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Ministry of Energy of the Republic of Kazakhstan

# Kazakhstan Emission Trading Scheme and implementation of the capacity building activities under PMR

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Jordan

# Outline

- Overview of Kazakhstan's economy and climate related public policy
  - Economic overview
  - Transition to the Green Economy (renewables, energy efficiency), INDC, Emission Trading Scheme
- Outlook on Kazakhstan's three-year-old ETS
  - National Allocation Plans' implementation
  - ETS operations up-to-date
  - Nature of the GHG emissions
- PMR technical assistance implementation
  - 1st tranche: deliverables
  - 2nd tranche: proposed activities
  - Next steps

# Economic overview

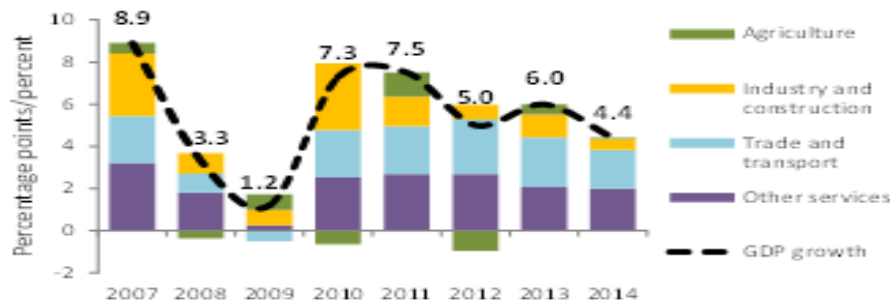
## • Current situation:

- As a large oil exporter in Central Asia, KZ enjoyed annual average 8% growth from 2000 before the 2007 financial crisis:
- Increased of the GDP up to US\$12 625 per capita in 2014
- Poverty rate (at the international poverty line of \$5 a day) has dropped from 54 percent in 2006 to 18 percent in 2014
- Size of the middle class has increased from 8 percent to 28 percent of the population, mainly residing in Astana and Almaty
- Decline in the Gini coefficient from 0.31 in 2006 to 0.28 in 2014
- Accumulated around US\$70 bln of the national reserves from the oil revenue stored at the National Oil Fund established in 2000

## • Current challenges:

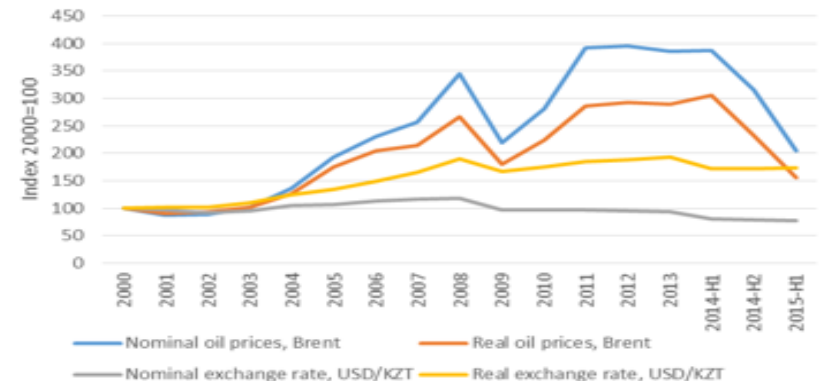
- Economy slowed in 2014-15 due to the decline in the international oil price, the economic difficulties in Russia and lower growth in China.
- Albeit, there is no stagnation: 4.4% growth in 2014 and 1.5% for the first half of 2015
- Unsustainable fiscal and external balances
- Lack of the manufacturing sectors and high dependence on the import with minerals, oil and gas accounting for 73% of exports and 39% of GDP.

**Figure 2. GDP Growth: Aggregate and Contribution by Sectors**



Source: Statistical Office of Kazakhstan

**Figure 3. Oil Price and the Exchange Rate**



Source: National Bank of Kazakhstan and World Bank.

