sust•rus

SEVENTH FRAMEWORK
PROGRAMME

project presentation

Spatial-economic-ecological model for the assessment of sustainability policies of the Russian Federation

- Website: http://sust-rus.org
- Beginning: 1 January 2009
- Duration: 36 months (end on 30 December 2011)
- Coordinator: CEFIR (Moscow, Russia)
- Consortium: 8 organizations
  - CEFIR, Russia, Moscow (CEFIR)
  - Transport & Mobility Leuven NV, Belgium (TML)
  - Zentrum Fuer Europaeische Wirtschaftsforschung GmbH, Germany (ZEW)
  - Institute For The Economy In Transition, Russia, Moscow (IET)
  - Ural State University, Russia, Ekaterinburg (USU)
  - Voronezh State University, Russia, Voronezh (VSU)
  - Far Easten Center For Economic Development, Russia, Vladivostok (FECED)
  - Statistisk Sentralbyraa – Statistics Norway, Norway (SSB)
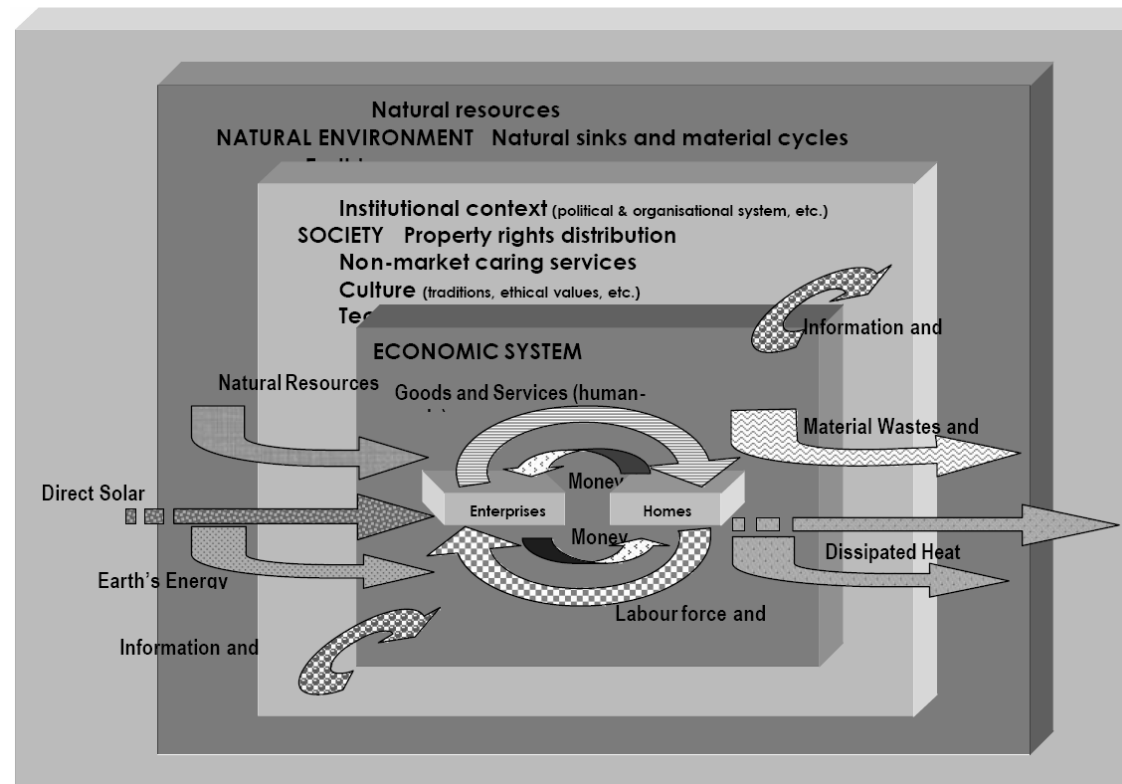
concept and project objectives

- The objective is to develop and implement for Russia an integrated spatio-economic-ecological model, which represents the state-of-the-art in different areas of economic, transport, resource-use and environmental modelling, and can be used to assist policy makers in their choice of medium and long-term sustainability policies.

