



# Presentation of Ukrainian PMR Activities

**Country: Ukraine**

**Responsible official: State Environmental Investment Agency**

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# The Big Picture: Policy Context

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- Ukraine ratified the UNFCCC and the Kyoto Protocol
- Ukraine is an economy in transition
- Ukraine's commitments under the KP is to not to exceed the emission level of 1990
- Long-term voluntary commitments of Ukraine are:
  - -20% by 2020
  - -50% by 2050
  - Ukraine is a member of the Technology Executive Committee of the UNFCCC
  - Ukraine is one of the leaders in the amount of investments involved under the flexible mechanisms of joint implementation and emissions trading
- In November 2010 draft of the **Ukrainian Law “On the energy efficiency regulation»** passed the first reading in Verkhovna Rada (Ukrainian Parliament), which includes proposal for a cap-and-trade system

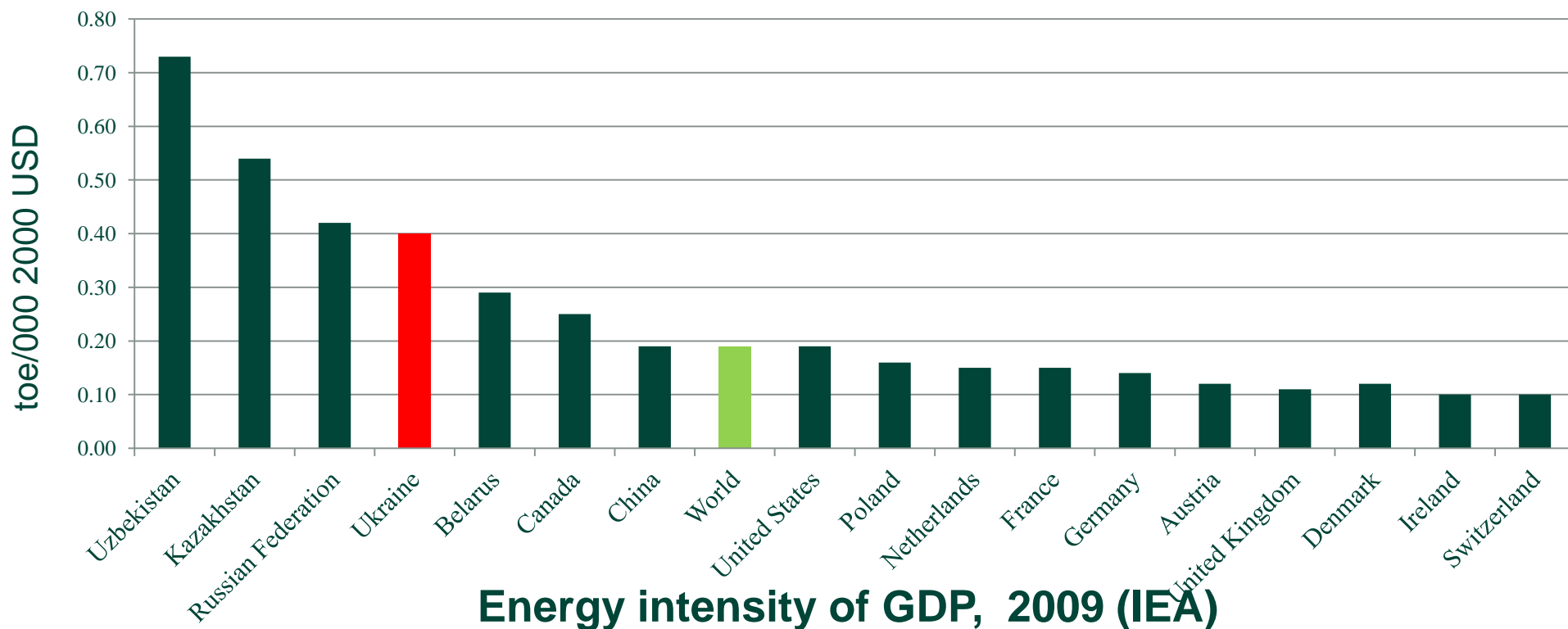
# The Big Picture: Policy Context

Energy efficiency in Ukraine is 2.1 times lower than in the average in the world and 4 times lower compared to developed countries.

That is why restructuring the economy under the low carbon growth scenario is one of the Ukraine's priorities.

National energy strategy for the period till 2030:

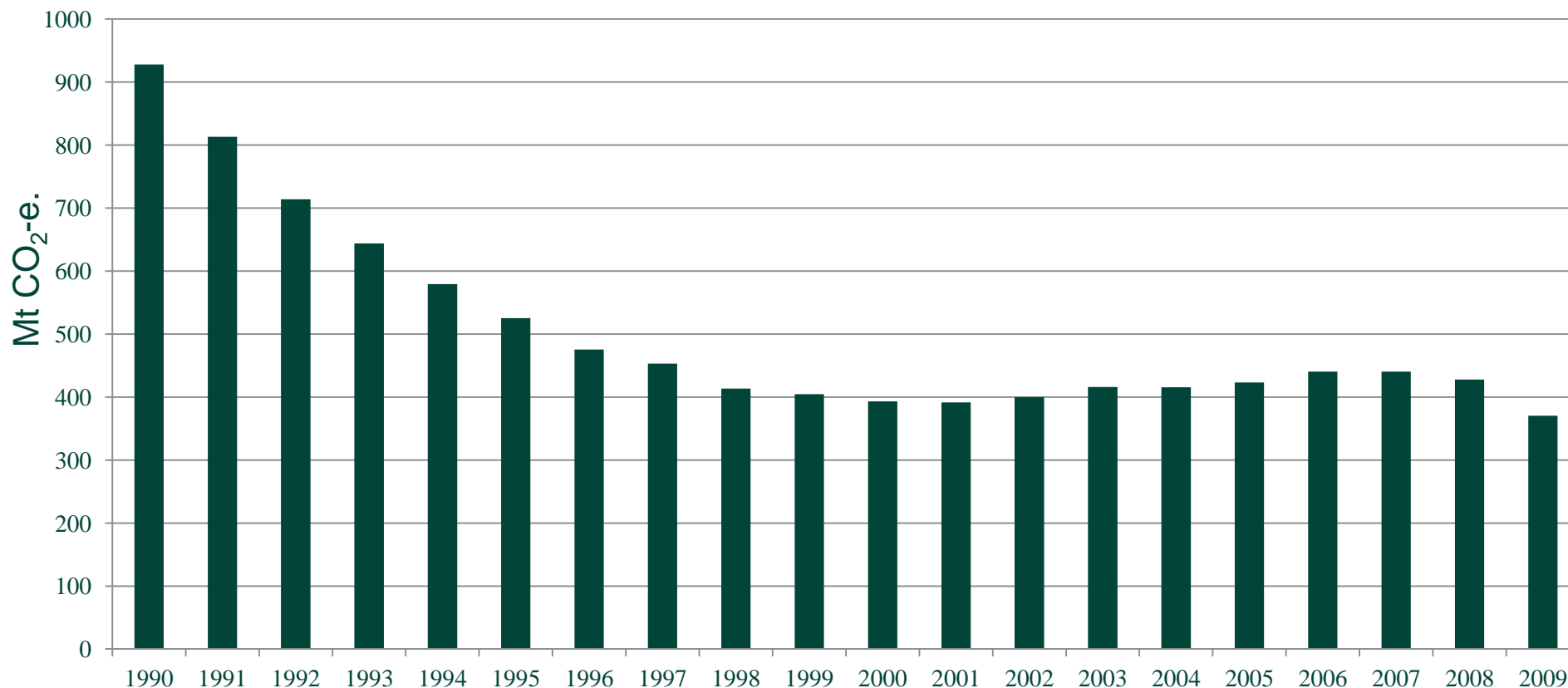
- Reducing energy intensity of GDP by 50%;
- Increasing the share of renewable energy from 3% to 19%



# The Big Picture: Policy Context

Total GHG emissions (not taking into consideration absorption in the LULUCF sector) in 2009 amounted to 370.2 million tons of CO<sub>2</sub>-e. that makes up 39.8% of the 1990 level.

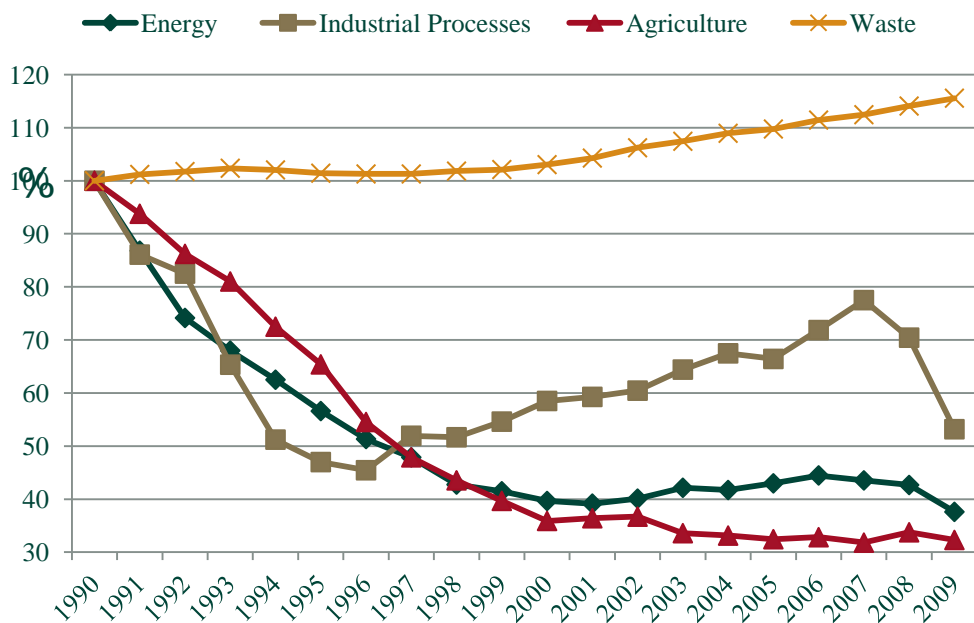
## Total GHG emissions in Ukraine in 1990-2009



