



NOSTROY activities for the development of normative and technical base of energy saving and raising energy efficiency of buildings and structures

**Director of the Department of Technical
Regulation of the National Association of
Builders (NOSTROY)
S.V.Pugachev**

Presidential Decree of 4 June 2008. Number 889 "On the measures to improve the energy and environmental performance of the Russian economy"

ENERGY STRATEGY OF RUSSIA FOR THE PERIOD UP TO 2030

**Approved by the Federal Government Directive
November 13, 2009 N 1715-r**



Project

RUSSIAN ENERGY STRATEGY FOR THE PERIOD **UP TO 2035**

Particular attention in the ES-2035 is on raising energy efficiency as the main mean of improving the efficiency of the economy. ES-2035 involves lowering GDP electric capacity by 40% and energy consumption - by 50% by 2035 (from level of 2010)

Federal Law of November 23, 2009 № 261-FZ "On energy saving and energy efficiency improvements, on Amendments to Certain Legislative Acts of the Russian Federation"

Building energy efficiency rating system in Russia and the EU

RUSSIA

261-Φ3 On energy saving and efficiency

- energy performance certificate;
- special section in the project documentation on measures to ensure energy efficiency;
- control of energy efficiency indicators;
- compulsory informing consumers of the class of the building's energy efficiency
- energy audit

EU

EPBD – Directive 2010/31/EC

- Energy Performance Certificate(article 11);
-
- control of energy efficiency indicators;
- accommodation in a conspicuous place accessible to people observation
- inspection of heating and air conditioning and inspection report

Building energy efficiency rating system in Russia and the EU

RUSSIA

Ministry of regional development
Decree on April 8, 2011 №161

"On approval of rules defining classes of energy efficiency of houses and Requirements for energy efficiency index to be placed on the facade of the building"

- INDEX is defined by:
 - architectural, functional and technological, structural and engineering solutions;
 - indicators characterizing the annual specific values of energy consumption;
 - deviation of the actual values of the specific energy consumption of the rated level
- Class Index

EU

European standard EN
15217:2007

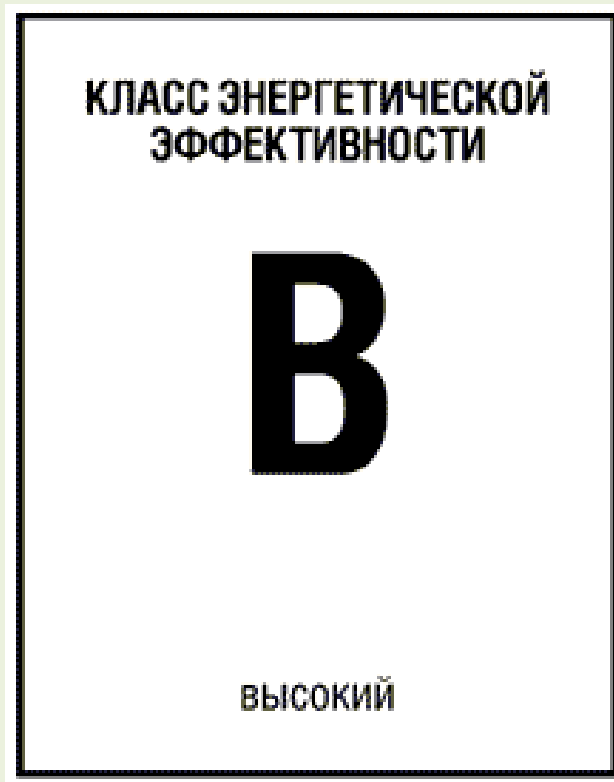
Energy performance of buildings
Methods for expressing energy performance and for energy certification of buildings