  This implies the following interrelated aims:

  - develop modelling approach, which represents the state-of-the-art in impact assessment modelling and corresponds the complexity of the sustainability issue
  - build consistent database necessary for the implementation of the developed approach for Russia
  - construct the spatial-economic-ecological model for Russia
  - develop a set of sustainability indicators associated with the model, which allows for quantification of social, economic and environmental effects of sustainability policies
  - use the model to assess the effects of a set of important sustainability policy measures in order to demonstrate the operation ability and reliability of the developed modelling approach
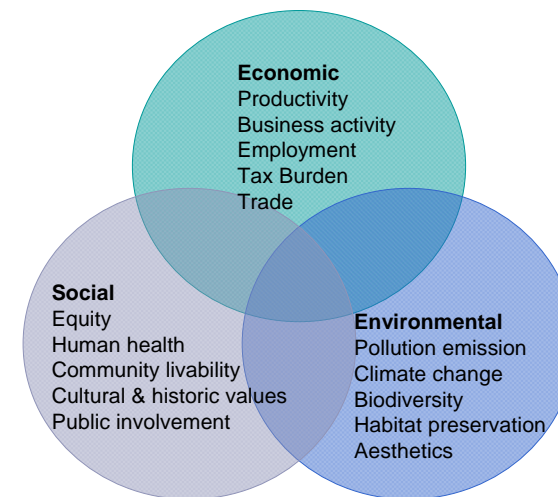
main aims of the SUST-RUS

sust·rus

- closing the gap between Russian and international state-of-the-art tools and practices in the assessment of the sustainability policies

- providing the Russian policy makers with the set of specific sustainability indicators linked either to the individual policy measures or to their packages

- each sustainability indicator belongs to either social, economic or environmental area and calculated using the SUST-RUS modelling tool

Schematic representation of the social-economic-ecological system

Natural resources
NATURAL ENVIRONMENT   Natural sinks and material cycles

Institutional context (political & organisational system, etc.)
SOCIETY   Property rights distribution
Non-market caring services
Culture (traditions, ethical values, etc.)
Te...

