Turkey

Building Code Implementation - Country Summary


Section I: Code Development

History

Starting year
Turkey’s building energy regulation focuses on thermal resistance. The National Standard of Thermal Insulation Requirements for Buildings TS 825 was first issued in 1999 and became mandatory in June 2000. This standard has been revised several times subsequently, latest version of which was published in 2013 (available here in English: http://www.detic.eu/placeholders/documents/activity/binalar_icin_termal_izolasyon_gereklikleri_turk_standartlari.pdf). More recently, Turkey has begun to align with the European legislation on buildings, including the Energy Performance of Buildings Directive (EPBD). A part of this process is adoption of Building Energy Performance (BEP) Regulation, which envisages the use of district heating and/or renewable energy for the buildings above a certain threshold. BEP is mandatory for all new buildings except for industrial buildings, temporary buildings used less than 2 years, buildings with a total useful floor area of less than 50m², greenhouses, workshops as well as stand-alone buildings without heating or cooling requirements.

Timeline/ road map
No formal building code roadmap in place..

Existing codes

Structural coverage

<table>
<thead>
<tr>
<th>Scale (National, regional, local, etc.)</th>
<th>Building size threshold</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential buildings</td>
<td></td>
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<tr>
<td>New buildings</td>
<td>Buildings with more than 2,000 m² of usable space will be equipped with a central heating system; for buildings more than</td>
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Regulation) 20,000 m², various ways to use renewable energy and cogeneration facilities are defined.

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<tbody>
<tr>
<td>National (thermal regulation only): TS 825</td>
<td>All new buildings except buildings containing passive solar energy systems</td>
</tr>
<tr>
<td>Existing buildings for retrofits National (thermal regulation only): TS 825</td>
<td>Code requires compliance with the latest version when retrofits affect at least 15% of the total area</td>
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</table>

### Commercial buildings

| New buildings National (Building Energy Performance Regulation) | Commercial buildings and purpose-built service buildings with total construction area of minimum 20,000 m² or with total annual energy consumption of 500 tonnes of oil equivalent and above; government buildings with total construction area of minimum 10,000 m² or with total annual energy consumption of 250 tonnes of oil equivalent and above. |
| National (thermal regulation only): TS 825 | All new buildings except buildings containing solar energy systems. |
| Existing buildings for retrofits National (thermal regulation only): TS 825 | Code requires compliance with the latest version when retrofits affect at least 15% of the total area |

TS 825 is a mandatory national building energy regulation that focuses on thermal insulation. It sets minimum U-values for envelope components. In addition, Turkey has adopted BEP as a part of voluntary compliance with European legislation. BEP is mandatory for certain buildings. It requires covered buildings to be equipped with a central heating system; and for buildings over 20,000 m², BEP defines ways to use renewable energy and cogeneration facilities. Provincial and local governments are responsible for verification and enforcement.

**Measures covered**
- Envelope  [TS 825 only regulates the envelope/thermal insulation]

**Correction/new codes**

**Motivation/policies for improving existing building energy codes**
- Republic of Turkey National Climate Change Action Plan (2011-2023)
• United National Development Programme on promoting energy efficiency in buildings in Turkey (2011-2015)

Revision schedule
According to the National Climate Change Action Plan:
• By 2017, all buildings will have energy performance certificates, 20% of energy consumption in buildings will be provided from renewable energy.
• By 2023, Turkey will upgrade requirements for heat insulation and reduced energy consumption in buildings by 20%.

According to the Energy Efficiency Strategy Paper:
• In the year 2023, the heat insulation and efficient heating systems meeting current standards shall be applied in all commercial and service buildings having total usage area of more than 10,000 m² as well as residences including class 3 and onwards out of the building groups defined in the Communiqué About Approximate Unit Costs of the Buildings, which envisages putting into force annually, in metropolis contiguous areas from the buildings having usable attribute in the scope of Urban Transformation Law and Earthquake Regulation.
• At least one quarter of (1/4) building stock available in the year 2010, shall be rehabilitated as sustainable buildings by the year 2023.

Under the 10th Development Plan (2014 – 2018):
• It is targeted to reduce energy consumption in public buildings by %10 with indicators to be determined, and implementations on improving energy efficiency until 2018, compared to the 2012 level.

Involvement of stakeholders in the development of codes.

Section II: Code Implementation

Administration

Administrative/Enforcement Structures

Government agency

Ministry of Energy and Natural Resources General Directorate for Renewable Energy (GDRE): GDRE is responsible for the implementation and coordination of the energy efficiency and renewable energy
programs. It also carries out trainings, energy auditing, legislation preparation and public awareness raising campaigns for enhancing energy efficiency in all end-use sectors.

**Ministry of Environment and Urbanization** (predecessor: The Ministry of Public Works and Settlement): The Ministry elaborates necessary legislation, technical documents and standards related to architecture, engineering and contracting services.

**Municipalities**: check projects regarding Code compliance, as well as verification and enforcement of thermal regulation.

**Construction inspection companies**: Control Code compliance during construction phase

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**The roles of stakeholders**

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<tr>
<th></th>
<th>Design</th>
<th>Construction</th>
<th>Pre-occupancy check</th>
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</thead>
<tbody>
<tr>
<td>The role of federal/central government</td>
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<tr>
<td>The role of state/ and municipalities</td>
<td>Code compliance check</td>
<td>Verification and enforcement</td>
<td></td>
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<tr>
<td>Involvement of third parties and their role</td>
<td>Code compliance check</td>
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**Requirements for commissioning before occupancy**

No

**Requirements for energy audits after occupancy**

No

**Tools used for compliance checking**

**Software used for compliance checking**

There is software for calculating building energy performance, although there is no such software for checking the code compliance. BEP-TR and BEP-HY programs enable residences, office buildings, educational buildings, hotels and commercial centers assess energy performance of new buildings and existing building typologies.

**Capacity building and education**

**Education and capacity building programs that support code implementation**

The UNDP Project on promoting energy efficiency in buildings provides training of stakeholders on best practices in European legislation and enforcement.
**Target groups for programs**
Government officials, building energy managers, maintenance technicians, energy service providers, universities.

**Section III: Compliance & Enforcement**

**Penalties, incentives and other mechanisms for improving compliance**

*Penalties for non-compliance with energy provisions in codes*

- Refusal of permission to occupy

*Incentives/rewards to go beyond minimum required performance level*
No

**Compliance assessment**

**Section IV: Building Materials & Energy Performance Certificates**

**Building materials (e.g. windows, insulation, HVAC, lighting)**
Turkey follows European CE marking, which is mandatory for construction materials and cover energy economics.

**Energy Performance Certificates**

*Building codes and energy identity certificates*

The thermal insulation requirements are separate from the energy identity certificates. The building performance certificates have been recently introduced. The BEP regulation stipulates that all new buildings must have an energy identity certificate (valid for 10 years) energy performance of which is class C or higher, whereas existing buildings will be required to have that certificate by May 2017.\(^2\) Since 2017, buildings without a performance certificate cannot be sold or rented.

*Energy identity certificates replacing codes in some regions/areas*
The thermal insulation requirements and the energy identity certificates are separate requirements.

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Existence of national registry database for energy performance certificates

Number of certified buildings and the percentage
According to data from the Ministry of Environment and Urbanization of Turkey, since 2011, a total of 287,992 certificates were obtained for houses, residences, offices, hospitals, education buildings, hotels and malls.\(^3\)

\(^3\) http://beptr.bep.gov.tr.