



Greening Economies in the European Union's Eastern Neighbourhood (EaP GREEN)

Green growth measurement in the Republic of Moldova

4 November 2016
Chisinau, Moldova

SUMMARY RECORD

SUMMARY RECORD OF THE WORKSHOP ON GREEN GROWTH MEASUREMENT IN MOLDOVA

A workshop “Green Growth Measurement in Moldova” was organised on 04 November 2016 in Chisinau, Republic of Moldova under the European Union funded regional project “Greening Economies in the Eastern Neighbourhood” (EaP GREEN). Participants included representatives of the Inter-ministerial Group on Sustainable Development and Green Economy, including Ministry of Environment, Ministry of Economy, Ministry of Regional Development and Constructions, National Bureau of Statistics, Agency for Energy Efficiency, State Chancellery, representatives of the governmental institutions, Institute of the Academy of Sciences of Moldova and NGOs. The meeting was attended by experts from the European Union, OECD and UNIDO-led component of the EaP GREEN Project (see agenda of the event in Annex I and the full list of participants in Annex II).

The main objectives of the meeting were to:

- Discuss the choice of green growth indicators for an indicators-based report on green growth in Moldova (henceforth GGIs Report);
- Discuss the development of the GGIs Report and finalisation of the Road Map on promotion of Green Economy;
- Discuss how to best integrate green growth indicators in the regular reporting system and in the governmental agenda.

Opening remarks

The participants took note of welcoming remarks by Ms. Inga PODOROGHIN, State Secretary, Ministry of Environment, Ms. Svetlana TURCANU, Head of SMEs and Trade Division, EaP GREEN NFP, Ministry of Economy, and Mr. Krzysztof MICHALAK, OECD. The speakers:

- underlined the importance of the event as part of the process of promotion of the implementation of Green Economy in the sectors of national economy and application of Green Growth Indicators for the measurement of the performance and reporting on green growth in Moldova;
- highlighted that using the gained experience within the Inter-ministerial Working Group on Sustainable Development and Green Economy, with the advice and support from OECD within the EaP GREEN Project, will contribute to completing the representative list of GGIs for Moldova;
- underlined that the indicators of economic development, energy efficiency, environmental performance of industry (including SMEs) are always in the focus of the Ministry of Economy and it is very encouraging, that all that indicators find their place in the draft GGIs list for Moldova and in the draft Green Economy Road Map;
- indicated that the priority aspects promoted by Moldova at the 2016 “Environment for Europe” Ministerial Conference in Batumi, such as energy efficiency, organic agriculture, resource efficiency and cleaner production, Strategic Environmental Assessment, are recognised as priorities at national and regional levels and included in the draft Road Map on the promotion of Green Economy in Moldova;

- mentioned the [Ministerial Declaration](#) on Cooperation on Environment and Climate Change in the Eastern Partnership, which was adopted at the EU-EaP Ministerial Meeting in October 2016 in Luxembourg, with objectives of promotion of Green Economic Development and implementation of Agenda 2030 on Sustainable Development;
- stressed that the GGIs in Moldova are developed in parallel with the development of SDGs objectives and targets (under the coordination of the State Chancellery and UNDP) and synergies between both processes have to be ensured;
- informed about the ongoing processes on the development of a new part (Part 8 on Greening SMEs) in the Strategy for SMEs development in Moldova, supported by OECD, and about a need for a new work for adaptation of SMEs to the Green Economy principles possibly in cooperation with the OECD;
- indicated that the GGIs development process can be technical, but it is at the right time and is important for measuring progress on greening the economic growth (in Moldova and for international comparability), policy-making, improvement of governance, reducing costs, and maximizing benefits in Moldova;
- indicated the application of 6 indicators for the RECP process, which could be transposed for the national level;
- highlighted the opportunities provided by the EU support to the country, including through the EaP GREEN project, expressed their gratitude to the working group members, National Bureau of Statistics and to OECD Secretariat for active involvement, methodological support and advice; and
- reiterated the need to establish a regular national reporting process on GGIs and disseminate results to a wide range of stakeholders and to ensure longer-term sustainability of efforts to green economic development.

Agenda Item 1. Presentation on OECD green growth measurement framework and its application in countries

Under this agenda item, the speakers, Mr. Krzysztof Michalak and Ms. Mikaela Rambali (OECD):

- presented the OECD green growth measurement framework and its application in OECD and EaP countries, with a focus on countries of the EU region where GGIs have been applied;
- presented experience, lessons learned, best practices for bringing closer data from different sectors;
- highlighted the need to ensure compliance with the statistical or ministerial reporting formats and flagged that the OECD list is flexible and can be adapted to national priorities;
- indicated that most of the SDGs have targets that are green growth related. As a result, green growth indicators have to be developed in partnership and synergy with all ongoing processes (SDGs, GGIs, RECP, SEIS etc), as well as harmonised with EU ones.

