

Arctic Urban Sustainable Development Index

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Urban sustainable city development

Existing indexes of city development:

City development index (CDI),

Smart city development (SCD),

The global cities index (GCI),

Global economic power index (GEPI),

Global power city index (GPCI),

Global city competitiveness index (GCCCI)

Agenda for sustainable development

193 countries adopted 17 Sustainable Development Goals to be achieved by 2030

- No poverty, zero hunger
- Good health and well-being
- Quality education
- Gender equality
- Clean water and sanitation
- Affordable and clean sources energy
- Employment and economic growth
- Industry, innovation and infrastructure
- Reduced inequalities between cities
- Sustainable cities and communities

Sustainable Development Solution Network (2016)

<http://unsdsn.org/resources/publications/us-cities-sdg-index-consultation/>

Is it possible sustainable development in Russian Arctic?

- Uneven distribution of resources and remoteness from the main transport routes;
- Narrow specialization;
- Insufficient adaptation to market conditions and to the innovative activity;
- Low productivity in industry;
- Mainly raw material export;
- High energy costs;
- Insufficient infrastructure;
- Significant investment risk;
- Unfavorable demographic situation.

State involvement is obligatory condition of sustainability

Traffic in Russian Arctic



Norilsk city (Russian Arctic)



Norilsk city (Russian Arctic)



Index of sustainability in Arctic

Partnership for International Research and Education (PIRE): U.S. + Canada + Denmark/Greenland + Norway + Russia

https://www.nsf.gov/awardsearch/showAward?AWD_ID=1545913.

Methodological problems:

- Availability of empirical data
- Measurement problems
- Adjusting of indicators to local conditions
- Historical dimension of sustainable development

Index of urban sustainability in Arctic

ECONOMIC DIMENSION OF SUSTAINABLE DEVELOPMENT

- **Remoteness/transportation**
- Is the community connected by road or rail to major urban centers? (yes, no)
- If a coastal community, number of months when port is ice-free
- If not connected by permanent road or ice-free port, is there ice-road and/or barge access?
- Cost of round-trip air travel to major urban center