# Overview of the climate related public policy, actions and results achieved

- **Concept on transition of the Republic of Kazakhstan to the “green economy” (2013)**
  - Reduction of the economy energy intensity from 2008 baseline year: 25% by 2020, 30% by 2030 and 50% by 2050
  - Share of the RES in the power generation: 3% by 2020, RES & alternative - 30% by 2030 and 50% by 2050
  - Share of the gas generation: 25% and 30% by 2030 and 2050 respectively
- **INDC: economy-wide target (2015)**
  - 15%-25% reduction in greenhouse gas emissions by 2030 compared to 1990
- **Introduction of the Emission Trading Scheme (2013)**
  - Entails participation of the mainly industrial companies emitting +20 000 ton of CO<sub>2</sub> per year

***Results: ~50% GHG are covered, the energy intensity reduced by 18.6% compared to 2008, RE generation reached 578.17 mln kW/h with 43 projects in operation (still less than 1% in total power mix)***

# Outlook on Kazakhstan's three-year-old ETS

ETS Phase	NAP I 2013	NAP II 2014-2015	NAP III 2016-2020 (under discussion)
<b>Covered economy sectors</b>	Energy, coal mining, oil and gas, industry	Energy, coal mining, oil and gas, industry	Energy, coal mining, oil and gas, industry
<b>Number of covered companies</b>	178	166	131
<b>Allocation method</b>	Historical Baseline year - 2010	Historical Baseline year – mid value 2011-2012 гг.	Benchmarking (if approved by the Parliament)
<b>Reduction commitment</b>	0% (from the baseline year)	0% - 2014 1,5% - 2015	0% from 2014/15
<b>Volume of quotes (ton) CO2</b>	147 190 092	307 443 125	737 743 648,65

# Implementation results under NAP I and II

## **NAP I (2013)**

- 158.1 mln ton of CO<sub>2</sub> including extra quotas allocated
- 43 companies received extra quotas eq. to 18.8 mln ton of CO<sub>2</sub>
- 2013 GHG Inventory revealed that allocated extra quotas were not fully used (6.83 mln ton of CO<sub>2</sub>)

## **NAP II (2014-2015)**

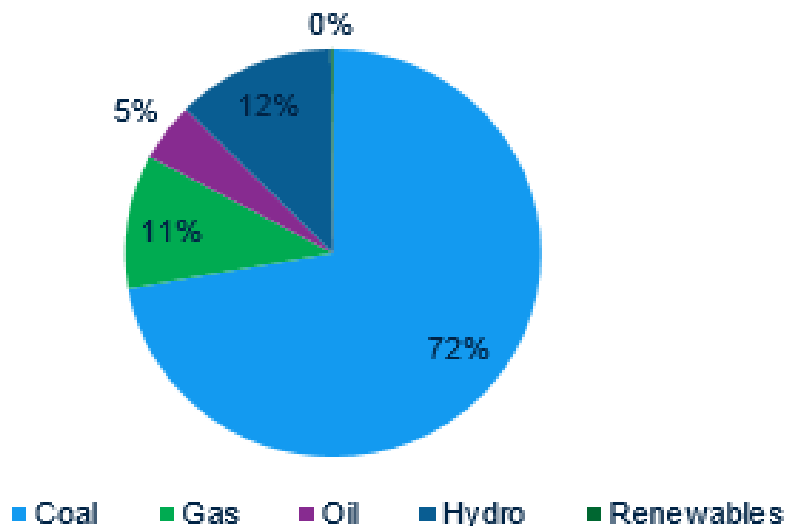
- 158 companies received certificates for 305.8 ton of CO<sub>2</sub>
- 8 companies failed to submit the documents and did not get the certificates
- 36 companies requested extra quotas
- But, only 24 companies were allocated extra quotas eq. to 12.9 mln ton of CO<sub>2</sub>