In the subsequent discussion the participants found the OECD list of indicators very useful and providing inspiration, but they highlighted that in Moldova the data behind many indicators are may not

yet be available. It was suggested to develop two sets: a national one for monitoring trends and an international one to compare with countries in the region.

Agenda Item 2-5. Measuring progress towards green growth

The aim of these agenda items were to present the indicators available in Moldova (definitions and data sources), discuss whether they were appropriate for showing progress with greening the economy in Moldova and identify data gaps and statistical quality issues related to the calculation of these indicators. The discussion helped to identify gaps and areas for improvement. Under each item of the agenda, the participants:

- Took note of the presentations by Mr. Andrei Isac, consultant, on possible indicators to be used in Moldova under the following groups: 1) The social-economic context; 2) The environmental and resources productivity of the economy; 3) The natural asset base; 4) The environmental dimension of quality of life; and 5) Economic opportunities and policy responses. The presentation was based on the OECD Guide on GGIs for EaP Countries¹, draft Road Map on promotion Green Economy in Moldova and its Chapter on GGIs and draft GGIs list/table for Moldova (all that materials were sent in advance to all participants).
- Took note of presentations by Ms. Mikaela Rambali (OECD) on the practical examples of OECD green growth measurement framework and its application in selected OECD member and non-member countries, related to each set of GGIs in particular (PP slides).
- Took note of comments and observations presented by all the participants. Special attention was paid to comments by Ms. Elena Orlova, National Bureau of Statistics, which reflected the results of the internal consultations on the draft GGIs list, examined by related NBS divisions before the meeting.

It was agreed that only already existing and available indicators, which are realistic and reliable, should be used for the GGIs report, as they are collected or calculated by governmental authorities and NBS. The responsible governmental agencies have to ensure data collection/calculation for indicators not developed by the NBS.

It was stressed that the GGIs list should not repeat/fully duplicate the State of Environment Report, but focus on the set of selected indicators, which are relevant to a Green Economy (in particular the Road Map) in order to show the dynamic state of economic development and green economy performances. They should reflect a balance between indicators related to growth and green to help describe key related trends. It was also agreed that the indicators should also be accompanied by a text that would interpret the trends, context and possible factors influencing the state and trends.

The main data sources for the development of the GGIs report will be the NBS and other government agencies (e.g. Agency for Energy Efficiency for renewable energy data), but can also be from OECD studies on Moldova, and other international organisations (for the cross-country comparison). It was stressed that an interagency co-operation is crucial for identifying the existing data sources and flows and creating a coherent and as much as possible complete set of available indicators.

Specific comments were also provided on the following issues:

¹ EaP GREEN (2016), *Measuring The Green Transformation Of The Economy: A Guide For EU Eastern Partnership Countries*.

- Further clarifications needed on indicators related to:
 - biodiversity/natural protected areas and land use (including degraded or forested lands) to be applied with connection to green economy, but it should be borne in mind that new indicators/data collection, if decided, will require establishing the data flows supported by adequate institutional and financial arrangements;
 - water use and health indicators, which are also used within the SDGs process;
 - material productivity (using material flows)
 - Indicators related to the use of funds from dedicated environmentally-related funds (e.g. National Ecological Fund) have to be more specific, for example including accumulation and the use of funds. Other national funds (energy efficiency, regional development etc) could also be added.
 - use data collected by the State Chancellery on external assistance (NBS reports on investments), use data on patents (no data on innovations from NBS), climate-related investments, and environmentally harmful subsidies from OECD studies on Moldova.
 - Prices for energy could be used, as they are uniform nationally, but prices for water differ by localities. Water tariffs for one city could be examined if decided.
 - Number of persons involved in the green economy activities is not collected/calculated, but could be as a recommendation for the future;
- A glossary of indicators could accompany the report.
- **Structure of the table of GGIs:**
 - The list of indicators will slightly be revised, with some indicators being moved to other groups.
 - It was suggested to add to the GGIs table a column with policy relevance of the indicator (related SDG, EU Directives, national targets or UNECE indicators) which will make the drafting of the report and the use of the indicators in policy documents easier in the future.
 - It was suggested to add a column in the draft GGIs table on the feasibility of developing each indicator at this stage in order to prioritise the GGIs development effort.

