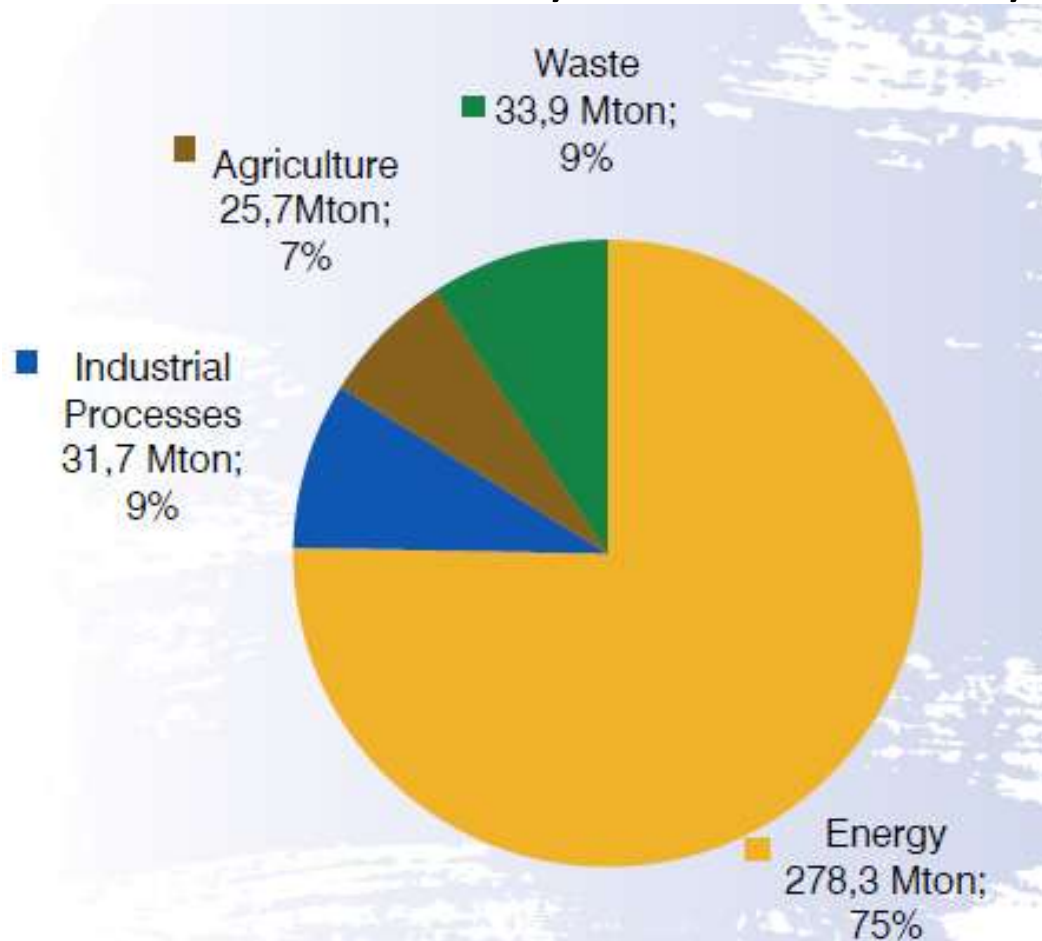
TURKEY'S GREENHOUSE GAS INVENTORY

- GHG Emissions between years 1990-2009



TURKEY'S GREENHOUSE GAS INVENTORY

- Sectoral breakdown of Turkey's emissions for year 2009



Source: Turkish Statistical Institute, 2011

POLICY MAKING PROCESS

- Coordination Board on Climate Change (CBCC)