***Conclusion: The implementation results showed that the balance of the Emission Trading Scheme is a proficit (!)***

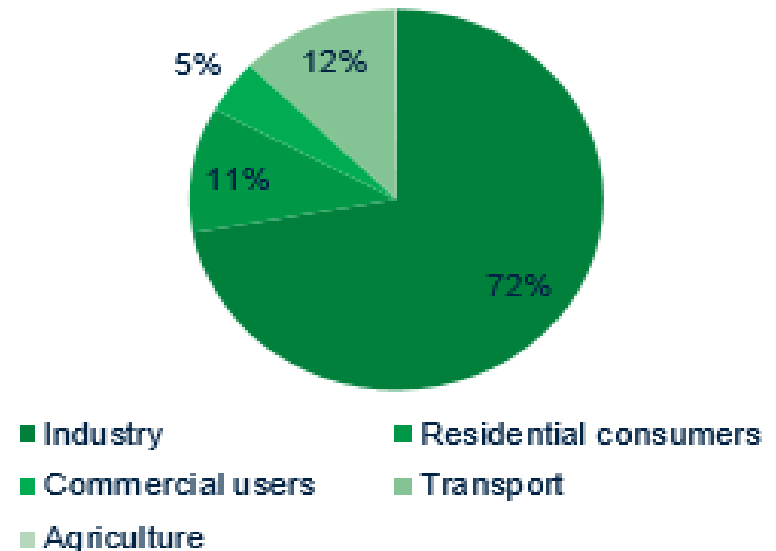
# The economy structure makes the energy sector and industry the ETS's main player

- Kazakhstan is one of most energy and carbon intensive economies in the world.
- Coal with over 70% share in the total power mix expected to remain a king with 55% by 2030.
- Industry remains the main energy consumers, 72% of total electricity consumption, followed by residential/commercial and transport sectors.
- The energy sector accounts to over 70% of the emitted GHGs.
- Kazakhstan launched ETS scheme in 2013 and has pledged to reduce emissions by 7% below 1990 levels by 2020 and by 15% by 2025.

Energy Consumption by fuel type, 2013



Energy Consumption by Sector, 2013







**1. Identifying barriers in the emission trading scheme (market) of Kazakhstan and development of appropriate recommendations on how to address and mitigate them**

# Objectives and main tasks

**Overall objective:** To assist in identifying barriers and distortions faced by all involved parties which are preventing a smooth operation of the ETS in Kazakhstan and to develop recommendations on how to eliminate, mitigate and address those barriers.

## **Main tasks:**

1. Identify and analyze existing and potential barriers that will enable Kazakhstan's ETS to operate more efficiently and effectively in market conditions.
2. Provide recommendations and an action plan of how to address identified barriers in the ETS.

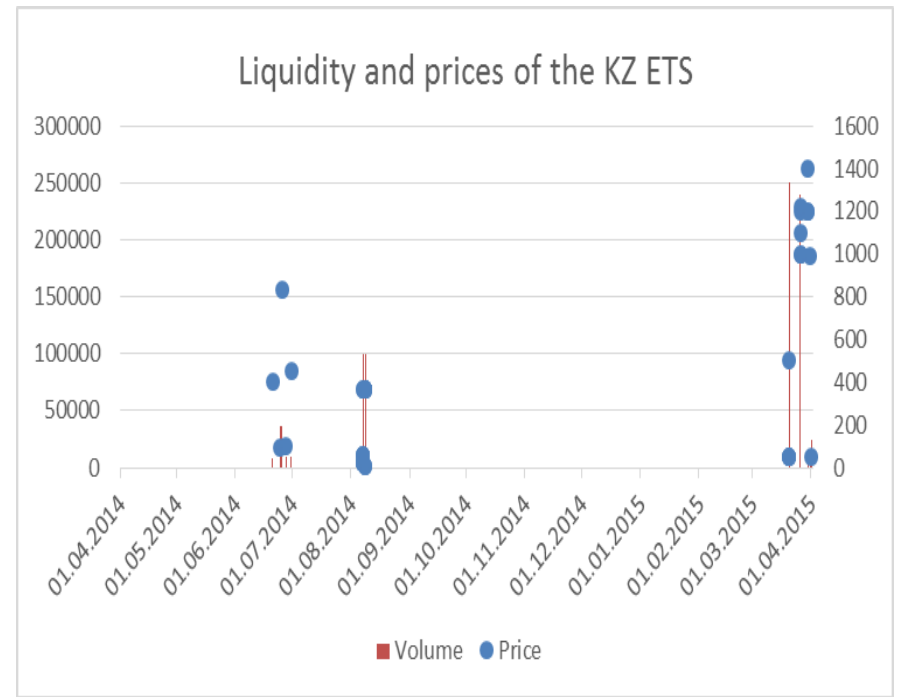
# Methodology

- Desktop review of the KZ ETS and market conditions
  - Extensive review of the existing legal and regulatory documentation and literature.
- In-country consultations with the local stakeholders and experts
  - With emphasis on face-to-face meetings, on condition of anonymity. Consulted: industries, verifiers, donors, oil and gas companies, brokers, government.
- Follow-up and preparation of the report