Finally, it was agreed that the set of indicators will have to be revised and adjusted to the Green Economy priorities and the country's needs. Based on data availability and indicators collection/calculation, the GGIs report should start with simple and reliable indicators and then have suggestions for future enlargement/adjustment.

Agenda Item 6. Discussion on the finalisation of the Green Growth Indicators list and of the Road Map on Green Economy with Green Growth Indicators, development of the GGIs report and integration of GGIs in governmental agenda.

This part of the workshop was devoted to the discussion:

- on the report on Green Growth Indicators in Moldova (next steps, outline and timeframe for publication)
- on how to best integrate GGI in government agenda and ensure regular collection and reporting on GGIs in the future and

- on the finalisation of the Road Map on the promotion of Green Economy, including the chapter on GGIs.

The participants took note of the presentation of the Draft Outline of the GGIs Report for Moldova and time table for the finalisation of the list of GGIs, GGIs Chapter and development of the GGIs report (annex 3), presented by Mr. Andrei Isac, local consultant.

The participants agreed on the following:

- to develop, under the coordination of the Inter-ministerial WG on SD and GE and with the methodological support from the OECD Secretariat by March 2017, a GGIs-based report that would present the state and trends of greening the economy using the OECD Guidelines for EaP countries and set of indicators; draft GGIs table with adjustment – by end November 2016; revised draft of the Road Map on promotion of Green Economy addressing all UNEP and OECD comments to the general document and GGIs comments, by mid December 2016 (see time table from Annex III).
- recognising that full information to develop all listed indicators may not be available, agreed to work with the information existing in different governmental agencies and explore possible ways to agree on definitions of a number of indicators or on availability of data/data sets for a number of policy response indicators;
- agreed on the need to broaden the coverage of analysis on some of the potential GGIs which could be recommended for the future;
- agreed that the Working Group on SD and GE could meet by the end of the year (mid December 2016 or second part of January 2017) to examine the final draft of the Road Map, GGIs List and draft GGIs report. The GGIs report could first be approved by the Working Group, but taking into consideration that the GGIs chapter and indicators are part of the Road Map on Green Economy, this will have a higher level of approval, will be used for future reporting and policy making;
- agreed to organise additional meetings with NBS representatives to collect all reactions on draft GGIs list, data sources and with relevant governmental agencies, including Ministry of Environment, NBS, Ministry of Health, Ministry of Economy to agree on a number of indicators and definitions (water, health, policy responses, etc.);
- agreed on the need to ensure the synergy of GGIs development with SDGs objectives and targets and UN ECE and EEA and SEIS processes, with the help of the Ministry of Environment, OECD Secretariat.
- Agreed on the importance to link the GE Road Map, GGIs report, SDGs and EU documents and use them to strengthen the inter-ministerial cooperation for GE promotion, streamline the data collection and make greener the national ministerial and statistical data, make use of this data this data by politicians for green decisions and make them available for the general public and NGOs.

Agenda Item 7. Conclusions and next steps

Mr. Krzysztof Michalak and Mr. Andrei Isac thanked the WG members and participants for their active participation in the discussions and expression of support for the GGI development process in Moldova, selection of signals between growth and green and making sure that growth have a positive impact on environment and health of population.

The presentations from the meeting would be made available on the EaP GREEN website: <http://www.green-economies-eap.org/home/>. The summary of the meeting, revised documents and links will be sent to all participants and WG members and relevant institutions, which were not able to attend the meeting on November 4, as well.

Annex I

Agenda of the Workshop

Green Growth Measurement in Moldova Friday 4 November 2016 Chisinau, Moldova

Meeting objectives:

Gather stakeholders to:

- Discuss the choice of green growth indicators for a report on green growth in Moldova
- Discuss how to best integrate green growth indicators in the regular reporting system and in the governmental agenda
- Discuss the development of the GGIs Report and finalisation of the Road Map on promotion of Green Economy.