**Ministry of Environment and
Urbanization (MoEU)
(Chair)**

Ministry of Development

**Ministry of Energy and Natural
Resources (MENR)**

**Ministry of Science, Technology
and Commerce**

**Ministry of Maritime,
Transportation and
Communication**

**Ministry of Forestry
And Water Works**

Ministry of Foreign Affairs

Undersecretary of Treasury

Ministry of Finance

Ministry of Health

**Ministry of Food, Agriculture and
Livestock**

**Union of Chambers and
Commodity Exchanges of Turkey**

**Turkish Industry and Business
Association**

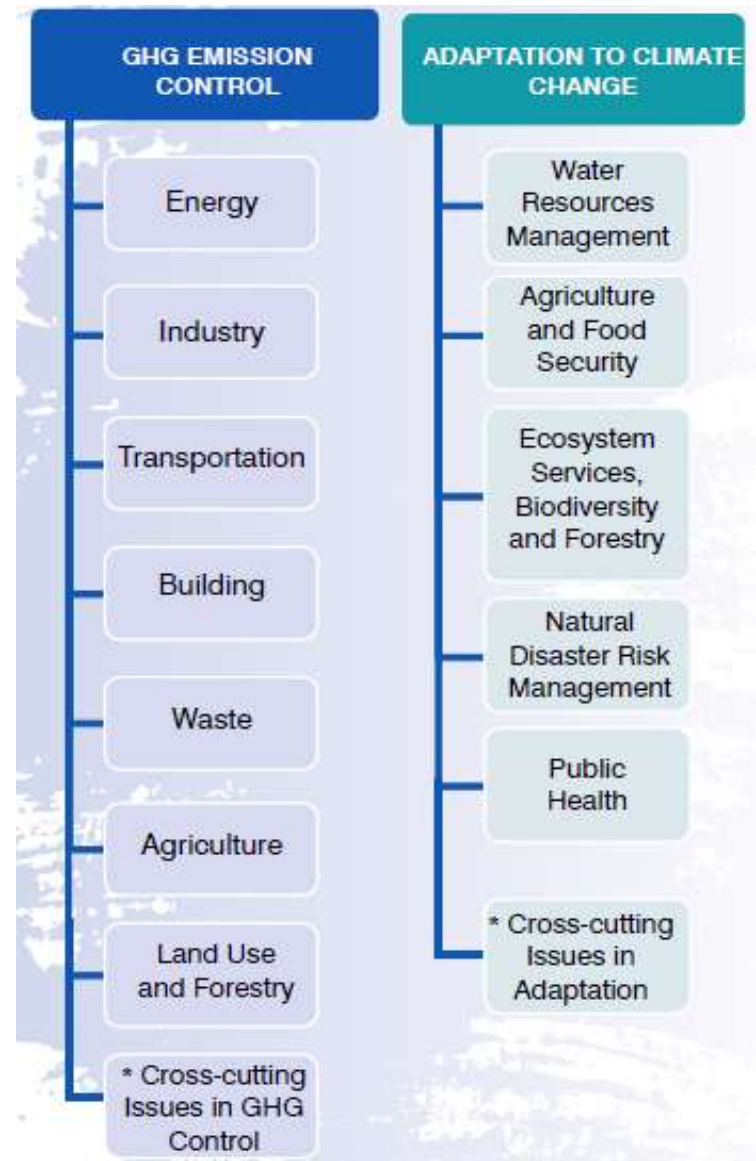
TURKEY' S CLIMATE CHANGE POLICY

- **National Climate Change Strategy, 2010-2020**
- **National Climate Change Action Plan**



NATIONAL CLIMATE CHANGE ACTION PLAN

- NCCAP has been prepared by a **participatory approach** within the coordination of Ministry of Environment and Urbanization during 2009–2011.
- NCCAP has been accepted by the **Coordination Board on Climate Change (CBCC)** on May 2011.



NATIONAL CLIMATE CHANGE ACTION PLAN

Energy

- **Reduce primary energy intensity by 10%** compared to 2008 by 2015 as a result of implemented and planned policies and measures
- Develop the capacity for energy efficiency by 2015
- Support R&D activities on energy efficiency
- Increase the amount of **incentives** given by MENR for **energy efficiency** applications by 100% until 2015
- Ensure that the share of **renewable energy** in electricity production is increased
- Develop capacity by 2015 so as to increase utilization of renewable energy resources.

NATIONAL CLIMATE CHANGE ACTION PLAN

Buildings

- Issuing “Energy Performance Certificates” to **all buildings until 2017**
- Decrease annual energy consumption in the buildings and premises of public institutions **by 10% until 2015 and by 20% until 2023**
- At least 20% of the annual energy demand of new buildings met via **renewable energy resources as of 2017**
- Effective implementation of the Regulation on Energy Performance in Buildings (EPB) and other energy –efficiency regulations until 2017
- Develop instruments that will provide the necessary financial support with regard to energy efficiency, renewable energy and EPB until the end of 2013
- **Reduce greenhouse gas emissions in new settlements by at least 10% per settlement in comparison to existing settlements (which are selected as pilot and the greenhouse gas emissions of which are identified until 2015) until 2023 .**

NATIONAL CLIMATE CHANGE ACTION PLAN

Industry

- Increase **energy efficiency** in the industry sector
- Decrease the CO₂ equivalent intensity per GDP produced in the industrial sector until 2023
- Strengthen the capacity of the industry sector for combating climate change.

