GREEN STANDARD FOR EVALUATING FOOTBALL STADIUMS FOR THE 2018 FIFA WORLD CUP

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MARIANNA BRODACH
2018 FIFA World Cup
will be hosted by Russian Federation

Dates are: 14 June – 15 July (32 days)
A total of 64 matches will be played in 12 venues located in 11 host cities.
Saint Petersburg
Krestovsky Stadium (Zenit Arena),
Capacity: 68,134

Saransk
Mordovia Arena (new stadium),
Capacity: 45,015
Kaliningrad
Kaliningrad Stadium (new stadium),
Capacity: 35,212

Samara
Cosmos Arena (Samara Arena) (new stadium),
Capacity: 44,918
Moscow
Luzhniki Stadium (upgraded),
Capacity: 81,000

Nizhny Novgorod
Nizhny Novgorod Stadium (new stadium),
Capacity: 44,899
Moscow
Otkrytiye Arena (Spartak Arena),
Capacity: 45,360

Volgograd
Volgograd Arena (rebuilt),
Capacity: 45,568
Rostov-on-Don
Rostov Arena (new stadium),
Capacity: 45,000

Kazan
Kazan Arena (new stadium),
Capacity: 45,379
Sochi
Fisht Olympic Stadium (Fisht Stadium),
Capacity: 47,659

Ekaterinburg
Central Stadium (Ekaterinburg Arena),
(upgraded) Capacity: 35,000
The final will take place on 15 July in Moscow at the Luzhniki Stadium.
Football for the Planet is the official environmental program of FIFA and aims to mitigate the negative impact of its activities on the environment. It is the continuation of the environmental programs that have been developed for FIFA competitions since the 2006 FIFA World Cup in Germany.
In accordance with FIFA it is required that World Cup stadiums comply with "green construction" requirements.

The task was to develop The National Green Standard for Evaluation of Football Stadiums which shall ensure the capability to certify stadiums used for the 2018 World Cup at a level comparable to internationally recognized "green" standards, specifically to LEED certification standards.
ABOK had the experience in developing national green standards

Standard
STO NOSTROY 2.35.4-2011

Standard
STO NOSTROY 2.35.68-2012
Green building. Buildings and civil construction. Consideration of regional characteristics in the rating estimation of sustainability in building construction

Standard
STO NOSTROY 2.35.153-2014
Green building. Sport buildings. Account peculiarities of the rating estimation of sustainability in building construction

Standard
GOST R 54964-2012
Conformity assessment. Ecological requirements for estate properties
In 2014 the team of ABOK started to develop
The National Green Standard for Evaluation of Football Stadiums
In 2016 The Russian Green Standard for Evaluation of Football Stadiums of the FIFA 2018 World Cup in Russia was reported and approved by FIFA.
The Russian Green Standard for Evaluation of Football Stadiums
2018 FIFA World Cup
“RUSO Football Stadiums”
O Football Stadiums” standard has the following distinctive features:

- Standard is based on the national building codes in terms of architecture, structures, site plan, engineering, national economic and environmental norms with a particular focus on national priorities;

- Standard is intended specifically for certification of football stadiums according to green construction principles;

- Standard is based on the experience of designing, building, and operating Russian football stadiums, including those in Grozny, Kazan, and Rostov-on-Don;

- The requirements of the green standard correspond by 80-90% to the existing Russian requirements and norms. Therefore, the entire certification process is not artificial in any way. Rather, it is a continuation of the natural process but with a focus on the relevant criteria that are recognized by the international community and conform to FIFA requirements.
Systems of Criteria

The national standard “RUSO Football Stadiums” includes:

12 mandatory criteria (prerequisites) subdivided into 28 indicators,
and

51 rating criteria subdivided into 121 indicators
The mandatory criteria (prerequisites)

1. **Prevention of environmental pollution** during the construction phase of the project

2. **Reduction of water use for irrigation** of adjacent territory (the standard calls for watering the adjacent territory with storm water)

3. **Reduction of indoor water use** (the standard regulates the use of water-saving flushing tanks, shower heads, urinals, mixing taps, and design of a system for controlling and adjusting water pressure for end consumers)
The mandatory criteria (prerequisites)

4. **Water consumption metering** (metering of overall water consumption in the building must be implemented)

5. **Verification of requirements during venue commissioning** (compliance with the energy efficiency, water-saving, and ambient thermal comfort requirements for the building must be verified)

6. **Minimum energy performance of the venue** (ensuring a 5% reduction in base specific energy consumption, including heat and electricity consumption)
The mandatory criteria (prerequisites)

7. **Energy consumption metering** (metering of heat and electricity consumption must be implemented for the building overall and for specific building zones)

8. **Control of use of ozone-safe refrigerants** (only ozone-safe refrigerants that do not contain chlorine may be used)

9. **Sanitary protection and waste recycling** (implementation of initial waste sorting, use of air-tight garbage chutes and garbage disposal compartments with an independent mechanically-driven ventilation system)
The mandatory criteria (prerequisites)

10. **Recycling of construction waste** (a waste management plan must be developed for utilizing and disposing of construction waste that should be processed and recycled)

11. **Minimum ambient thermal comfort** (compliance with the minimal air and thermal comfort requirements must be ensured, taking into account PMV and PDD indicators and criteria of local thermal comfort per GOST 30494 and GOST R ISO 7730)

12. **Control of smoking areas** (Smoking is only allowed outdoors in a specially designated areas located away from the building entrances and air intakes)
12 categories 51 rating criteria 128 indicators

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Every indicator of 51 rating criteria has its specific weight (score), with the maximum total score of 655 points.

A football stadium may be certified if its score is 263 points or higher.

By analogy with LEED and BREEAM, the national system provides for 4 levels of certificates (A, B, C, D).
Football stadium «Kazan Arena» – «Silver» certificate «RUSO. Football stadiums»

Kazan
Kazan Arena (new stadium),
Capacity: 45,379
Krestovsky Stadium (Zenit Arena)  
«RUSO. Football stadiums» on the stage of design

Saint Petersburg  
Krestovsky Stadium (Zenit Arena),  
Capacity: 68,134
Otkrytiye Arena Stadium received a certificate with the GOOD level in accordance with the BREEAM In-Use standard.
Luzhniki Stadium in Moscow obtains a “Pass”- level BREEAM Interim Design Stage
Another seven stadiums: Mordovia Arena, Nizhny Novgorod Stadium, Ekaterinburg Arena, Volgograd Arena, Rostov Arena, Fisht Stadium, Kaliningrad Stadium are preparing for final certification under the «RUSO. Football stadiums»
48th International HVAC&R Congress and Exhibition, Belgrade, 6–8 Dec. 2017
June 17  Samara Arena
June 22  Kaliningrad Stadium
June 27  Spartak Arena
Welcome!!! Добро дошли

2018 FIFA World Cup
14 June – 15 July, 2018
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