Participants:

Members of the Inter-ministerial Working Group on Sustainable Development and Green Economy:

- representatives of the Ministry of Regional Development and Construction,
- representatives of the Ministry of Environment,
- representatives of the Ministry of Agriculture and Food Industry,
- representatives of the National Bureau of Statistics,
- representatives of the Institutes of the Academy of Sciences of Moldova,
- representatives of NGOs,
- representatives of the OECD Secretariat,

Venue: Radisson Blu Leograd Hotel, Chisinau

Interpretation: English – Romanian

Friday 4 November	
09.30– 10.00	Registration of participants and distribution of materials
10.00-10.15	Opening remarks Ms. Inga Podoroghin, State Secretary, Ministry of Environment Ms. Svetlana Turcanu, Head of SMEs and Trade Division, Ministry of Economy Mr. Krzysztof Michalak, OECD
10:15-11:00	Item 1. Presentation on OECD green growth measurement framework and its application in countries (45 min) <ul style="list-style-type: none">• OECD measurement framework: overview and indicators• Practical use of GGI in countries: OECD and EaP countries <i>Mr. Krzysztof Michalak and Ms. Mikaela Rambali</i>
11:00-11:45	Item 2. Short presentation and interactive discussion on group of indicators “The environmental and resources productivity of the economy” (45 min) <u>Key questions:</u> - What are the indicators used for Moldova (definitions and data sources)?

	<p>- Are the indicators used appropriate for Moldova?</p> <p>- What are the main data gaps and statistical quality issues with the calculation?</p> <p><u>Objective</u> → Identify areas for improvement</p> <p><u>Main speaker:</u> Mr. Andrei Isac, Local Consultant, EaP GREEN, OECD</p>
11:45-12:00	Coffee break
12:00-12:45	<p>Item 3. Short presentation and interactive discussion on group of indicators “The natural asset base” (45 min)</p> <p><u>Key questions:</u></p> <p>- What are the indicators used for Moldova (definitions and data sources)?</p> <p>- Are the indicators used appropriate for Moldova?</p> <p>- What are the main data gaps and statistical quality issues with the calculation?</p> <p><u>Objective</u> → Identify areas for improvement</p> <p><u>Main speaker:</u> Mr. Andrei Isac, Local Consultant, EaP GREEN, OECD</p>
12:45-14:00	Lunch break
14:00-14:45	<p>Item 4. Short presentation and interactive discussion on group of indicators “The environmental dimension of quality of life” (45 min)</p> <p><u>Key questions:</u></p> <p>- What are the indicators used for Moldova (definitions and data sources)?</p> <p>- Are the indicators used appropriate for Moldova?</p> <p>- What are the main data gaps and statistical quality issues with the calculation?</p> <p><u>Objective</u> → Identify areas for improvement</p> <p><u>Main speaker:</u> Mr. Andrei Isac, Local Consultant, EaP GREEN, OECD</p>
14:45-15:30	<p>Item 5. Short presentation and interactive discussion on group of indicators “Economic opportunities and policy responses” (45 min)</p> <p><u>Key questions:</u></p> <p>- What are the indicators used for Moldova (definitions and data sources)?</p> <p>- Are the indicators used appropriate for Moldova?</p> <p>- What are the main data gaps and statistical quality issues with the calculation?</p> <p><u>Objective</u> → Identify areas for improvement</p> <p><u>Main speaker:</u> Mr. Andrei Isac, Local Consultant, EaP GREEN, OECD</p>
15:30-16:30	<p>Item 6. Discussion on:</p> <ul style="list-style-type: none"> • Outline of report on GGI • Road Map on the Promotion of Green Economy (its finalisation, including the chapter on GGIs) • How to best integrate GGI in government agenda and ensure regular collection and reporting on GGI?
16:30-17:00	Item 7. Conclusions and closing remarks
17.00	Coffee break

Annex II List of Participants

Participants:

Members of the Working Group on Green Economy, including

- representatives of the Ministry of Regional Development and Construction,
- representatives of the Ministry of Environment,
- representatives of the Ministry of Agriculture and Food Industry,
- representatives of the National Bureau of Statistics,
- representatives of the Moldovan National Academy of Sciences,
- representatives of the OECD Secretariat.