Waste

- Reduce the quantity of biodegradable wastes admitted to landfill sites, taking year 2005 as a basis, by 75% in weight until 2015, by 50% until 2018 and by 35% until 2025
- Establish integrated solid waste disposal facilities across the country, and dispose 100% of municipal wastes in these facilities, until the end of 2023
- Establish the recycling facilities foreseen within the scope of the Solid Waste Master Plan with the EU-aligned Integrated Waste Management approach

NATIONAL CLIMATE CHANGE ACTION PLAN

Transportation

- Increasing the share of **railroads** in freight transportation (which was 5% in 2009) to 15% and in passenger transportation (which was 2% in 2009) to 10% by 2023
- Decreasing the share of highways in freight transportation (which was 80.63% in ton-km in 2009) below 60%, and in passenger transport (which was 89.59 in passenger-km in 2009) to 72% as of 2023
- Dissemination of the use of **alternative fuels and clean vehicle** technologies in the transport sector
- Increasing **efficiency in energy consumption** of transportation sector
- Building a well-organized, reliable and sustainable information infrastructure with transport and travel data including GHG emission data, until the end of 2016

NATIONAL CLIMATE CHANGE ACTION PLAN

Agriculture

- Increase the sink capacity of the agriculture sector
- Decrease the increase rate of GHG emissions originating from vegetal and animal production
- Develop information infrastructure and capacity in the agriculture sector

Land Use and Forestry

- Increase the amount of carbon sequestered in forests by 15% of the 2007 value by 2020 (14,500 Gg in 2007, 16,700 Gg in 2020)
- Reduce deforestation and forest damage by 20% of the 2007 values by 2020
- Limit the negative impact of land uses and changes such as forests, pastures, agriculture and settlements on climate change
- Strengthen legal and institutional structure for combating climate change with regard to land use and forestry

NATIONAL CLIMATE CHANGE ACTION PLAN

Carbon Markets

- Registry For Voluntary Carbon Projects
 - Established in 2010
 - Aims to keep track of Turkish VCM Projects
 - Increase transparency
- MRV Legislation
 - Mandatory Monitoring and Reporting at Installation Level
 - Monitoring and Reporting Principles of EU-ETS
 - EU-ETS Coverage
 - Enter into force in 2011 – transitional period to 2015



RESEARCH AND SYSTEMATIC OBSERVATION

- Researches are done by public sector, private sector, universities and NGOs mainly on following areas:
 - Renewable energy technologies (*solar, wind, bio-fuels, geothermal*)
 - Energy efficiency technologies and implementation
 - Clean coal technologies
 - Carbon capture and storage
 - Co-generation implementations
 - Cleaner production, eco-efficiency
 - Hydrogen energy etc.
- Systematic observations are done at national scale as well as with international collaboration.



First Hydrogen Energy Production on
Bozcaada

EDUCATION TRAINING AND PUBLIC AWARENESS

- Cooperative efforts between governmental authorities - NGOs; governmental authorities – private sector on education, training and public awareness on climate change have been increasing.
- Having an important impact for informing public on climate change, media's interest on the issue has been increasing.
- Target groups of the projects on the climate change adaptation projects have been diversified since the year 2009; municipalities, farmers, women, women farmers, elementary schools students, university students and private sector can be reported as the major target groups.



Alternative Energy Powered Car
Races organized by TUBITAK

EDUCATION TRAINING AND PUBLIC AWARENESS

- Climate change has been becoming widespread in the area of artistic activities; one of the best practices is the child ballet and photograph and caricature competitions with the title "Global Warming".
- The estimated number of people reached through education, training and public awareness activities on climate change since 2007, is almost 15.000.000.



CLIMATE CHANGE ADAPTATION EFFORTS OF TURKEY

Kadir DEMIRBOLAT

***Turkish Republic Ministry of Environment and Urbanization
Department of Climate Change***

CREATING SYNERGIES



3 PILLARS OF CLIMATE CHANGE ADAPTATION

POLICY (*OUTCOME 1*)

Necessary capacity developed and enhanced for:

- The efficient use of current policies in the context of climate change adaptation
- The development of new policies and strategies

SCIENCE (*OUTCOME 2*)

Necessary capacity developed and enhanced for:

- Establishing tools that support adaptation efforts by using the best available technology and data
- Making information available at all levels of the community