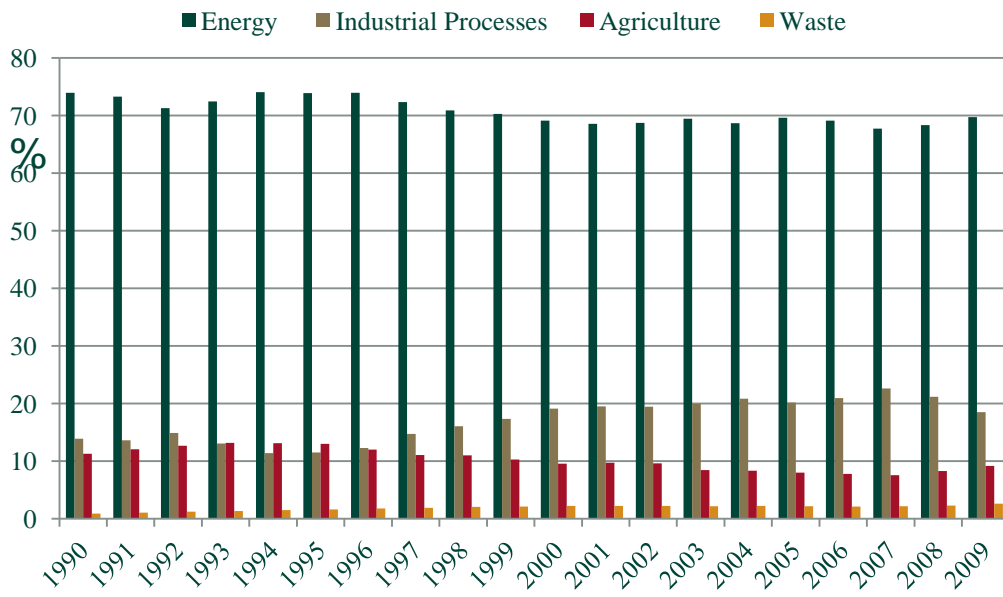
# The Big Picture: Policy Context

Energy sector remains the main source of GHG emissions – it accounts for 70% of emissions, but its share in the aggregated emission structure is gradually decreasing: 1990--the energy sector accounted for almost 74% of total emissions, 2009 – for 69.7%. The share of agricultural sector decreased from 11.3% in 1990 to 9.3 % in 2009. At the same time the share of industry has grown from 13.9% in 1990 to 18.5% in 2009. The share of the waste sector increased by almost 3 times during this period but still remains low (2.6% in 2009)

## Dynamics of GHG emission in certain sectors



## Sectoral structure of GHG emission in Ukraine

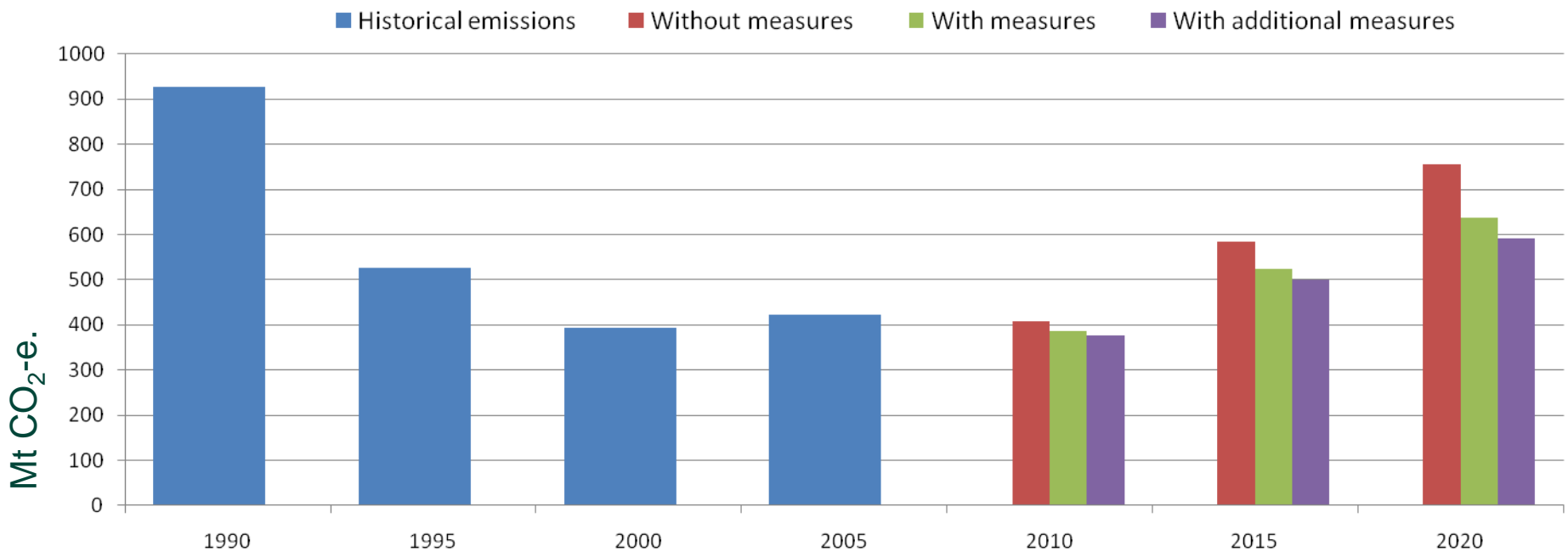


# The Big Picture: Policy Context

Three GHG emissions scenarios were considered when preparing the prognosis:

- **without measures;**
- **with measures** (measures to be taken to improve energy efficiency and overall efficiency of economic activity as well as measures specified by sectoral and regional programs);
- **with additional measures** (includes measures, the main objective of which or one of the implementation conditions, is reducing greenhouse gas emissions. Examples of additional measures are joint implementation projects, national carbon market (ETS)).

