

# 16<sup>th</sup> ERRA Energy Investment and Regulation Conference

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## Carbon emission regulation in Kazakhstan

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# Legal Framework

- 2009 Kyoto Protocol ratified
- 2011 "Ecological Code" was amended with ETS provision
- 2012 Law on "Energy saving and energy efficiency" enacted
- 2013 Renewable support law was modified with feed-in tariff
- 2013 ETS (Pilot) Phase I with grandfathering allocation
- 2013 Presidential degree on transition to "Green Economy"
- 2014-15 ETS Phase II with grandfathering allocation
- 2016-17 ETS was suspended
- 2016 Ratification of Paris Agreement
- 2018-20 ETS Phase III with benchmark allocation

# KZ Emission Data

- 1990 emission level: 371 800 k tCO<sub>2</sub>e
- 2015 total emission: 338 500 k tCO<sub>2</sub>e
- 2014 Non regulated sector's emission: 157 707 k tCO<sub>2</sub>e (46,59%)
- International obligations:
  - ❖ 2020 to reduce by -5%
  - ❖ 2030 to reduce by -15%
  - ❖ 2030 to reduce by -25% (voluntary)

# ETS as a tool of economic policy

| ETS allows:  | ETS implies:  |
|--|---|
| <ul style="list-style-type: none"><li>• To apply market forces to stimulate low carbon development instead of state administration;</li><li>• Improve investment climate;</li><li>• Promote competitive markets and prices;</li><li>• Address economic growth priorities (Carbon leakage).</li></ul> | <ul style="list-style-type: none"><li>• Sophisticated market design and regulation of carbon trading to address market failure;</li><li>• Investment climate and investments funds;</li><li>• Market price signals to end-users;</li><li>• Alternative fuel and energy sources;</li></ul> |

# Kazakhstan Carbon Regulation

|                        |  |
|------------------------|--|
| Industry               | <ol style="list-style-type: none"><li>1. Oil and gas</li><li>2. Power generation (electricity and heat)</li><li>3. Mining</li><li>4. Metallurgical</li><li>5. Chemical</li><li>6. Construction industry (Cement, bricks, lime, gypsum)</li></ol> |
| Reporting requirements | 10 000 CO <sub>2</sub> eq and above  |
| Carbon cap and ETS     | >20 000 t CO <sub>2</sub> eq   |

# Kazakhstan ETS

## ■ Phase I (pilot phase)

- imposed allowance surrender obligations on 178 companies,
- Total cap for regulated companies was 147 million tCO<sub>2</sub>e
- Allocation at 2010 actual emission levels
- No penalty for non-compliance.

## ■ Phase II (2014-2015)

- Covered 166 entities,
- Major Emitters (emissions exceed 20,000 tCO<sub>2</sub>e) are allowed to trade allowances domestically through emissions exchanges.
- Total cap for regulated companies was 153 million tCO<sub>2</sub>e
- All allowances are distributed for free at 2011-12 level

## ■ Phase III (from 2018)

- Option to select Grandfathering or Benchmark
- Base line cap (average carbon emission in 2013-2015)
- Benchmark for existing facilities (average production in 2013-2015\* benchmark)
- Benchmark for new facility (planned production\*benchmark)
- Additional free allowances in case of modification or new capacity
- Auctioning for additional allowances is introduced