# Identified Barriers

## Policy design

- Ability of the regulator to adjust the allocation of individual operators ex-post,
- Short trading periods that prevent long-term compliance planning,
- Absence of allowance banking from one year to another within the same trading period,
- Existence of a subclass of allowances that are illegal to trade,
- Peculiar definition of installation (point source of emissions) and the practice of allocation to operators rather than installations in the National Allocation Plan,
- Lack of trust in the MRV system,
- Absence of a mechanisms enabling the use of domestic offsets for ETS compliance.



Source: Carbon Limits/Caspi Commodity Exchange.

## Market

- Low aptitude for risk, absence of active exchange trading of energy and other commodities

# Results: produced recommendations

- Adopt proposed amendments to the ETS legislation
- Further refine the ETS legislation, update and clarify the secondary legislation
- Address institutional capacity within the ME and supporting government institutions
- Develop and implement a long-term NAP to ensure a predictable market environment
- Further develop and improve the MRV system – incl. e-reporting, registry
- Improve information availability and private sector readiness
- Improve the offset system
- Resolve the issue of trading restrictions

## **2. Adaptation of benchmarks for allowances allocation for specific sectors in Kazakhstan**

# Objectives and tasks

**Objectives:** To develop benchmarks for allocation of allowances under the ETS for the most relevant industrial products in Kazakhstan

## **Main tasks:**

1. Review product types in Kazakhstan to determine which benchmarks to develop
2. Develop an appropriate benchmarking approach for allocation under the Kazakh ETS, based on existing approaches where possible (e.g. EU ETS)
3. Determine product benchmarks for Kazakhstan based on proposed approach
4. Undertake a reality check by running a simplified simulation of allocation based on proposed benchmarks
5. Prepare guidance notes to explain how benchmarks are to be used

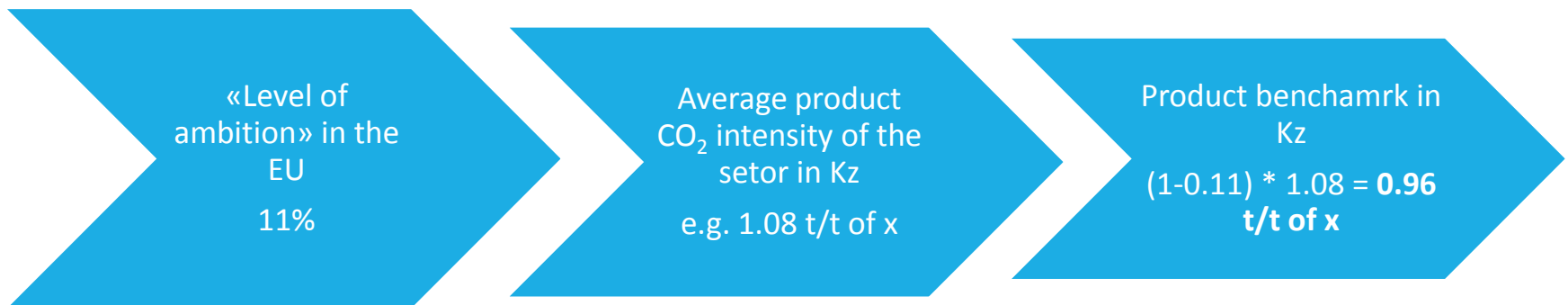
# Methodology for determining benchmarks

For each of the main emitting sectors in Kazakhstan for which a relevant EU product benchmark has been identified:

- Determine the “level of ambition” of these benchmarks in the EU



- Apply the same “level of ambition” to the average product CO<sub>2</sub> intensity of the sector in Kazakhstan to determine the Kz benchmark