## Prognosis of GHG emission dynamics in Ukraine (Fifth National Communication)



# The Big Picture: Policy Context

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Two mechanisms of the Kyoto Protocol are applicable in Ukraine: emission trading and joint implementation.

As of today Ukraine has sold 47 million t CO<sub>2</sub>-e under Article 17 of the Kyoto Protocol.

Ukraine registered 98 JI Projects, which ensures reduction of GHG emissions by nearly 144 million t of CO<sub>2</sub>-e., i.e. 40% of ERUs are of Ukrainian origin.



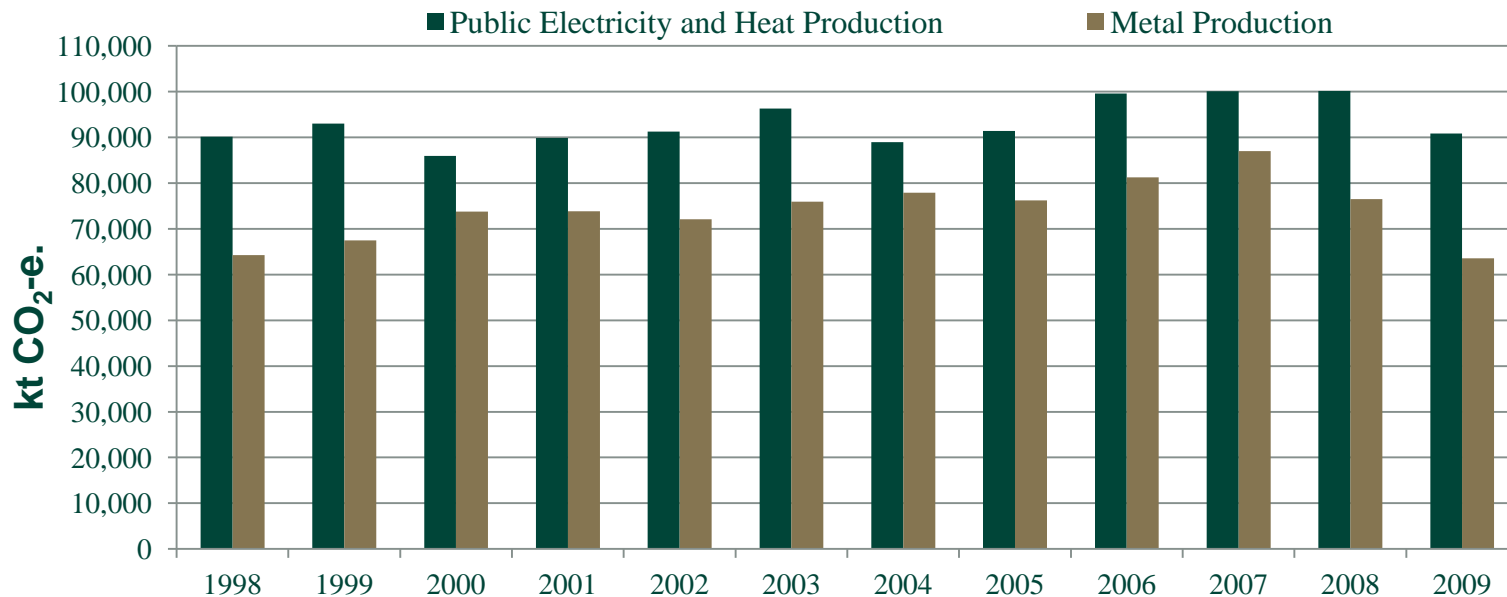
# Target Area: Assessment and Rationale for Focus on Sector(s)/Sub-sector(s)/Program(s)/Region(s)

Within the framework of the PMR initiative, Ukraine plans to focus on two target sectors – electric power and metallurgy having the highest economic, technological and institutional capacity of emission reduction.

The choice is based on a range of important parameters.

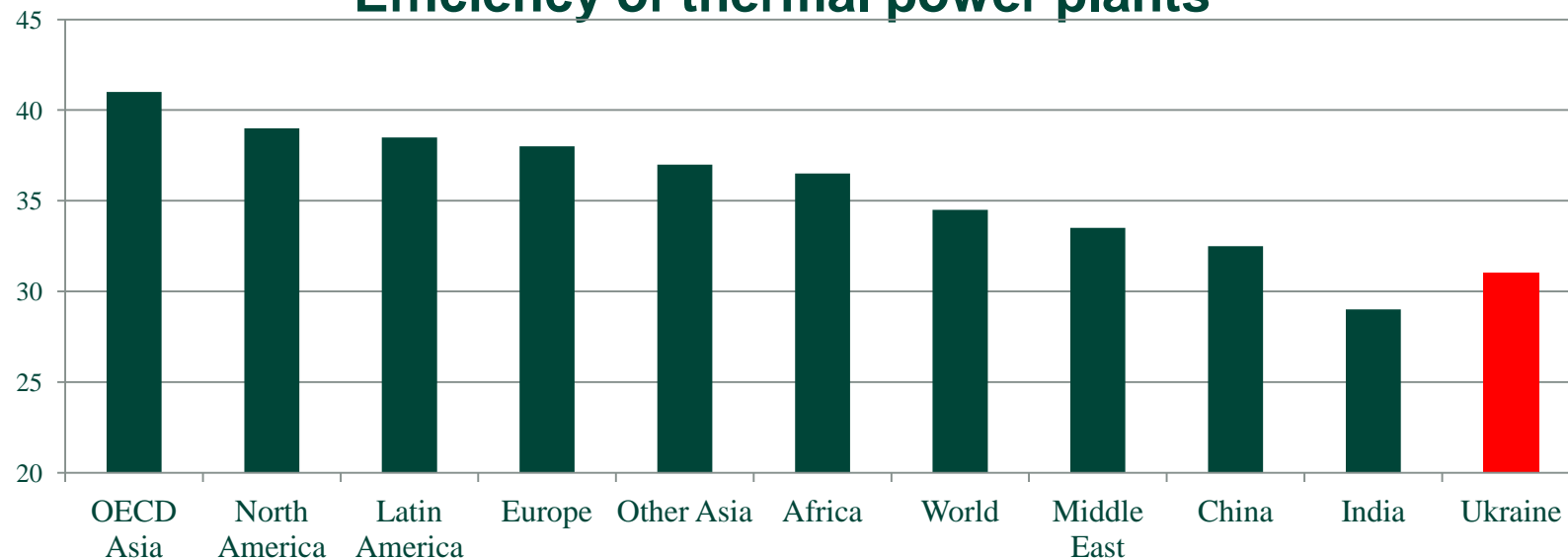
1. Sector share in the total GHG emissions.
2. Size of the sector companies.
3. Potential emission reduction.