- Appendix B
- Building energy classification procedure

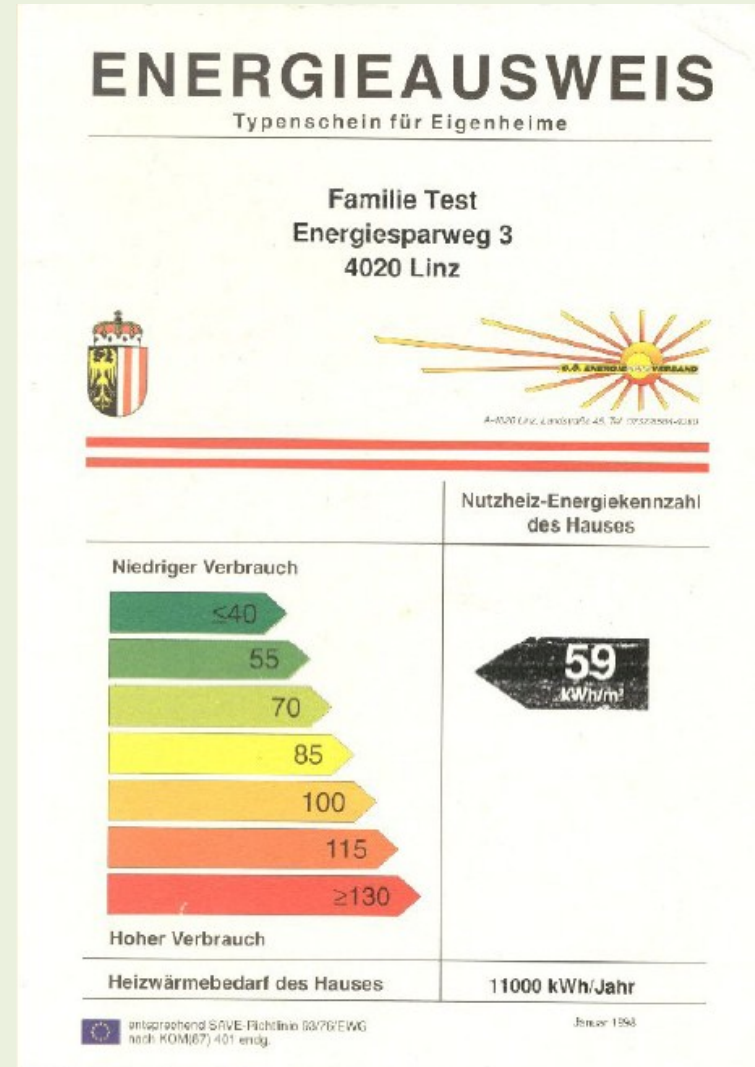
Building energy efficiency rating system in Russia and the EU

RUSSIA

- INDEX CLASS placed on the facades of buildings



EU



Building energy efficiency rating system in Russia and the EU

RUSSIA

Project

Ministry of regional development directive

"On approval of requirements on energy efficiency in buildings, structures and facilities"

- Normalized parameters of total specific annual consumption of energy for heating, ventilation, hot water

СП 50.13330-2012 «SNIP 23-02-2003
Thermal protection of buildings»

Requirements for protective structures

EU

EPBD – Directive 2010/31/EC
(Article 6 New buildings,
Article 7 Existing buildings)

- Proof of compliance with the minimum requirements for energy efficiency
- Taking into account all technical, climatic and economic opportunities of high-performance alternative systems
- Proof of compliance with the minimum requirements of walling

EN 15217:2007 European standart

- Appendix D performance requirements for the building envelope and system components

Building energy efficiency rating system in Russia and the EU

RUSSIA

Order of the Ministry of Energy
of the Russian Federation on
April 19, 2010 № 182

"On approval of the energy
passport requirements based on
the results of mandatory energy
audit"

Annex №24

**ENERGY PASSPORT compiled on the
basis of project documentation**

EU

European standard EN
15217:2007

Energy performance of buildings
Methods for expressing energy
performance and for energy
certification of buildings

Annex C

Format of energy certificates

Formation of a stable pyramid of regulations on energy efficiency in construction

Organizations standards :

- SRT NOSTROY - Standardization Program more than 200 documents
- SRT NLP

International, regional and international standards and codes

- EN 15217 Energy certification of buildings
- EN 15239 Ventilation system
- EN 15316 - building heating system

National standards and codes

- **SP And GOST R**
- JV "EEZ. Ways of expressing energy performance of buildings and energy certification of buildings "
- JV "EE. Calculation of energy consumption for heating and cooling "
- JV "Heating buildings. Method of calculating the energy characteristics and performance of the system"
- JV "EEZ. Total energy consumption and determination of levels of energy consumption "

Acts of the executive authorities of the Russian Federation

- Order number 161 Russian Ministry of Regional Development
- Resolution of the Government project;
- Order of the Russian Ministry of number 182;

Federal law

- 384-FZ "Technical Regulations on safety of buildings!
- 261-FZ "On Energy Saving ..."