ECONOMIC SYSTEM

Natural Resources   Goods and Services (human-

Direct Solar

Money
Enterprises   Homes
Money

Earth's Energy

Labour force and

Information and

Information and
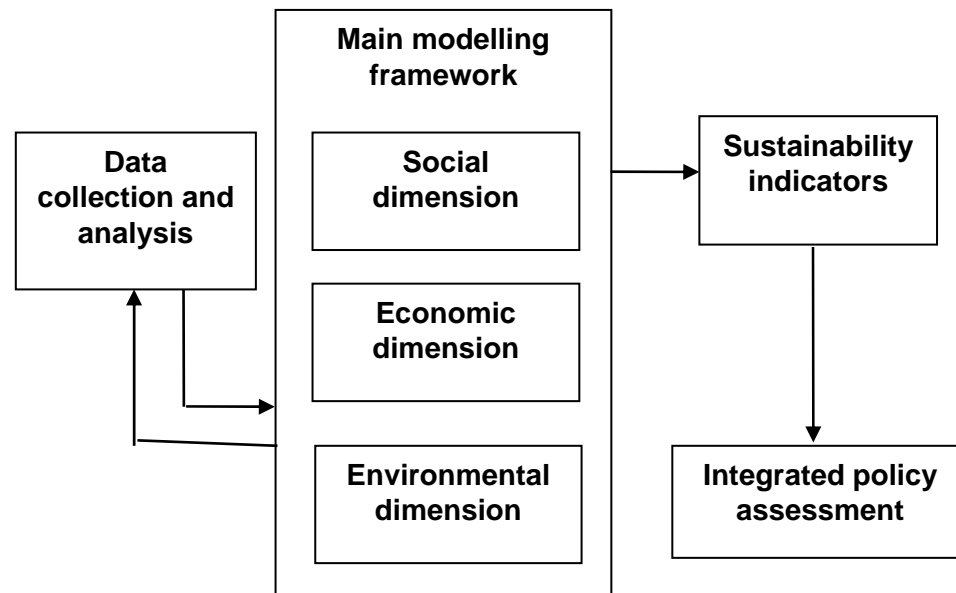
Material Wastes and

Dissipated Heat

sust·rus

- The SUST-RUS objective is to develop a consistent methodological modelling framework for the integration of the three major dimensions of the sustainability policies – economic, social and environmental. Each of the dimensions will be associated with the set of the indicators that will allow the policy makers to perform a multi-criteria analysis of the policy measures.

- The SUST-RUS objective is to choose a set of the efficient sustainability policies (policy principles) based on the Russian, European and international experiences and assess their effects with the developed modelling tool along the three main sustainability dimensions.

Three main sustainability dimensions

Economic
Productivity
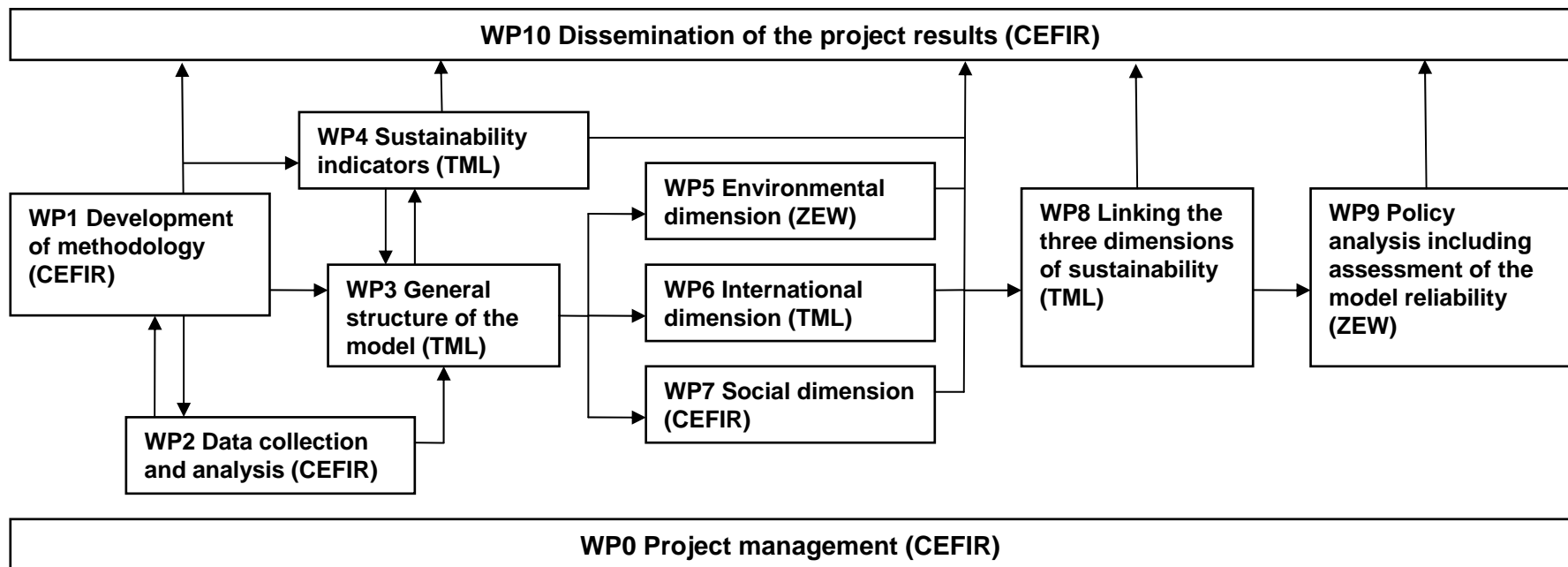Business activity
Employment
Tax Burden
Trade