Nr.	Name of participant	Function, institution
1	Ms. Inga PODOROGHIN	State Secretary, Ministry of Environment
2	Ms. Svetlana TURCANU	Head of SMEs and Trade Division of the Ministry of Economy, EAP GREEN NFP
3	Ms. Maria NAGORNII	Head, Policy Analysis, Monitoring and Assessment Division, Ministry of Environment, EAP GREEN NFP
4	Ms. Veronica LOPOTENCO	Senior Consultant, Policy Analysis, Monitoring and Assessment Division, Ministry of Environment, Secretary of the GE and SD Working Group
5	Mr. Silviu NEGHINA	Adviser of the Secretary General of the Government of the Republic of Moldova
6	Dr. Anatolie IGNAT	National Institute for Economic Research (INCE), ASM
7	Mr. Igor MALAI	Head, Regional Development Department, Ministry of Regional Development and Constructions
8	Ms. Marcela STAHI	Section of quality of the production (ecological agriculture) Ministry of Agriculture and Food Industry
9	Mr. Petru BACAL	Head of Laboratory, Institute of Ecology and Geography, ASM
10	Ms. Iuliana PALADE	Vice-President, ProRural Invest (organic agriculture)
11	Ms. Rodica IORDANOV	Executive Director, EcoContact /Aarhus Centre for Environmental Information and Consultation
12	Ms. Elena ORLOVA	Head, Division of Agriculture and Environment Statistics, National Bureau of Statistics
13	Ms. Liudmila STIHI	Head Division, Analyses, Innovation and Training, ODIMM
14	Ms. Oxana PALADICIUC	ODIMM
15	Ms. Lucia SOP	RECP, NCPP, UNIDO
16	Mr. Manole BALAN	Senior Specialist, Service for the Monitoring of EE and SER, AEE
17	Mr. Nicolae NEAMTU	Agency for Energy Efficiency
18	Ms. Svetlana ZHEKOVA	EU High-level Adviser on Environment, Ministry of Environment of the Republic of Moldova, EUHLAM to the Republic of Moldova
19	Ms. Cristina COTOFANA	Assistant of the EU High-level Adviser on Environment
20	Mr. Valentin CRISMARU	Institute of Ecology and Geography, ASM
21	Ms. Serafima TRONZA	Head of Water Management Division, Ministry of Environment

22	Ms. Silvia Nicolaescu	Senior Specialist, Pollution Prevention and Waste Management Division, Ministry of Environment
23	Mr. Vitalie Grimalschi	Head, Protected areas and biodiversity Section, Natural Resources and Biodiversity Division, Ministry of Environment
24	Ms. Natalia GURANDA	Green Economy Program Manager, PA EcoContact
25	Mr. Radu LUPAN	Consultant, Division on SMEs, Ministry of Economy
26	Mr. Ion NITOI	NCPP Moldova
27	Mr. Daniel SCALATCHI	NCPP Moldova
28	Mr. Krzysztof MICHALAK	Senior Programme Manager, Green Growth & Global Relations, Environment Directorate, Organisation for Economic Co-operation and Development (OECD)
29	Ms. Mikaela RAMBALI	Policy analyst, Green Growth & Global Relations, Environment Directorate, OECD
30	Mr. Andrei ISAC	Local Consultant, EaP GREEN

Annex III

Development of the GGIs Report in Moldova/ Elaborarea Raportului privind Indicatorii Creșterii Verzi în Moldova

GGIs Report in Moldova Draft outline	Raportul privind Indicatorii Creșterii Verzi Proiectul cuprinsului
<i>Title (with logos of the OECD, EAP Task Force, EaP GREEN, Finland and other sponsors of the project and of Government/MoEnv of Moldova)</i>	<i>Titlul (cu logouri)</i>
<i>Foreword (If applicable)</i>	<i>Prefață (daca va fi aplicabil)</i>
<i>Acknowledgments and Disclaimers</i>	<i>Mulțumiri și declarații</i>
<i>Table of Contents, including lists of figures, tables and text boxes</i>	<i>Cuprins (cu lista figurilor, tabelelor și boxelor)</i>
<i>Abbreviations and Acronyms (specific terminology used in the report, if applicable)</i>	<i>Abrevieri și acronime</i>
<i>Executive summary</i>	<i>Sumar executiv</i>
<i>Introduction (if applicable)</i>	<i>Introducere</i>
<i>Chapter 1 The socio-economic context and characteristics of growth</i>	<i>Capitolul 1 Contextul social-economic</i>
<i>1.1 Economic growth, productivity and competitiveness</i>	<i>1.1 Creșterea economică, productivitatea și competitivitatea</i>
<i>1.2 Labour market, education and health</i>	<i>1.2 Forța de muncă, educația și veniturile</i>
<i>Chapter 2 The environmental and resource productivity of</i>	<i>Capitolul 2 Productivitatea resurselor și ecologică a</i>