# 2016 Kazakhstan Power Industry data

**Traditional generators:** 118 power plants

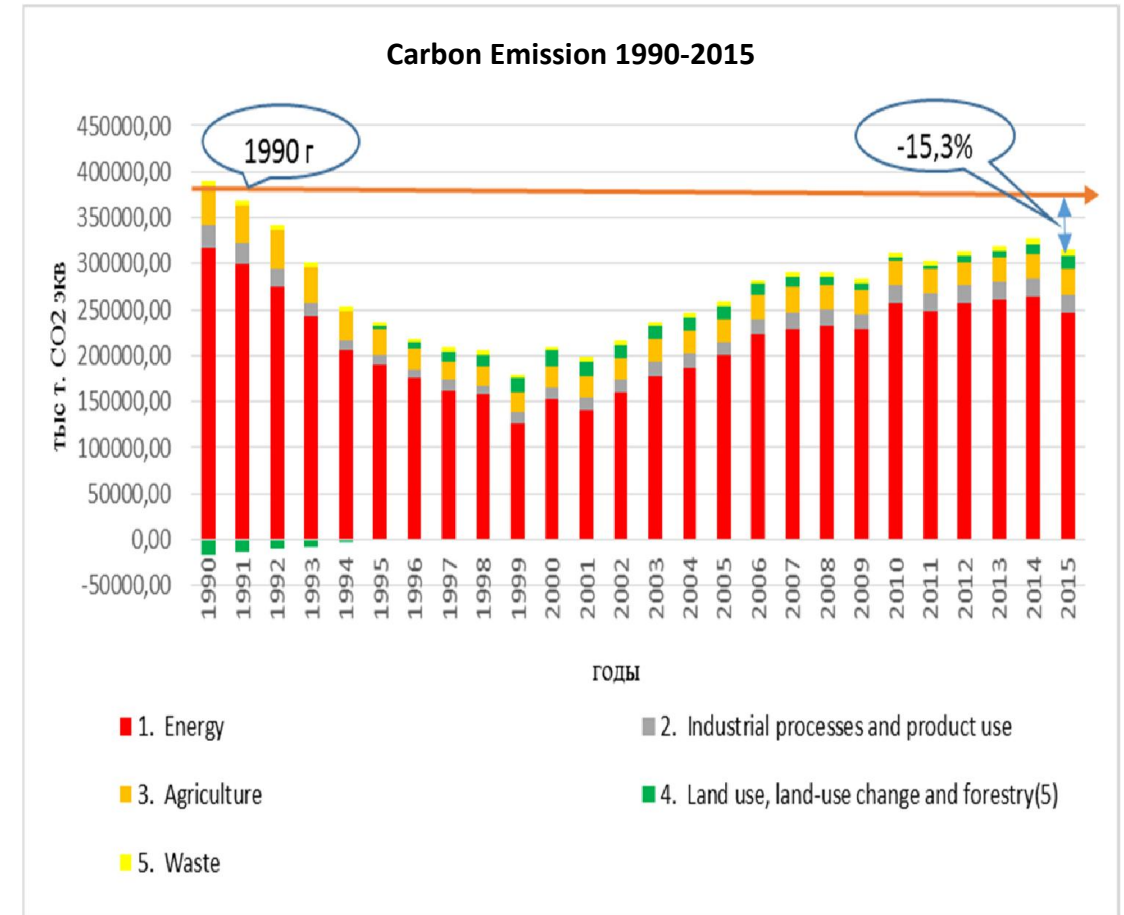
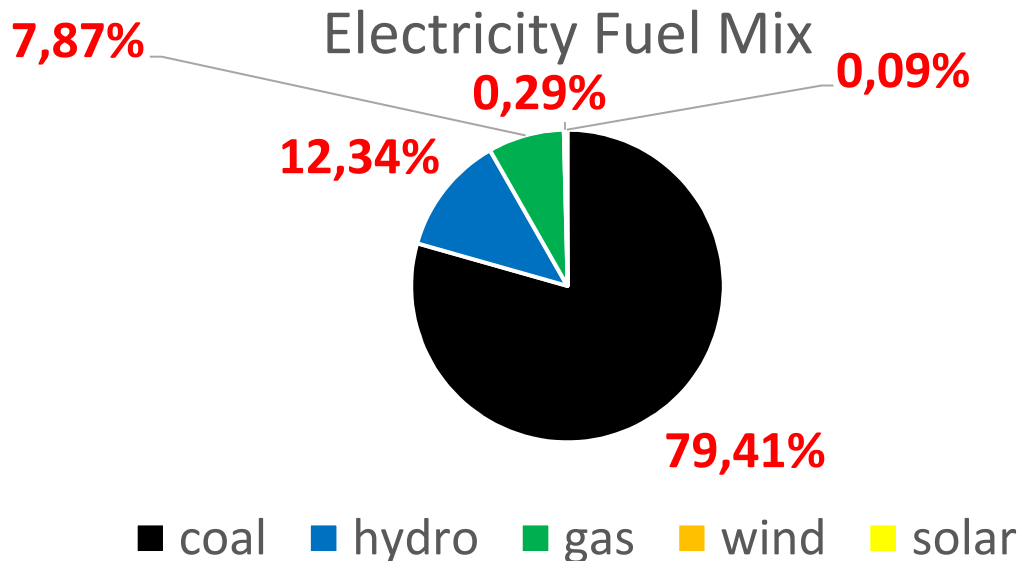
**Total installed capacity:** 22 055.5 MW