**Dynamics of GHG emission**



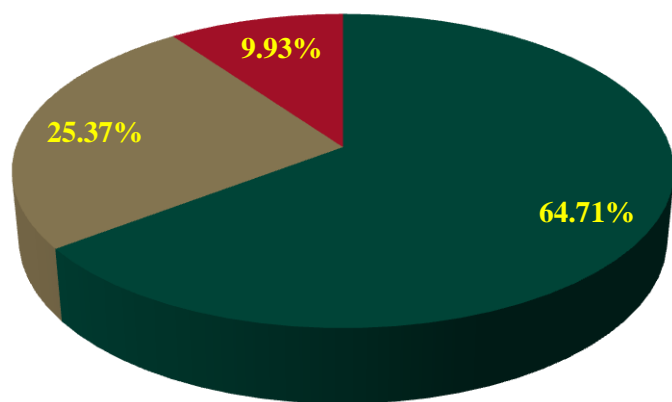
# Target Area: Assessment and Rationale for Focus on Sector(s)/Sub-sector(s)/Program(s)/Region(s)

## Efficiency of thermal power plants



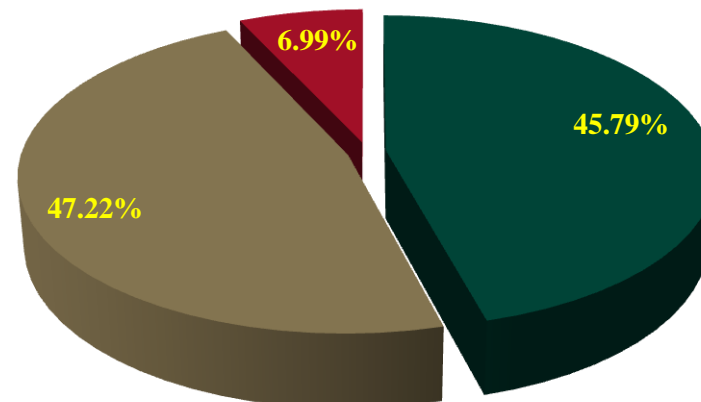
### Power plants capacity, %

■ Thermal power ■ Nuclear power ■ Hydro power



### Electricity production, %

■ Thermal power ■ Nuclear power ■ Hydro power



# Target Area: Assessment and Rationale for Focus on Sector(s)/Sub-sector(s)/Program(s)/Region(s)

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The Energy Strategy of Ukraine till 2030 was adopted in 2006. Strategy's key goals are:

- reducing GDP energy intensity by 50%;
- increasing the share of renewable energy sources in the overall fuel and energy balance up to 19% (currently < 3%);
- reducing of electricity consumption for transportation through power grids from 14.7% in 2005 to 8.2% in 2030.

# Target Area: Assessment and Rationale for Focus on Sector(s)/Sub-sector(s)/Program(s)/Region(s)

Modernization of thermal power plants (TPP) is the main source of potential GHG emission reduction in Energy sector. These measures provide for reduction of GHG emissions

