Supporting Renewable Technology
Inclusive Heat Supply Legislation for
Developing the Law "On Heating"
for the Republic of Kazakhstan

Ronald Rost, Dornier Power and Heat GmbH, Germany
14 June 2023, Manila, Asian Clean Energy Forum
Agenda

Dornier Group introduction

Project summary

The way forward for Kazakhstan heating sector
Company and Knowledge united in Five Business Units

**MOBILITY**
- The designers of mobility
  - Railroad Systems & Logistics
  - Mobility Strategies & Transport Systems
  - Green Transport incl. E-Mobility
  - Aviation & Airports
  - Real Estate Management

**WATER**
- The specialists for water resources
  - Water Supply & Wastewater Management
  - Strategic Reservoirs
  - Monitoring
  - Groundwater Management

**NUCLEAR SERVICES**
- The professionals for nuclear technology
  - Deconstruction Planning
  - Disposal Planning
  - Nuclear Waste Management
  - Repository Documentation
  - Radiation Protection

**POWER AND HEAT**
- The experts for energy
  - Engineering
  - O&M Germany
  - O&M International
  - Radiation Protection

**RENEWABLES**
- The companions the energy turnaround
  - Solar
  - Wind
  - Grids & Storage
The Dornier Group stands for

60 years of market experience

EUR 80 million sales

1,100 projects per year

2,000 employees worldwide

21 subsidiaries distributed over

9 countries In Europe, Asia and Africa

Renewable Energy inclusive Heat Sector Legislation ADB TA 6564 KAZ
Dornier Group introduction

Project summary

The way forward for Kazakhstan heating sector
The Project


- Assess the existing situation,
- Develop a suitable heat supply sector model,
- Draft the new legislative package on heat supply based on international practice replicable in Kazakhstan, with focus on renewable energy integration and participation of the private sector (PPP),
- Support the consultation process, undertake capacity building.

The Draft Law «On Heating» is currently being debated in the Parliament. It is expected to pass soon. 7 main documents of secondary legislation are developed and „ready to go“.
Assessment of sector weaknesses and challenges

Due diligence found substantial weaknesses

- Reliability
- Efficiency
- Sustainability

Detailed comparison with suitable comparator jurisdictions

- Legislative, institutional, regulatory structure
- Efficient and effective technologies
- Use of renewable energy sources
- Approaches to planning
- Tariff regulation and tariff structure
- Support of vulnerable consumers
- Professional capacity and gender equality
- Involvement of private sector

Technical Due Diligence in 14 cities
Identifying problems

01. Lack of Strategic goals and Plans
02. Investment Deficit
03. Lack of Responsibility and lack of Information
04. Loss-Making and Inefficiency of Heat supply Entities
05. Inefficiency in Budget Spending
06. Lack of Instruments for resolving Local Economic and Technical problems
07. Problems in the System of Technical Commitments and Standards
08. Failure to Regulate the relationship between Actors
09. Lack of Mechanisms for implementing Energy Efficiency and RES
Areas of international experience most relevant to the challenges

- Practical deployment of renewable heating
- Technical methods of increasing efficiency of heat production, transport, consumption
- Heat sector planning
- Models of PPP
- Heat tariff setting (regulation, structure, etc.)
- Practical implementation of support to vulnerable consumers
- Gender equality in the heat sector

Main components of the new legislation addressing the challenges

- Strategy, targets, KPIs and Masterplans
- Tariff methodology and economically justified tariffs
- Technical standards, regulations and metering
- Methods for attracting investments
- State support for vulnerable customers
- Optimising operations (Single Heat Company)
- Market relationships between entities
- Obligations for Energy Efficiency and Renewables
- Monitoring and control

The project assisted the Kazakh counterparts to identify root causes of problems and develop solutions fitting the Kazakhstan situation. Knowledge transfer and capacity building provided systematic theoretical and practical knowledge on technical, economic and institutional aspects of modern heat sector.
The new Law „On Heating“ – Content overview