<i>the economy</i>	<i>economiei</i>
<i>2.1 Carbon and energy productivity</i>	<i>2.1 Productivitatea energetică și de carbon</i>
<i>2.2 Resource productivity</i>	<i>2.2 Productivitatea resurselor</i>
<i>Chapter 3 Natural asset base</i>	<i>Capitolul 3 Baza resurselor naturale</i>
<i>3.1 Renewable stocks</i>	<i>3.1 Stocurile renovabile</i>
<i>3.2 Biodiversity and ecosystems</i>	<i>3.2 Biodiversitatea și ecosistemele</i>
<i>Chapter 4 Environmental quality of life</i>	<i>Capitolul 4 Dimensiunea de mediu al calității vieții</i>
<i>4.1 Environmental health and risks</i>	<i>4.1 Starea mediului și riscurile</i>
<i>4.2 Environmental services</i>	<i>4.2 Serviciile de mediu</i>
<i>Chapter 5 Economic opportunities and policy responses</i>	<i>Capitolul 5 Oportunitățile economice și poziția guvernului</i>
<i>5.1 Technology and innovation</i>	<i>5.1 Tehnologii și inovații</i>
<i>5.2 Environmental Goods and services</i>	<i>5.2 Produse și servicii de mediu</i>
<i>5.3 International financial flows</i>	<i>5.3 Fluxul internațional de resurse financiare</i>
<i>5.4 Prices and transfers</i>	<i>5.4 Prețuri și taxe</i>
<i>Conclusions and recommendations</i>	<i>Concluzii și recomandări</i>
<i>Annexes</i>	<i>Anexe</i>

Estimated volume of the report – 50 pages/volumul estimat al raportului – 50 file.

Proposed general structure of chapters on indicators/structura propusa:

- Name of the topic (e.g. resource productivity)/denumirea temei
- Title of indicator (e.g. waste generation intensity)/titlul indicatorului
- Chart/table – graphic/tabel
- Text with information on: relevance of indicator, and explanations & interpretations on state in most recent year and on trends over the past years/informatii privind relevanta indicatorului, tendinta etc.

Plan of elaboration of the GGIs Report/Planul de elaborare a Raportului privind Indicatorii Creșterii Verzi

	GGI list Tabelul cu lista Indicatorilor	GGI chapter in Roadmap Capitolul privind Indicatorii din Foia de parcurs	GGI report Raportul privind Indicatorii Creșterii Verzi
November 2016	25/11: send draft 1 to OECD for comments	25/11: send draft 1 to OECD for comments	Start drafting GGI report
December	5/12: receive OECD comments	5/12: receive OECD comments	09/12: sent draft 1 to OECD for comments for comments by 16/12
January 2017	Send for approval by the WG	Send for approval by the WG	Prepare draft
February		Send for translation	Send for approval by the WG Send for translation
March			1/03: publication in ENG and ROM



The OECD Green Growth Measurement Framework

Workshop on green growth measurement in Moldova
Friday 4 November 2016, Chisinau

Krzysztof Michalak and Mikaela Rambali
Green Growth and Global Relations Division
OECD Environment Directorate



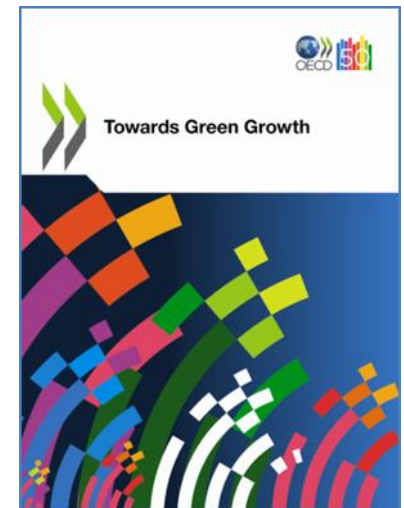
The Green Growth Strategy



The OECD Green Growth Strategy

Green growth is about fostering economic growth and development while ensuring that the natural assets continue to provide the resources and environmental services on which our well-being relies.

- *Catalyze investment and innovation to give rise to new economic opportunities*
- *Compatible & mutually-reinforcing economic and environmental policies*





Monitoring progress: OECD measurement framework and indicators





Monitoring progress towards Green Growth

- **At the core of the OECD GG Strategy**
- **Draws from experience with indicators, statistics, accounts**
- **Concrete outputs**
 - Conceptual measurement framework
 - Set of indicators
 - Database
- **Use in OECD work**
 - Policy analysis
 - Country reviews
- **Applications in countries**





OECD approach

- **Pragmatic**
 - No composite indicator, rather a set of internationally comparable indicators of manageable size
 - A set of about 25 to 30 indicators
 - A small sub-set of 6 headline indicators for communication purposes
 - Selected from existing OECD work
- **Balanced**
 - Coverage of “green” and “growth”
 - Relevance for OECD countries and for key partners
 - Relevance for international work and for countries
- **Flexible**
 - Easy to adapt to countries’ circumstances
 - Easy to adapt to sectors
 - Easy to apply at macro-, meso-, micro-levels
 - Easy to improve and develop further