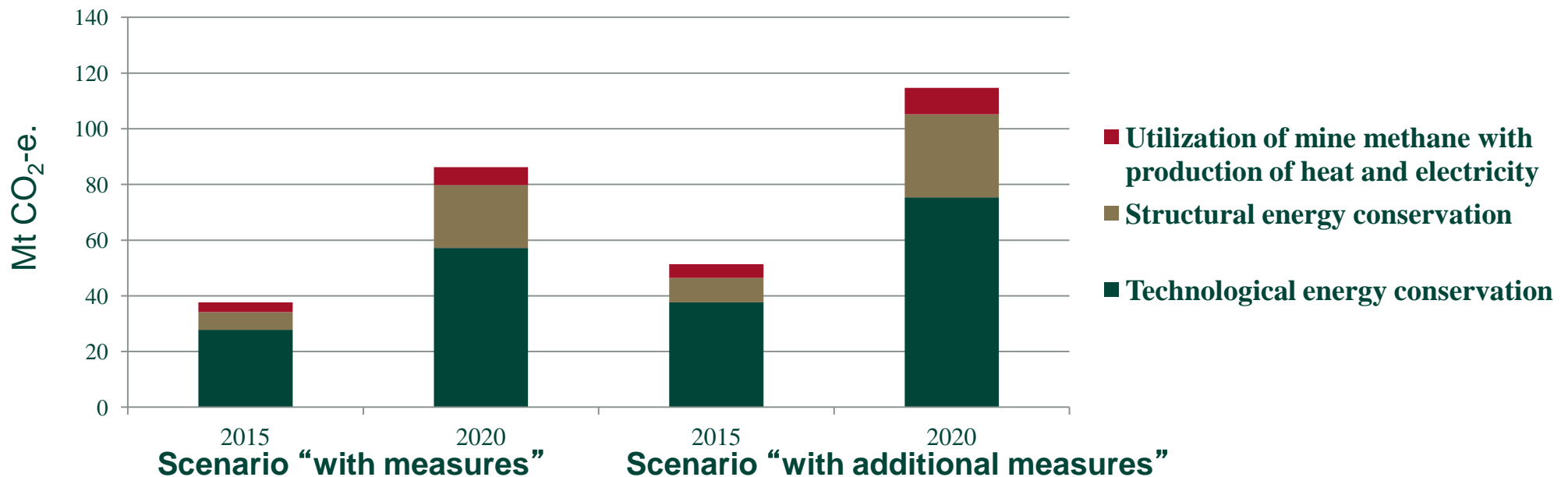
till 2015:

- by 27,8 million t CO<sub>2</sub> (scenario “with measures”)
- by 57,2 million t CO<sub>2</sub> (scenario “with additional measures”)

till 2020 p.:

- by 37,7 million t CO<sub>2</sub> (scenario “with measures”)
- by 75,4 million t CO<sub>2</sub> (scenario “with additional measures”)

## The potential of emissions reduction in Energy sector



# Target Area: Assessment and Rationale for Focus on Sector(s)/Sub-sector(s)/Program(s)/Region(s)

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Metallurgical complex is the basis of Ukrainian industry (30% of country's GDP, over 40% of foreign exchange earnings).

Ukraine holds the 8<sup>th</sup> place in the world in the volume of steel production and 3<sup>rd</sup> place in steel export (over 70% is being exported).

## Problems of the sector:

- physical and moral depreciation of capital assets;
- high energy intensity of production (specific losses of energy resources in pig iron production in Ukraine are about 30% higher than in developed countries);
- inefficient technological structure (share of open-hearth steel exceeds 45%).

Ministry of Industrial Policy adopted sectoral program of increasing energy efficiency of industry till 2017 which foresees reduction of energy intensity of steel industry end products by 30% in 2017 comparing to 2007.

# Target Area: Assessment and Rationale for Focus on Sector(s)/Sub-sector(s)/Program(s)/Region(s)

Reduction of coke consumption in iron production is the basis of GHG emission reduction potential in sector “Industrial processes”. These measures provide for reduction of GHG emissions

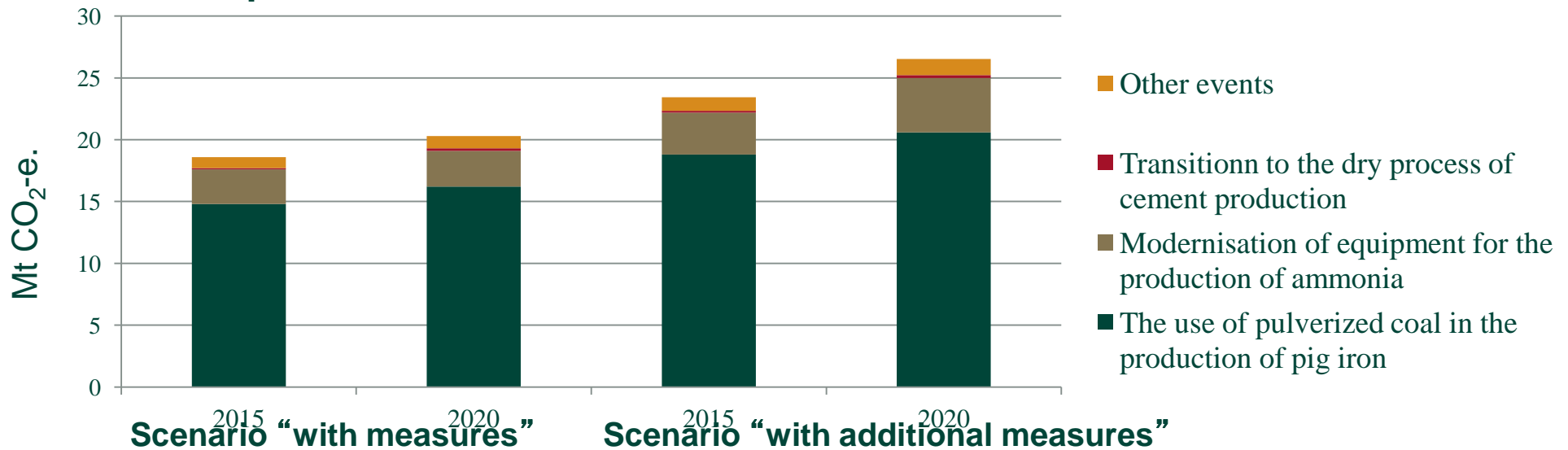
till 2015 p.:

- by 14.8 million t CO<sub>2</sub> (scenario “with measures”)
- by 16.2 million t CO<sub>2</sub> (scenario “with additional measures”)

till 2020 p.:

- by 18.8 million t CO<sub>2</sub> (scenario “with measures”)
- by 20.6 million t CO<sub>2</sub> (scenario “with additional measures”)

## The potential of emissions reduction in sector “Industrial Processes”



# Proposed Domestic Emissions Trading (cap-and-trade)

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## Scope and coverage

- Imposing restrictions on CO<sub>2</sub> emissions for entities of **the power industry and metallurgy**. Further the number of participants will gradually expand (chemical industry, cement industry, pulp and paper industry etc.);
- An **individual installation** will be a subject to regulation. The enterprise may consolidate its several installations for allocation of carbon units and monitoring of emissions;

## Within the PMR project it is necessary:

- to determine the capacity and value (plus costs) of emission reductions;
- to explore the readiness of the sectors to participate in the carbon market;
- to assess the possible consequences (economic, environmental, social) from participation of these sectors in emission trading;
- to determine main barriers in the way of implementing these initiatives.

# Proposed Domestic Emissions Trading (cap-and-trade)

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## Setting a cap

- absolute cap on the quantity of emissions in sectors;
- historical emission amounts in a certain base period will be used as a basis for determining the total CAP;
- Approach of CAP determining – «bottom-up»;
- Sectoral CAP adjustment taking into account sector specifics and national plans for improving energy efficiency.

### **Within the PMR project it is necessary:**

- to evaluate different approaches, principles and methods of setting limits in target industry sectors;
- to analyze the correlation level between "rigidity" of the CAP and economic consequences for each sector.



# Proposed Domestic Emissions Trading (cap-and-trade)

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## Allocation of allowances

- Free allocation on the ground of historical emissions in the base period (grandfathering);
- gradual transition to auctions and allocation based on specific industry factors (benchmarks) are foreseen in the future;
- establishment of the database of the best available technologies for a gradual transition to the auctions and benchmarking;

### **Within the preparatory stage of the PMR project it is necessary:**

- to analyze alternative approaches and methods of allowance allocation, as well as possibilities, feasibility and timing of transition to the auctions and benchmarking;
- to determine optimal mechanisms of allowances allocation among the new participants, take into account «early activity» and avoid double counting.

# Proposed Domestic Emissions Trading (cap-and-trade)

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## System for domestic monitoring, verification and reporting (MVR)

- Report on monitoring of the GHG emissions is submitted at least once a year till September 15 of the following year. Monitoring reports submission in the period till 2013 is voluntary, from 2013 - compulsory;
- facility operator has the right to introduce a continuous collection (including automated);
- facility operators may involve independent information suppliers (IIS) for monitoring GHG emissions. IIS can perform inventory of facilities, monitoring and verification of actual emissions and act as official representative of facility operator in the state authorities;

## and compliance

- financial penalty in the amount of 50 nontaxable minimums, or 850 UAH (105\$, 80€) per 1 t of CO<sub>2</sub>-equivalent;
- corresponding reduction of GHG emissions in the next year.

**Within the preparatory stage of the PMR project it is necessary** to analyze the existing approaches and progressive examples of GHG emission monitoring systems.

Expected outcome – recommendations and justification for the choice of GHG emission monitoring system.

# Proposed Domestic Emissions Trading (cap-and-trade)

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## Enabling trading and fostering stability

- Market functioning will be divided into stages; the first stage will have a pilot status and will last no longer than 3 years;
- banking – within certain trading periods and between compliance period (except the pilot stage);
- borrowing – only within certain trading periods;
- participant may sell only surplus carbon units at the market after confirmation of availability of these units.
- carbon units trade will take place exclusively on a special site mediated by a stock exchange.

**Within the preparatory stage of the PMR project it is necessary to design proposals regarding:**

- fighting fraud and monopoly power abuse;
- reduction of price volatility and fluctuations;
- taking into account new information, economic circumstances and market conditions for reviewing the market parameters;
- trade organization at the stock site (analysis of other countries' experiences).

# Proposed Domestic Emissions Trading (cap-and-trade)

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## Institutional arrangements

### SEIA:

- sets a list of activities that are subject to participation in the carbon market;
- provides for establishment and maintenance of the National Registry and National Inventory;
- creates and maintains a database of new technologies;
- forms and submits the draft of the National Allocation Plan for approval to the Cabinet of Ministers of Ukraine;
- performs accreditation of independent expert organizations and independent specialized organizations (verifications, determinations, independent information suppliers etc.)
- provides for functioning of the National inventory of greenhouse gas emissions.

# Proposed Domestic Emissions Trading (cap-and-trade)

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## Institutional arrangements

Cabinet of Ministers of Ukraine:

- adopts the National Allocation Plan;
- sets the procedure for generation, circulation and transfer of carbon units;
- sets the procedure of state accounting of operators of the facilities releasing greenhouse gas emissions and procedure for state control of GHG emissions and removals.

**Within the preparatory stage of the PMR project it is necessary to develop teaching materials and a plan of necessary trainings to improve the work quality of public bodies for carbon market supervision and regulation, namely:**

- National Registry administration;
- Ensuring operation of the National Inventory and implementation of necessary activities in the process of designing the National Allocation Plan;
- maintenance of the National monitoring system.