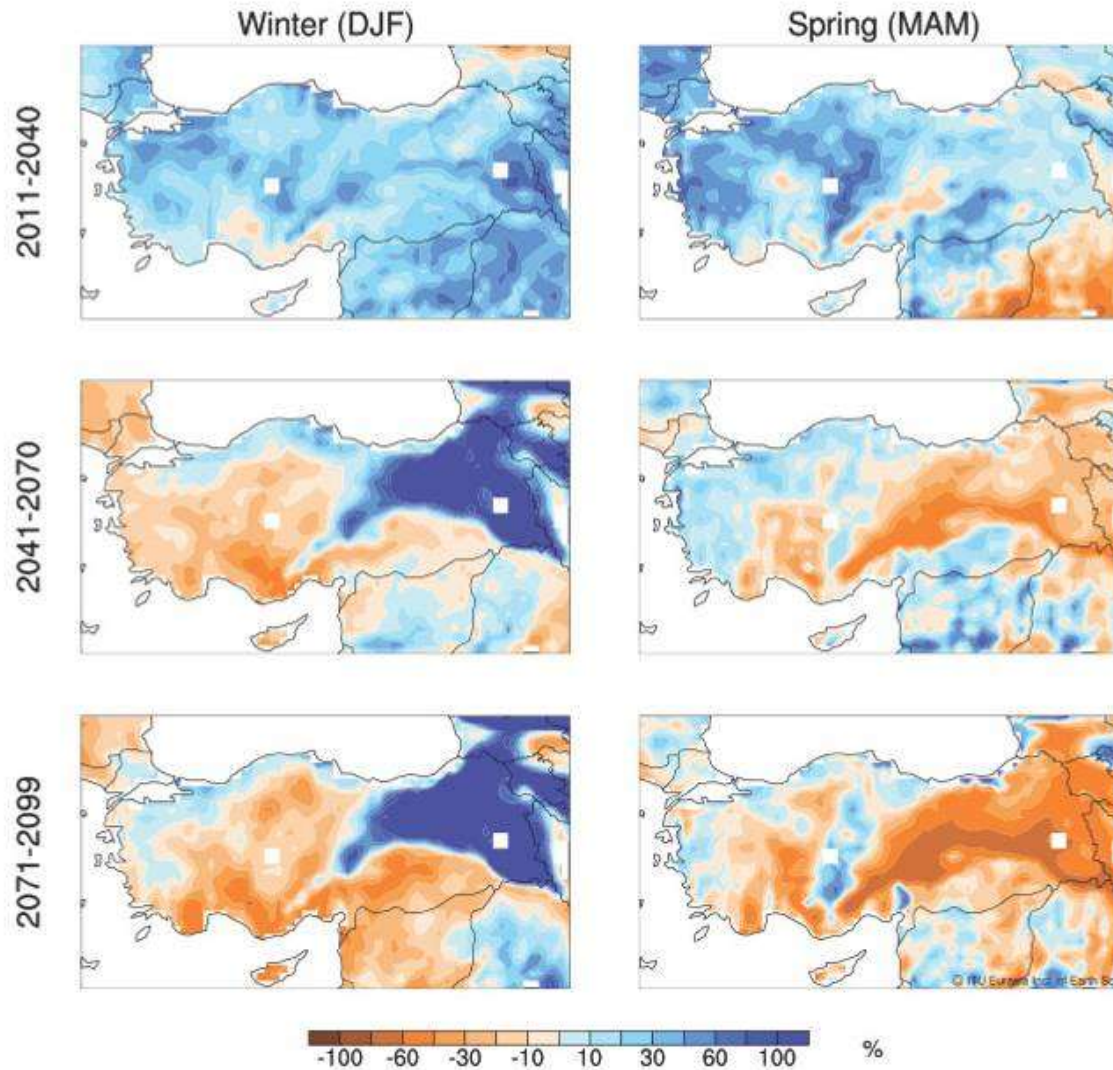
IMPLEMENTATION (*OUTCOME 3*)

Necessary capacity developed and enhanced for:

- Realizing adaptation implementation from local to central at varying scales and levels
- Monitoring and evaluating processes from the economic, social and environmental aspects

The Drivers for Concrete Adaptation Actions

CHANGE IN SURFACE FLOW (%)