Five inter-related indicator groups and topics

1	The environmental and resource productivity of the economy	<ul style="list-style-type: none">• Carbon and energy productivity• Resource productivity: materials, nutrients, water• Multi-factor productivity
2	The natural asset base of the economy	<ul style="list-style-type: none">• Renewable stocks: water, forest, fish resources• Non-renewable stocks: mineral resources• Biodiversity and ecosystems
3	The environmental dimension of quality of life	<ul style="list-style-type: none">• Environmental health and risks• Environmental services and amenities
4	Economic opportunities and policy responses	<ul style="list-style-type: none">• Technology and innovation• Environmental goods & services• International financial flows• Prices and transfers• Skills and training• Regulations and management approaches
	Socio-economic context and characteristics of growth	<ul style="list-style-type: none">• Economic growth and structure• Productivity and trade• Labour markets, education and income• Socio-demographic patterns





Headline indicators

Selected from full set to ease communication with policy makers, media, citizens

Environmental and resource productivity	
Carbon productivity	1. CO₂ productivity (<i>production-based, demand-based</i>)
Resource productivity	2. Non-energy material productivity (<i>production-based, demand-based</i>)
Multifactor productivity	3. Multifactor productivity including environmental services
The natural asset base	
Renewable and non-renewable stocks	4. Natural resource index
Biodiversity and ecosystems	5. Changes in land use and cover
Environmental quality of life	
Environmental health and risks	6. Air pollution (population exposure to PM 2.5)
Economic opportunities and policy responses	
Technology and innovation, environmental goods and services, prices and transfers, etc.	<i>Placeholder – no indicator specified</i>

*“Green” difficult to isolate
Diversity of country circumstances, of instruments
→ countries to choose*





Green Growth Indicators & Sustainable Development Goals

{Environmental and resource productivity}

{Natural asset base}

{Environmental quality of life}

{Eco opportunities and policy responses}





OECD GGI in practice



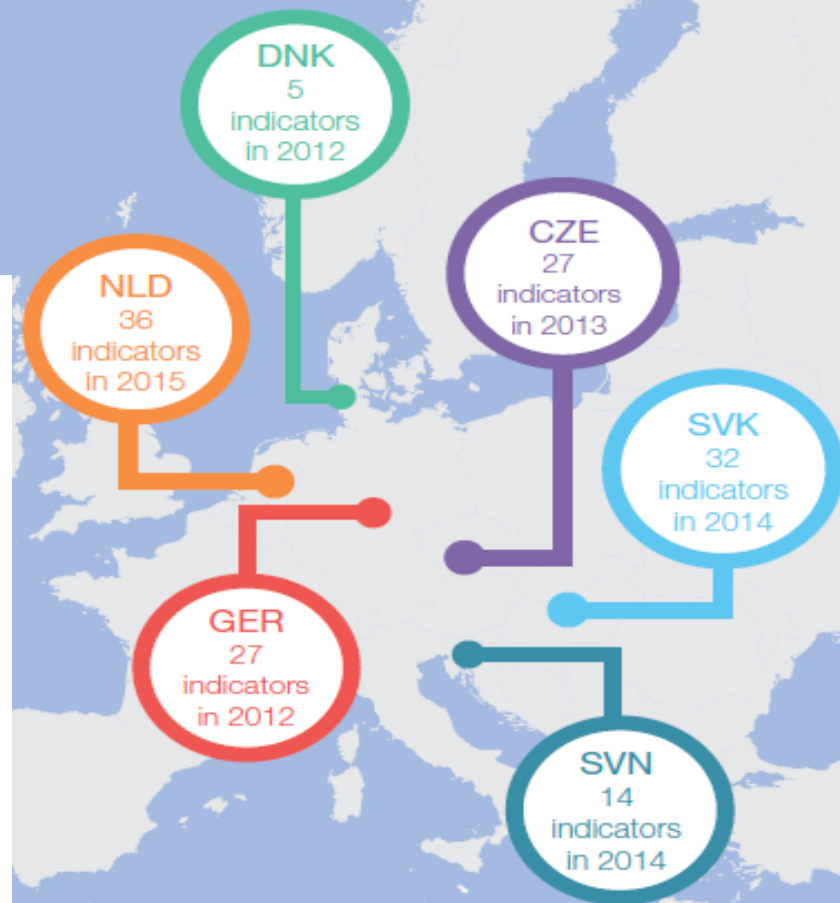


Green Growth Indicators in practice

- **GGI in OECD work: country studies, peer reviews**
 - 130 GG relevant publications since 2011
 - 80 country reports with GG recommendations
- **GGI in OECD countries** : Czech Republic, Denmark, Germany, Korea, Mexico, Netherlands, Slovak Republic, Slovenia...
- **GGI in emerging and developing countries**
 - LAC: Colombia, Costa Rica, Ecuador, Guatemala, Paraguay, Peru
 - 8 East-Asian countries
- **GGI in EECCA countries**
 - Work in progress in Armenia, Azerbaijan, Kazakhstan, Kyrgyzstan, Moldova, and Ukraine