Social
Equity
Human health
Community livability
Cultural & historic values
Public involvement

Environmental
Pollution emission
Climate change
Biodiversity
Habitat preservation
Aesthetics

sust·rus

Framework of the methodological approach

```
                  ┌─────────────────────┐
                  │ Main modelling      │
                  │ framework           │
 ┌──────────────┐ │  ┌───────────────┐  │   ┌─────────────────┐
 │ Data         │ │  │ Social        │  │   │ Sustainability  │
 │ collection and│→│  │ dimension     │  │ → │ indicators      │
 │ analysis     │ │  └───────────────┘  │   └─────────────────┘
 └──────────────┘ │  ┌───────────────┐  │            │
                  │  │ Economic      │  │            ↓
                  │  │ dimension     │  │   ┌─────────────────┐
                  │  └───────────────┘  │   │ Integrated policy│
                  │  ┌───────────────┐  │   │ assessment      │
                  │  │ Environmental │  │   └─────────────────┘
                  │  │ dimension     │  │
                  │  └───────────────┘  │
                  └─────────────────────┘
```

- **Quantitative approach**: existing European and international models such as GEM-E3, PACE, RAEM, EPPA and MIRAGE provide adequate references for the methodological basis of the project.

- **Focus on three major dimensions** – economic, environmental and social.

- **Sensitivity tests and validation of results:** taking into account the degree of uncertainty of any study focused on social environment, the SUST-RUS project will provide robustness check of the main outcomes.

work packages & task leaders

sust·rus

To achieve the project objectives the work is organized into 10 work packages:

WP10 Dissemination of the project results (CEFIR)	

WP4 Sustainability indicators (TML)

WP1 Development of methodology (CEFIR)

WP3 General structure of the model (TML)

WP2 Data collection and analysis (CEFIR)

WP5 Environmental dimension (ZEW)

WP6 International dimension (TML)

WP7 Social dimension (CEFIR)

WP8 Linking the three dimensions of sustainability (TML)

WP9 Policy analysis including assessment of the model reliability (ZEW)

WP0 Project management (CEFIR)

sust·rus

WP1: Development of methodology
- **Task 1.1 – Literature review**
- **Task 1.2 – Development of the SUST_RUS methodology**

- Deliverables
  - D1.1: Overview of the relevant literature (Month 6)
  - D1.2: Description of the modelling methodology (Month 9)

WP2: Data collection and analysis
- **Task 2.1 – Russian regional data, including interregional trade**
- **Task 2.2 – Analysis of Russian regional data**
- **Task 2.3 – Build a SUST-RUS model database with description**

- Deliverables
  - D2.1: Description of the constructed database (Month 15)
  - D2.2: The social-economic-environmental database for the model (Month 15)

WP3: General structure of the model
- **Task 3.1 – Mathematical formulation of the general model structure**
- **Task 3.2 – Model building**
- **Task 3.3 – Construction of the database of model parameters, which cannot be calibrated from the SUST-RUS model database in WP2**
- **Task 3.4 – Calibration of the model**

- Deliverables
  - D3: Description of the general structure of the SUST-RUS model (Month 18)

WP4: Sustainability indicators
- **Task 4.1 – Literature review of sustainability indicators**
- **Task 4.2 – Construction of the set of the social indicators**
- **Task 4.3 – Construction of the set of the economic indicators**
- **Task 4.4 – Construction of the set of the environmental indicators**
- **Task 4.5 – Development of the policy assessment framework**

- Deliverables
  - D4: Description of a set of the sustainability indicators coupled with the construed model (Month 18)

WP5: Environmental dimension
- **Task 5.1 – Formatting Data for the Implementation into Environmental Module**
- **Task 5.2 – Development of the Environmental Module**
- **Task 5.3 – Integration of the Formatted Data into the Environmental Module**