Energy saving and raising energy efficiency index in construction

On NOSTROY's request in 2011 following research was carried out: developed the concept and program of normative documents in the field of energy saving and energy efficiency of buildings and facilities for the period until 2015

Analyzed:

Regulatory, legislative and technical base of the documents of the Russian Federation

Regulatory requirements in Europe



Energy saving strategy in the U.S. (according to the documents of the American Society of Heating, Refrigerating and Air Conditioning ASHRAE)



Experience in implementing regulations to improve energy efficiency of buildings in the Baltic countries, Central and Eastern Europe

Program was approved by Russian Ministry of Regional Development on 24.04.2012

Contains 195 documents:

- **9 main documents** ensuring harmonization with EN supporting EPBD Directive 2010/31/ES that implements the Federal Law "On Energy Saving ..."
- **186 standards** establishing requirements for:
 - terminology, symbols, dimension indicators
 - system of basic standards in terms of energy consumption of buildings
 - common system of energy intensity of buildings
 - defining indicators for the annual energy consumption of engineering systems of buildings
 - determining thermal characteristics walling etc.

Development of primary rulebook on energy efficiency in buildings (EEZ) and the Catalogue of technical solutions and practical recommendations

Energy efficiency of buildings. Total energy consumption and energy levels determination

Energy efficiency. Calculation of energy consumption for heating and cooling

The heating system of buildings. Method for calculating the energy performance and system performance indicators

Energy assessment of buildings. Ways of expressing energy performance of buildings and building energy certification

CATALOG of technical solutions and practical recommendations

During the development of the documents following articles are taken into account

SP 50.13330.2011
"Thermal protection of buildings"
SP 60.13330.2012
"Heating, ventilation and air conditioning"
GOST 31168 - 2003
"residential buildings. Method for determination of the specific consumption heating energy "

EN 15603 – Total energy consumption

SP 50.13330.2011
"Thermal protection of buildings"
SP 60.13330.2012
"Heating, ventilation and air conditioning"

ISO 13790 Calculation of energy consumption for heating and cooling

SP 50.13330.2011
"Thermal protection of buildings"
SP 60.13330.2012
"Heating, ventilation and air conditioning"
GOST R 54865-2011
GOST R 54856-2011
SP 41-104-2000
SP 41-108-2004
SNIP II-35-76
SNIP 41-02-2003

EN 15316 – Heating systems of buildings - 11 independent parts of documents

SP 50.13330.2011
"Thermal protection of buildings"
SP 60.13330.2012
"Heating, ventilation and air conditioning"
GOST 3168 - 2003
GOST R 51541

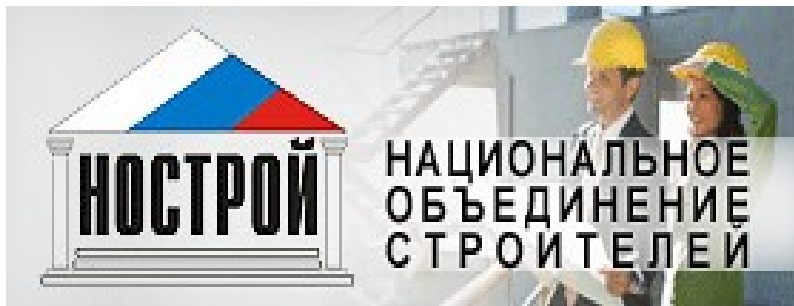
EN 15217 – Ways of expressing the energy characteristics
DIN V 4701-10
ISO 13602

Integration of standard criteria
SRT NOSTROY 2.35.4-2011 "Green building. Residential and public buildings. Rating system stability habitat "



Development of the catalog of technical solutions and practical recommendations





**Thank you for your
attention!**

**123242, 3-4, Malaya
Gruzinskaya, 10th floor**

Tel: 987-31-50

E-mail: pugachev@nostroy.ru

**Web: www.nostroy.ru
www.cert-nostroy.ru**