SCREENING CHAPTER 15
ENERGY

AGENDA ITEM
NEW AND RENEWABLE SOURCES OF ENERGY AND DEMAND MANAGEMENT-PART I

Demand Management-Buildings

Country Session: The Republic of TURKEY
14-15 June 2006

LEGAL FRAMEWORK

- **By-Law on Heat Insulation in Buildings**
  (Official Gazette: 8 May 2000, no. 24043)

By-Law on Heat Insulation in Buildings

Purpose and Scope (Art. 1)

- to reduce heat loss,
- to ensure the conservation of energy,
- applies to all buildings within the settlement areas, excluding warehouses, barns, animal shelters which do not need to be heated.

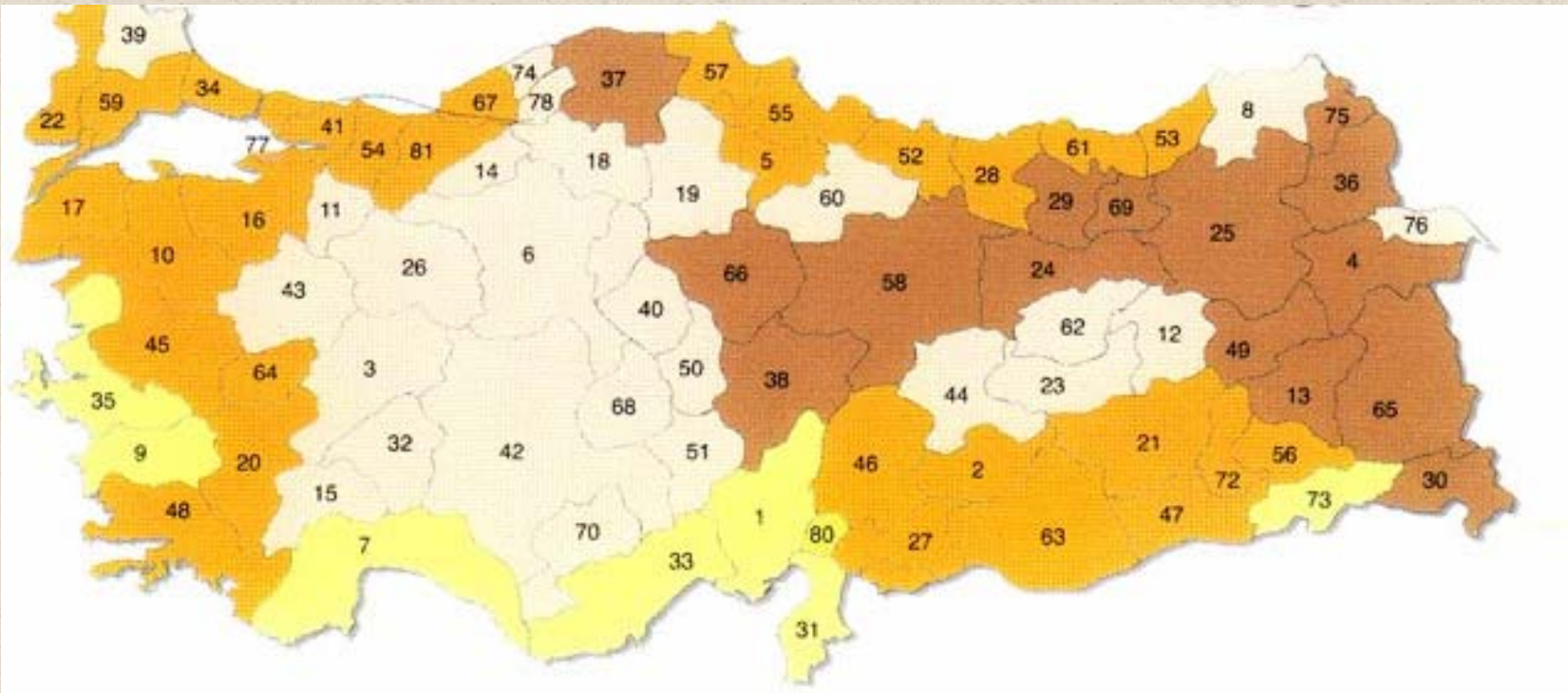
Legal Base (Art. 2)

Decree Law on Organization and Duties of the Ministry of the Public Works and Settlement No 180 / 209

By-Law on Heat Insulation in Buildings (CONT'D)

Climatic Zones (Art. 3)

Regulation divides Turkey into four climatic zones depending on average temperature degree-days of heating.