- Deliverables
  - D5: Description of the environmental, international and social parts of the model (Month 27)

WP6: International dimension
- **Task 6.1 – Literature review**
- **Task 6.2 – Development of methodology and mathematical formulation**
- **Task 6.3 – Further work on the model database**
- **Task 6.4 – Construction of the international module**

- Deliverables
  - D5: Description of the environmental, international and social parts of the model (Month 27)

WP7: Social dimension
- **Task 7.1 – Literature review and development of methodology of the social module**
- **Task 7.2 – Development of the database for the SUST-RUS social module**
- **Task 7.3 – Development of the social block of the SUST-RUS modelling tool**

- Deliverables
  - D5: Description of the environmental, international and social parts of the model (Month 27)

WP8: Linking the three dimensions of sustainability
- **Task 8.1 – Integrating the environmental module into the general structure**
- **Task 8.2 – Integrating the international module into the general structure**
- **Task 8.3 – Integrating the social module into the general structure**

- Deliverables
  - D4: Description of the links between the three dimensions of sustainability within the model (Month 30)

sust·rus

WP9: Assessment of model reliability including policy analysis

> *The objective of WP9 is to define and run different policy scenario using newly developed model and check the robustness of the simulation results*

- *Task 9.1 – Policy Scenarios*
- *Task 9.1.2 – Assessment of Policy Scenarios*
- *Task 9.2 – Sensitivity Analysis*

- Deliverables
  - D9.1: Assessment of the model reliability and sensitivity analysis
  - D9.2: Assessment of policy scenarios (Month 36)
  - D9.3 The spatial-economic-ecological model for Russia coupled with the consistent database

WP10: Dissemination of the project results

- *Task 10.1 Project web site: creation, maintenance*
- *Task 10.2 An academic seminar on development of the model structure*
- *Task 10.3 A seminar on finalising developments of international, social and environmental modules*
- *Task 10.4 Exploitation and end-user needs*
- *Task 10.5 Liaison with other projects on sustainability in Russia*
- *Task 10.6 A roundtable with regional policymakers, NGOs and general public on dissemination of project results*
- *Task 10.7 A conference featuring project's policy implications*
- Deliverables
  - D10.1: SUST-RUS Website D10.2: Proceedings of the conference on policy implications
  - D10.3: Final plan for using and disseminating knowledge

sust•rus   impact of the SUST-RUS project

- to close the gap between Russian and international/European state-of-the-art in sustainability policy assessment modelling

- to develop the first integrated spatio-economic-ecological model for Russia linked with the rest of the world via the flows of capital, labour and goods

- to use the model for the policy analysis at the macro- and meso-economic levels, with particular attention to the effects of cooperation and trade policies as well as to the impacts of the delocalisation of EU activities

- to analyse the effects of the sustainability policies along the economic, social and environmental dimensions

- the model will be coupled with the set of the sustainability indicators, which allow for the consistent analysis of the policies according to the developed assessment framework

sust·rus

main distinctive features

- representation of interregional (within Russia) and international (outside of Russia) flows of capital (FDI) and labour

- introducing different types of foreign direct investments and the related investment decisions modelling of all major types of emissions related to production and consumption activities

- representation of the use of natural resources for production and consumption and the depletion of the different types of mineral resources

- modelling consumption, savings and investment behavior of different socio-economic groups detailed modelling of the Russian energy sector including the production technology, market structure, investment decisions

- integration between economic, environmental and social dimensions of policy assessment

- construction of the set of sustainability indicators which covers three dimensions of sustainability in a consistent way and takes into account Russian specifics

- development of the clear assessment framework, which uses the three sets of indicators for the analysis of policy effects and could be used by Russian policy makers

sust·rus ✿

For further information please contact:

CEFIR

Tel. +7 495 925 5002

E-mail: sust.rus@gmail.com

Website: http://sust-rus.org