- Strategic Objectives and Basic Principles
- Sector Organisation
- Price Regulation and Social Protection
- Regulatory Methods and Powers
- Sustainability: Energy Efficiency and RES
- Transition
- Legal Framework
- Planning
- Technical Development
**Drafting Process**

**May 2021**
- Publication of Preliminary concept papers

**September 2021**
- Consultative document publication

**November 2021**
- Submission of the Concept and Preliminary Draft Law to the IAC

**December 2021**
- Approval of the Concept at the IAC

**February 2022**
- Establishment of WGs by order of the Ministry of Energy

**October 2022**
- Publication of Draft law and Draft regulations

**December 2022**
- Submission of the Draft law to the Government / Parliament of Kazakhstan

**October 2020 – June 2021**
- TDD and LDD, development of the Draft law concept

**August 2021 – March 2022**
- Preparation of Draft law, accompanying Draft legislation and Regulations

**March – August 2022**
- Discussion of Draft law in the WG

**May – June 2022**
- Discussion of the Draft law in the media, RIA, Public Council of the MoE, etc.

**May – October 2022**
- Consideration of the Draft law at the RBC, Scientific and Legal, Economic and Anti-Corruption Expertise

**August – November 2022**
- Agreements with the MoJ, relevant Governmental bodies, and finalisation

**August – September 2022**
- Discussion and Coordination of Draft regulations within the WG and with the relevant Public Authorities

**October – November 2022**
- Finalise the Draft law in line with the Proposals of the OPM, agree the draft with the PA

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**Abbreviations:**
- TDD – Technical Due Diligence
- LDD – Legal Due Diligence
- WG – Working Group
- IAC – Inter-Agency Commission
- MoE – Ministry of Energy
- MoJ – Ministry of Justice
- RBC – Republican Budget Commission
- RIA – Regulatory Impact Analysis
- OPM – Office of the Prime Minister
- PA – Presidential Administration

**Renewable Energy inclusive Heat Sector Legislation ADB TA 6564 KAZ**
Dornier Group introduction

Project summary

The way forward for Kazakhstan heating sector
The law provides the legal basis

Improvement of Operation and Transition to a New generation for all segments of the Heat sector

Public District Heating System

Local District Heating System

Individual Heat Supply System
The task is huge

The challenge for the heat sector is to overcome the backlog caused by insufficient funding and misguided regulation over the past 20 years.

Efficiency, Quality and Reliability, Environmental Sustainability

Best practice heat supply system

Master Plans Optimise Investments and identify sources of Financing

Budget Funds

Tariffs

Green Funding

Private Partners and funds are attracted through PPP forms specifically Adapted to the Heat sector

Kazakhstan's heat supply system

1990 2021 2030 2040

Investments

Catch-up

Exhaustion

Costs

Efforts

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Mechanisms for implementing Energy efficiency and Renewable Energy

Priority to consider a renewable energy alternative RES when replacing District heating sources

If there is a RES source in the District Heating system - use according to the principle of least variable costs

Support for investments through state programmes and promotion of PPPs

Incentives for measures to reduce own needs, losses in heat networks

Optimisation of sources (base, peak capacity) and connected consumers

Conversion to a closed system and Individual Heat Points

Budget financing for planned thermo-modernisation of buildings

1. Public sector buildings
2. Multistoried buildings

State support for thermo-modernisation of private enterprises and houses

Waste incineration

Geothermal Energy

Biomass

CHP/HOP on Biogas

Centralised / decentralised heat pumps

Heat storage/electric boilers fed by wind power

Large thermosolar generator

Waste heat

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Let’s keep in touch – My contact data

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Selected Heat Sector Reference Projects

- **District heat storage Berlin-Neukölln**
- **Wilhelmsburg geothermal heating centre**
- **Efficiency increase and solar heat for the Lübeck Moisling district heating network**
- **Demonstration plant Aquifer storage Tiefstack**

**Architect/Engineer for the Generation Strategy 2030**

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**Architect/Engineer energy supply Potsdam-Krampnitz**

**Plants for heat and cooling supply with geothermal energy driven heat pump in Bochum**
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