# Results

- Benchmarks proposed for 12 products, which account for a total of approximately 80% of CO<sub>2</sub> emissions from the “industry” sector in Kazakhstan
- Benchmarks proposed for, inter alia, cement, aluminium, ammonia, sinter, coke and hot metal
- A comparison indicates that on average the Kz benchmarks are 19% higher than the EU benchmarks
- The average “level of ambition” for relevant products in Kazakhstan is 14%
- For some products the EU benchmark is proposed as the CO<sub>2</sub> intensity of those sectors in Kazakhstan was found to be close to the average in the EU
- An approach for determining benchmarks for those products where an EU benchmark is not available has also been proposed, based on the average “level of ambition” for relevant for Kazakhstan (i.e. 14%)

# Further results and other deliverables

- Benchmarks also proposed for the fall-back approaches:
  - Heat
  - Fuel (stationary)
  - Fuel (mobile)
  - Process emissions
- The simulation of the allocation of allowances using the proposed product benchmarks confirmed the credibility of the values proposed...
- ...but also highlighted the importance of using the sub-installation approach as in the EU in order to determine an accurate and credible allocation of allowances
- Guidance notes based on EU documents also prepared to support use of the benchmarks, to cover data collection, carbon leakage and sector specific issues

### **3. Development of Policy Options for Mid- and Long-term Emissions Pathways and Role of Carbon Pricing**

# Objectives and tasks

- **Core objectives of the project:**

Provide technical information and impact analysis on GHG emissions scenarios and enabling policy instruments, i.e.

- GEC and the ETS

- Assessment of the achievement of emission targets (INDC)

- Focus on INDC “implementation” (i.e. post-Paris)

Enhance the understanding of opportunities and challenges behind different types of economy-wide mitigation objectives in the Kazakh context

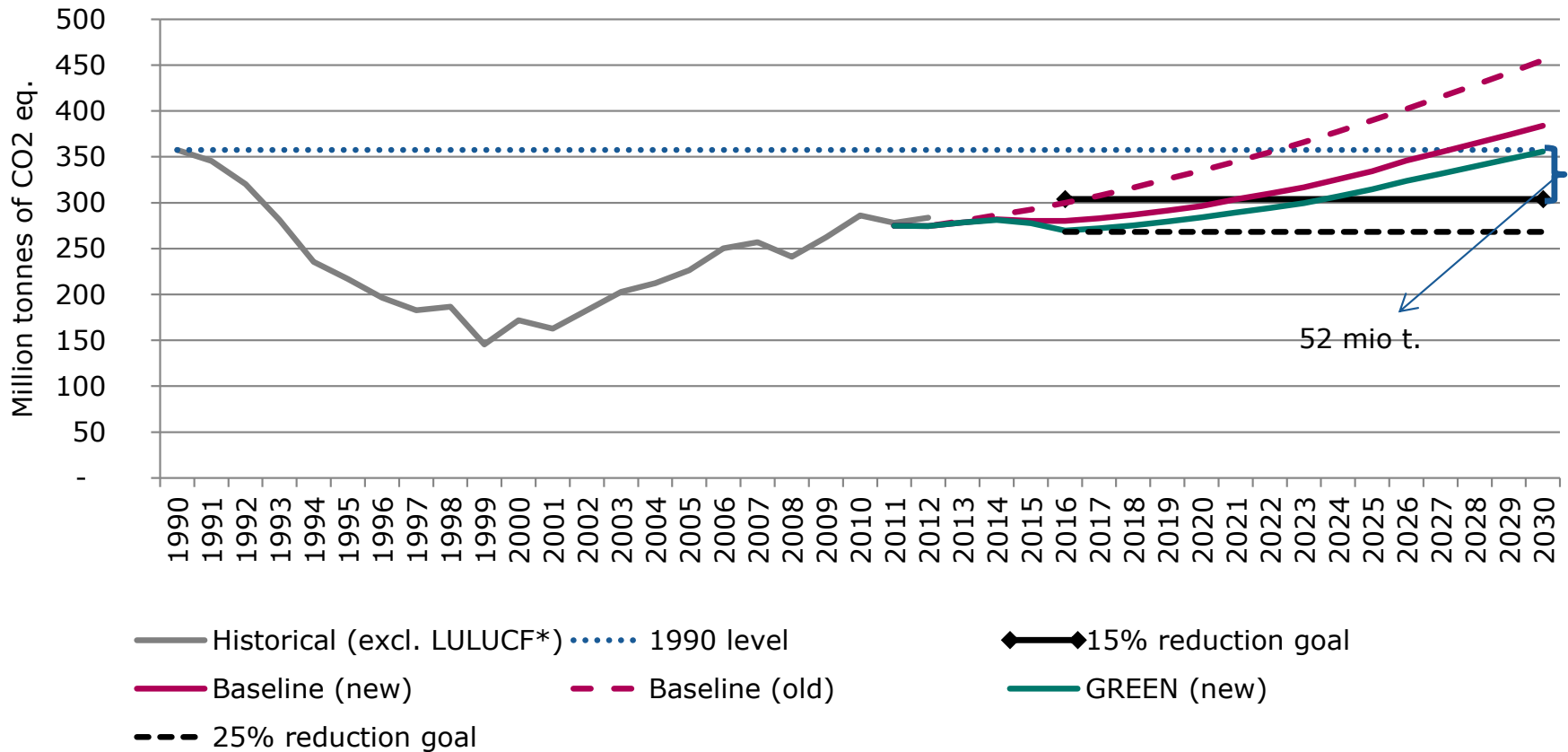
Strengthen the modeling capacity in Kazakhstan for analyzing mitigation pathways, enabling policy options and macro-economic impacts