Concrete Adaptation Actions

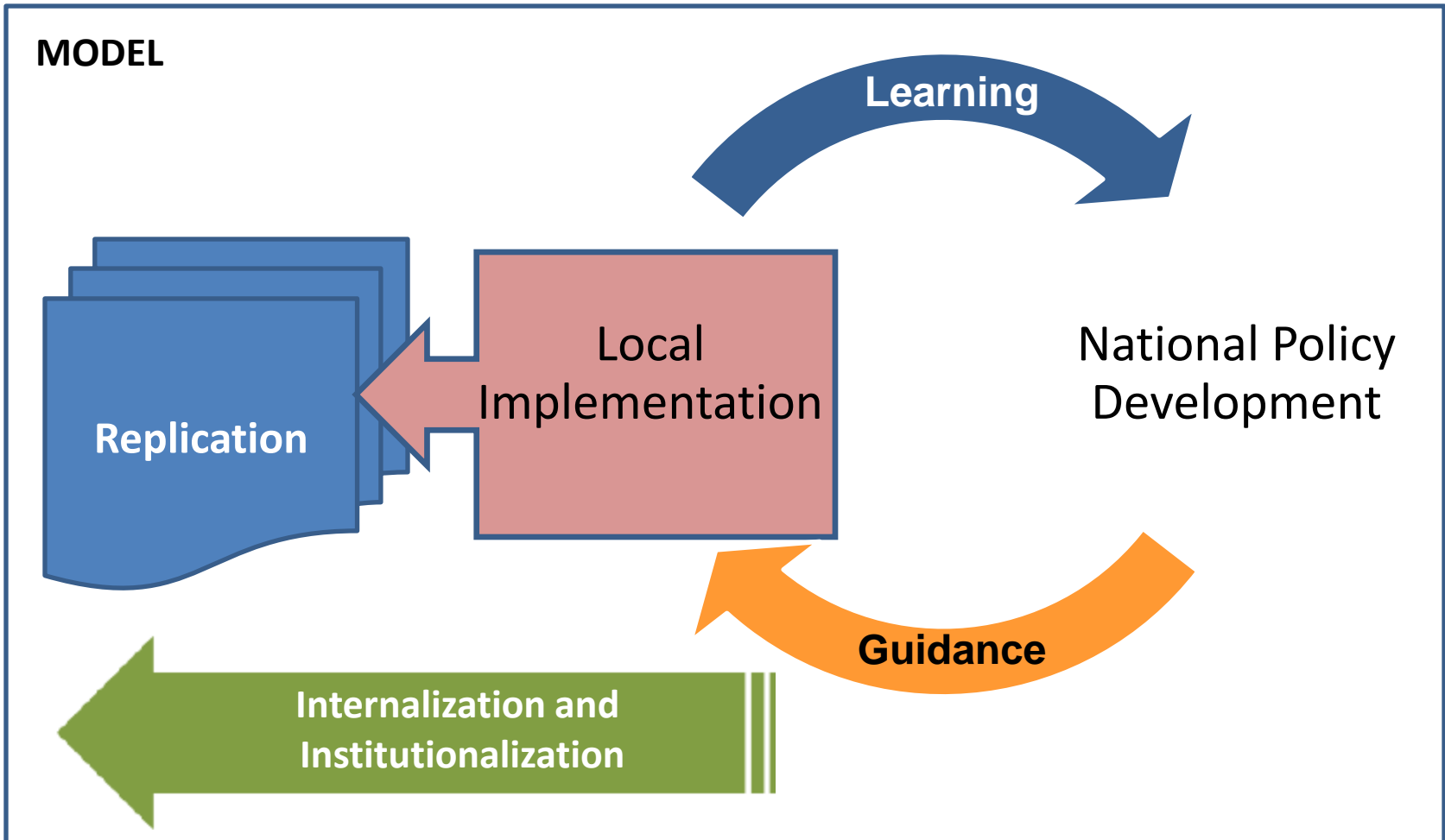
Vulnerability themes to shape the National Adaptation Strategy and actions:

- **Water Resources Management**
- **Agriculture and Food Security**
- **Natural Disasters Risk Management**
- **Forestry, Biodiversity and Ecosystems Services**
- **Public health**

Cross cutting issues

- **Capacity development and awareness raising**
- **Technology, Research and Development**
- **Finance**
- **Governance, Coordination, M & E**
- **Gender**

Integration of Adaptation Actions



Brief List of Adaptation Actions in Turkey

- **National Climate Change Adaptation Strategy**
- **Climate change adaptation mainstreamed into national legislation**
- **Improved technical capacity and awareness of different levels of stakeholders**
- **Tailor-made, thematic capacity development programs**
- **National Cleaner Production and Eco-efficiency Center**
- **Best practices in Industry Sector on water use efficiency**
- **Improved knowledge on climate change impacts via downscaled climate models**
- **Climate Change information portal “www.agora.itu.edu.tr”**
- **Flood and Drought Information Management System**
- **Strengthened Flood and Drought Action Plans**
- **Best practices of Community Based Adaptation at River Basin Level**

Climate change is a development issue, and only sustainable development can confront the challenge...

- Unsustainable development, in the past and the present, is the root cause of climate change.
- Sustainable development is certainly a necessary, and probably a sufficient, condition for overcoming this challenge. Simply ‘adding on’ mitigative and adaptive strategies to unsustainable development will not work.

THANK YOU

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