By-Law on Heat Insulation in Buildings (CONT'D)

The Annual Heating Energy Requirement (Art. 4)

Buildings should be insulated according to environmental conditions and requirements. The calculated Annual Heating Energy Requirement of buildings should not exceed the limits specified in the following Table, on climatic zones.

By-Law on Heat Insulation in Buildings (CONT'D)

ZONE 1	An $Q'_{1.DG}$ =	44,1 x	A/V +	10,4	[kWh/m²,a]
	V_{total} $Q'_{1.DG}$ =	14,1 x	A/V +	3,4	[kWh/m³,a]
ZONE 2	An $Q'_{2.DG}$ =	70 x	A/V +	24,4	[kWh/m²,a]
	V_{total} $Q'_{2.DG}$ =	22,4 x	A/V +	7,8	[kWh/m³,a]
ZONE 3	An $Q'_{3.DG}$ =	76,3 x	A/V +	36,4	[kWh/m²,a]
	V_{total} $Q'_{3.DG}$ =	24,4 x	A/V +	11,7	[kWh/m³,a]
ZONE 4	An $Q'_{4.DG}$ =	82,8 x	A/V +	50,7	[kWh/m²,a]
	V_{total} $Q'_{4.DG}$ =	26,5 x	A/V +	16,3	[kWh/m³,a]

Building heating requirement according to A/V rate in TS825.

By-Law on Heat Insulation in Buildings (CONT'D)

Project Requirement (Art. 7)

- 'Heat Insulation Project' is compulsary.
- The project should be prepared by an authorized mechanical engineer, using the calculation method defined in the TS 825 on 'Thermal Insulation in Buildings'.
- The project should be handed in with the installation project to the relevant government offices.

By-Law on Heat Insulation in Buildings (CONT'D)

Exceptions (Art. 8)

the insulation project will not be applied:

- New buildings with less than 100 m^2 total heated floor area, within the village areas
- Existing buildings, within the village areas

Architectural Application Project (Art. 11)

- The Architectural Application Project and system details should be consistent with the materials indicated in the heat insulation project and should prevent the thermal bridges.

By-Law on Heat Insulation in Buildings (CONT'D)

Identity Certificate of Heat Requirement (Art. 12)

- The Identity Certificate of Heat Requirement should be annexed to the Building Use Permission Certificate
  - Certificate should be signed by the heat insulation project designer and the engineers who realized application of the project which should have been approved by the municipality or governorship.

- Identity Certificate of Heat Requirement should be included in the file of the building administrator and a certified copy should be hanged at the entrance of the building.

- Components of identity certificate:
  - information on the location, intended-use and fuel type of the building.
  - The heating energy label of the building according to the limited heating energy requirement (Q'), the calculated heating energy requirement (Q) and the ratio between them (Q/Q')

By-Law on Heat Insulation in Buildings (CONT'D)
Heating centre and chimneys (Art. 13)

- The factors which should be considered in the construction details of the heating centre and chimneys :
  - -Dimension of the heating centre and chimneys according to the type of fuel
  - -Design parameters of the heating centre and chimneys according to safety and health requirements
  - -Selection of the materials used
- This article refers to following Turkish Standards (TS);
  - -The height of heating centre refers to TS 2192 – Layout of heating system
  - -The insulation materials of the chimneys and smoke pipes refers to TS 901 Fibrous Insulating Materials
- This article also includes the education and certification of the boiler operators.

By-Law on Heat Insulation in Buildings (CONT'D)

Compliance of Construction and Insulation Materials with the Standard (Art. 16)

- The calculated heat transfer coefficient (λh) of the construction and insulation materials has been listed in Annex 5 of TS 825.
- Turkish Standard Compliance Certificate should be required for the construction and insulation materials.

By-Law on Heat Insulation in Buildings (CONT'D)

Inspection and Validity (Art. 17)

- In all phases of the construction, inspections related to heat insulation will be conducted by municipalities within the municipality boundaries

- Outside the municipality boundaries and in all public buildings regardless of the boundaries, inspections should be done by governorship.

- During the construction phase of sole/floor, wall and ceiling, responsible technical staff will submit a report to the municipality or governorship on the basis of their inspection on weather or not the insulation was made in accordance with the details specified in the project

Thank You For Your Attention