# Proposed Domestic Emissions Trading (cap-and-trade)

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## Technical and legal infrastructures

Regulatory basis of carbon market establishment is adoption of the Law of Ukraine «On the energy efficiency regulation».

Key elements of the technical infrastructure of the Ukrainian carbon market are:

- National Registry;
- National Inventory and the best technologies database;
- National Monitoring System;
- trading platform for market transactions.

**Within the preparatory stage of the PMR project it is necessary:**

- to design technical specification for purchase of the software necessary for the National Registry, Monitoring System and Inventory;
- to elaborate drafts of regulatory acts, necessary for clarification and amendments to the draft law «On the energy efficiency regulation».

# Proposed Domestic Emissions Trading (cap-and-trade)

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## Use of offsets and linking

- associating national carbon market with the markets of developed countries, primarily with the EU market, is a long term priority;
- using of Kyoto carbon credits to meet the commitments.

**Within the preparatory stage of the PMR project it is necessary:**

- to study the experience of project emission reduction units usage on the national carbon market;
- to analyze the capacity and possible benefits of linking the carbon market of Ukraine to other similar markets.

# Timeline –PMR Stages

Activities	01	02	03	04	05	06	07	08
Forming Internal PMR team and distribution of responsibilities	█							
Analysis of existing Carbon Markets		█	█					
Development of proposals on design of Ukrainian Market				█				
Assessment of readiness of Ukrainian Economic Sectors in Creation of Carbon Market					█	█		
Assessment of impacts of newly created Carbon Market on macroeconomic situation in Ukraine							█	
Public Consultations							█	█
Approval of Design of National Carbon Market								█



# Timeline – Policy and Legal Stages

Activities	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20
<b>1. Development of Regulatory Base</b>																				
<b>1.1 Preparation of Ukrainian Law “On the energy efficiency regulation” for Second Reading in Parliament</b>	█	█	█	█																
<b>1.2 Approval of bylaws (CabMin decrees, orders of SEIA)</b>					█	█														
<b>2. Creation of Carbon Market Infrastructure</b>																				
<b>2.1 Center for Emissions Cadastre</b>					█	█	█	█	█	█										
<b>2.2 System of Emission Monitoring</b>					█	█	█	█	█	█										
<b>3. National Plan for allocation of quotas</b>																				
<b>3.1 Inventory of Carbon emissions of enterprises in baseline period</b>											█	█	█	█	█	█				
<b>3.2 Development of NAP-I</b>																		█	█	█
<b>4. Launch of Pilot Phase of the Market</b>																				█

# Organization, Communication, Consultation and Engagement

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- **Government:**
  - Cabinet of Ministers of Ukraine
  - State Environmental Investment Agency of Ukraine
  - Ministry of Ecology and Natural Resources
  - Ministry of Energy and Coal Industry
  - Ministry of Economic Development and Trade
  - Ministry of Infrastructure
  - Ministry of Regional Development and Building and Communal Services
  - State Agency of Energy Efficiency (SAEE)
- **Administration of the President**
- **National Academy of Science:**
  - Institute for Strategy Studies
  - Institute of economy and forecasting
- **International consulting companies, experts**
- **Ukrainian consulting companies**
- **NGOs**

# Organization, Communication, Consultation and Engagement

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## 1<sup>st</sup> Round Table "On the way to implement the emission trading system in Ukraine"

- Organized: October 18, 2011 by the SEIA and LLC “Environmental (Green) Investment Fund” under the auspices of the World Bank;
- The goal of the Round Table is to carry out public discussion of the necessity and implementation peculiarities of the emission trading system in Ukraine;
- Main issues that were discussed:
  - Strategy of Ukraine’ s low carbon growth
  - Role of the State in providing for national carbon market operation
  - Legal analysis of the main provisions of the Draft Law of Ukraine "On the energy efficiency regulation"
  - International organizations support of Ukraine’ s initiatives on establishing a carbon market
  - Creating an effective carbon market: public organizations role and position
  - Partnership for Market Readiness (PMR): Overview and Update on Activities

# Organization, Communication, Consultation and Engagement

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## 1<sup>st</sup> Round Table “On the way to implement the emission trading system in Ukraine”

- About 70 people participated in the Round table discussion; among them representatives of international institutions, state authorities, NGOs and business;
- The Round table was preceded by press conference with leading Ukrainian mass media; announcement of the event was made by two national broadcast channels, numerous Internet outlets and newspapers;
- The main structural blocks of the carbon market in Ukraine were discussed, in particular establishment of obligations, quotas allocation and MRV;
- Of particular interest were the reports dedicated to the Law “On energy efficiency regulation” and the role of the state at the carbon market;
- Outline consultations plans to be carried out during the PMR Preparation Phase.

# Organization, Communication, Consultation and Engagement

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**Ukraine is engaged in the following initiatives:**

**UNDP, Germany and Eastern European Partnership:** low carbon strategies.

**EU:** legislative system adaptation.

**EBRD:** Carbon Market Facilitation Programme.

**USAID:** MRV methodologies in energy sector

THANK YOU FOR ATTENTION!

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The State Environmental Investment Agency of  
Ukraine

Kyiv 03035, 35, Urytskogo str.

Tel +380 44 594-91-11, Fax +380 44 594-91-15

Web: [www.seia.gov.ua](http://www.seia.gov.ua), Mail: [info.neia@gmail.com](mailto:info.neia@gmail.com)