# Project status:

- **First stage of the project is finished**
  - Review of previous studies (mapping and gaps analysis)
  - Work with energy statistics and balances
  - Preparation and updating of the TIMES-KZ model
  - Top-down impact analysis of the policies of the Green Economy Concept
- **Next steps**
  - Linking the TIMES and CGE models for Kazakhstan
  - Impact analysis of mitigation options (including ETS) with Hybrid (TIMES-GCE) model

# First draft modelling results

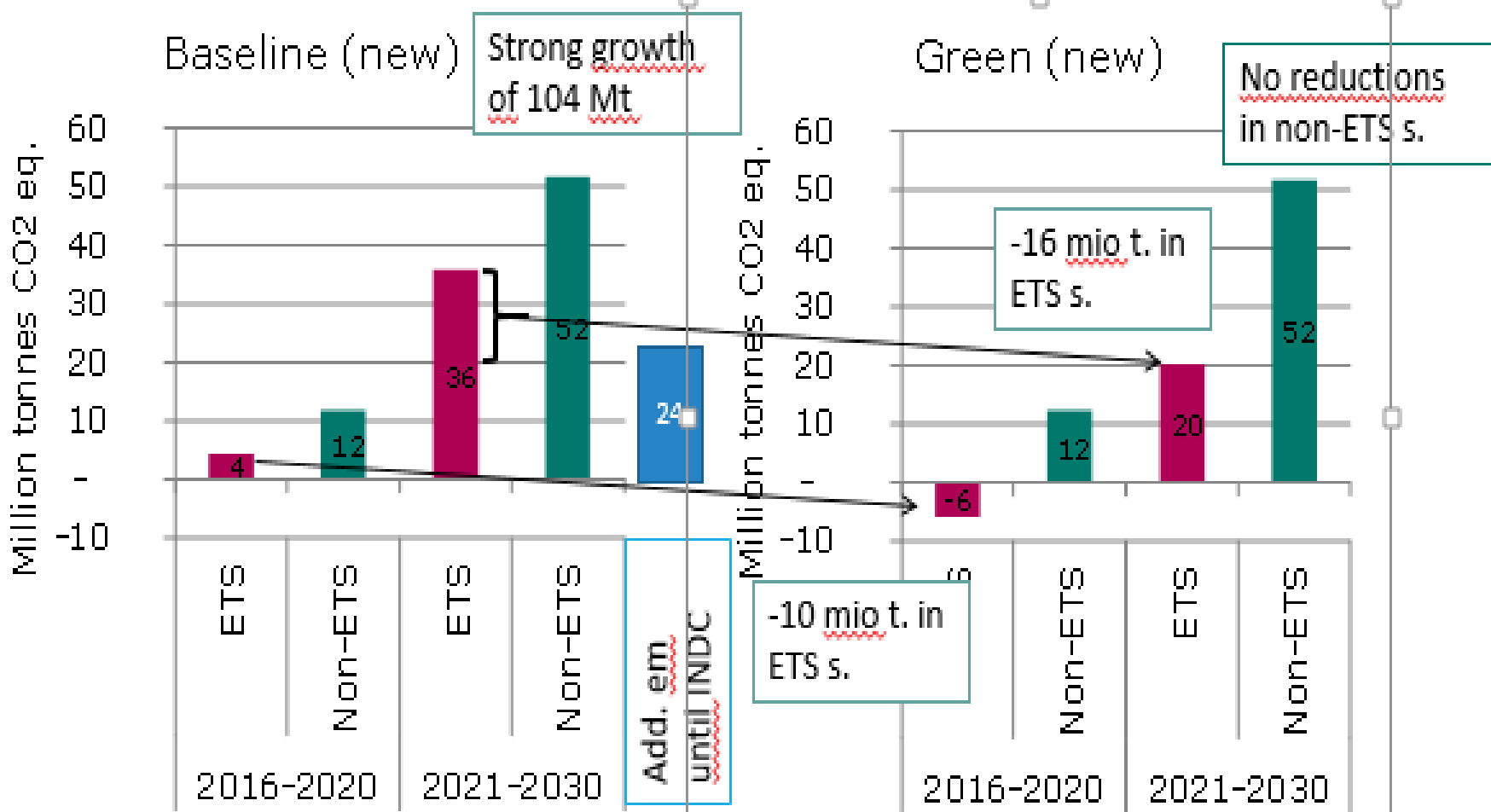
- Are the INDC targets achieved with the GEC?