**Available capacity:** 18 789.1 MW

**Electricity generation:** 94 076,5 mln. kWh

**Electricity demand:** 92 311,6 mln. kWh

**Renewable generators:** 304,7 MW



# How to comply with carbon regulation?

## 1. Reducing GHG emissions by:

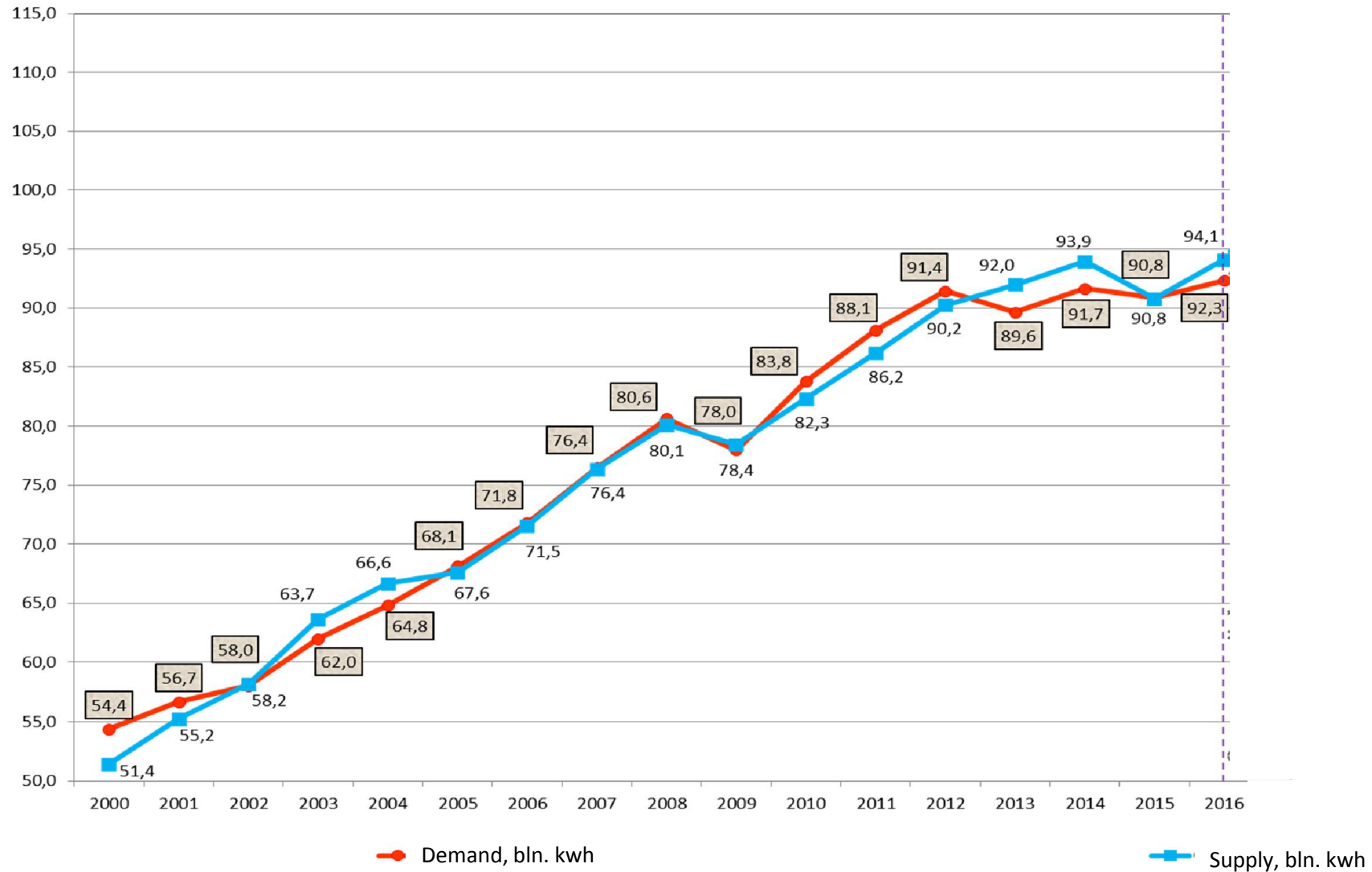
- ▶ 1.1. improving operating efficiency;
- ▶ 1.2. investing into modern technologies;
- ▶ 1.4. switching to less carbon-intensive energy sources (natural gas/renewables);
- ▶ 1.5. shutting down inefficient facilities.

## 2. Purchasing additional carbon allowances.

## 3. Use of offset program and free carbon allowances.



# Carbon regulation in growing economy



## Large and Long-term Investments are needed

1. Kazakhstan has a great potential to reduce GHG emissions (471 million tons of CO<sub>2</sub>) by reducing the intensity of emissions from 0.98 tons of CO<sub>2</sub> per MWh in 2015 to 0.45 tons of CO<sub>2</sub> per MWh in 2045.
2. To implement the strategic goals of the transition to green economy, Kazakhstan needs \$ 96.2 billion investment in the period 2015-2045
3. The economically sound level of tariffs for electricity should be \$41.5/MW to ensure the return of private investment.
4. Improving the investment climate is needed through an independent regulator and liberalizing the electricity market.

# Green industry regulation

- The electricity prices for end-user remain the lowest in the post-Soviet space (after Ukraine) of 0,03 USD/kWh (10.99 tenge/kWh\*).
- Energy tariffs are socially sensitive and determine competitiveness for energy-intensive mining and metallurgical enterprises.
- Sustainable power industry regulation with focus on:
  - Adapting growing renewables sector;
  - Attracting green investments;
  - Addressing technological shift;
  - Stimulating demand response and protect vulnerable consumers.

\* <https://informburo.kz/novosti/po-deshevizne-elektroenergii-kazahstan-ustupil-lish-ukraine.html>

# THANK YOU FOR YOUR ATTENTION!

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