➔ Further action is necessary!

# Study of emissions by ETS and non-ETS sectors

Incremental emissions until 2030



# Draft conclusions and policy recommendations

- Implementing the GEC allows achieving long-term emission targets mainly due to high emission reduction in the power and heat sectors. High political priority should be set into the monitoring and support of the transition process of these sectors towards the GEC targets.
- However, INDC targets are not be achieved with GEC. Further reductions of at least 52 million tonnes CO<sub>2</sub> eq. are still required. Further action is necessary!
- The ETS is a key political and market instrument which would incentivize further mitigation efforts (additional to GEC) in manufacturing and utilities. Its application is crucial for the achievement of the INDC goals.



# Proposed activities for the second tranche under PMR for 2016-2017

- **Stakeholder Consultation Process on the Developed Benchmarks**

- To conduct cross meetings among line Ministries to understand the issues;
- To conduct multi-stakeholder workshop(s): for discussion of general issues relating to the benchmarks and to enable conflicting views to be aired
- Bi-lateral meetings between the Ministry of Energy and individual industries: to allow more technical (and less political) discussions.

- **Enhancement of Kazakhstan's Carbon Unit Registry: Technical and Legal Aspects**

- To perform an analysis of the registry's technical and legal frameworks
- To implement the resulting recommendations.

# Proposed activities for the second tranche under PMR for 2016-2017 (continued)

## **Development of E-Reporting and Supporting Institutional & Legal Frameworks**

- Gathering and analysis of system requirements to develop the reporting platform, as well as software development methodology – if applicable;
- Development of electronic templates for monitoring plans, annual emission reports, verification reports, and improvement reports – if applicable;
- Development of quality assurance (QA) and quality control (QC) measures and plans in order to ensure high quality, accurate, consistent and complete data;
- Development of guidelines and training materials for users to ensure smooth reporting cycles and accurate data; and
- Analysis of the related institutional and legal issues (e.g. definition of institutional roles and responsibilities, financial considerations for administration and system maintenance, data access and confidentiality, data ownership etc.).

# Proposed budget and implementation timeline for 2<sup>nd</sup> tranche of TA

Activity	Time for completion	Estimated Completion date	Estimated budget
i. Stakeholder Consultation Process on the Developed Benchmarks	12 months	Late 2016	US\$50,000
ii. Development of E-Reporting and Supporting Institutional & Legal Frameworks	18 months	Mid 2017	US\$300,000
iii. Enhancement of Kazakhstan's Carbon Units Registry: Technical and Legal Aspects	18 months	Mid 2017	US\$150,000
<b>Total budget:</b>			<b>US\$500,000</b>

**Thank you for your  
attention and continued support!**