	Additional Indicators	Comparison with targets	International comparison	Dashboard use	Publication year
NDL	✓	✓	✓	✓	2011/ 2012/ 2015
CZE	✓	✓	✓	✓	2011/ 2013
GER	✓	✓	✓	✗	2012
DNK	✗	✓	✓	✗	2012
SVN	✓	✓	✓	✓	2014
SVK	✗	✓	✓	✓	2014



- Exchange of experience and best practices
- Feedback on relevance
- Contribution to indicator improvement
- Learning by doing is essential!



Developing a set of green growth indicators





Data quality assessment framework

- **Policy relevance**
 - do the GGI address the policy issues identified?
- **Analytical soundness**
 - how closely do the GGI represent the real world?
- **Timeliness**
 - how soon after the reference period are the accounts available?
- **Interpretability**
 - how easy are the GGI to understand?
- **Accessibility**
 - how are the GGI accessed? (e.g. are they on the web?)
- **Coherence**
 - do the GGI follow international standards?



(1) Challenges and lessons learned

Indicator selection

Challenges

- Reflect adequately national circumstances and policy issues
- Reflect adequately the linkages between eco growth and environmental issues
- Assess each indicator for:
 - its relevance, soundness, and measurability

Lessons learned

- Adapt the indicators to the national context
- Develop new indicators for aspects of particular
- Ensure that the GGI set encompasses: country- specific indicators and internationally comparable indicators



(2) Challenges and lessons learned

Data compilation and measurement

Challenges

- Identify **data sources/gaps** across different institutions and government levels
- Compile data and organise data flows
- **Harmonise data** across sources and address data quality/discontinuity issues

Lessons learned

- Ensure compliance with statistical standards
- Document the data using harmonised formats
- Use standardised reporting templates for all indicators
- Organise data flows in a way that enables regular updates
- Combine graphics and tables with diagrams and explanatory text to compensate for missing data



(3) Challenges and lessons learned

Interpretation and communication

Challenges

- Place indicators in the country's socio-economic context
- Interpret results in view of underlying economic, social and political factors
- Identify concrete policy steps
- Communicating the results
- Benefits of user-friendly and visually appealing reports
- Use innovative ways to show information (tables, diagrams)

Lessons learned

- Provide background information on specific national circumstances
- Be clear about the limitations of the indicators and their interpretation
- Release the indicators through user-friendly reports and public websites
- Adapt the ways of reporting to the various audiences



(4) Challenges and lessons learned

Institutional co-ordination and capacity building

Challenges

- Cope with limited (human, financial) resources
- Coordinate exchange of information between national institutions at different levels and over time
- Provide appropriate training and capacity building

Lessons learned

- Establish a network of data providers and indicator users
- Maximise the use of existing data
- Exchange knowledge and learn from peers on:
 - indicator selection and calculation methods
 - data management and quality assurance



Measurement agenda





Measurement agenda

→ Capture better

- Contribution of **natural assets** to growth
- “Greening” of economic sectors
- Economic opportunities and effectiveness of policies

→ Fill data gaps

- Consistent environmental-economic data at industry level
- Natural assets and material flows
- Biodiversity and ecosystem services

→ Enhance role of **System of Environmental-Economic Accounts**

- Consistent information on env-eco interface, with breakdown by industry
- Better capturing growth contribution of natural assets
- OECD headline indicators

→ Strengthen the use of indicators in **OECD work and in countries**

- OECD environmental performance reviews and economic surveys
- In OECD member countries and others (e.g. in EECCA)

→ Gain additional feedback on relevance and interpretation



Green growth indicators

Thank you!

For more information, see
www.oecd.org/greengrowth and
www.oecd.org/greengrowth/indicators

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EaP GREEN
Partnership for Environment and Growth



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Măsurarea Creșterii Verzi în Moldova

Indicatorii Creșterii Verzi

**Seminar National,
Chisinau, 04 noiembrie 2016**

Andrei Isac, Consultant local EaP GREEN



Foaia de parcurs pentru promovarea Economiei Verzi în Moldova

- **Viziunea Foii de parcurs** are drept premisă consolidarea potențialului instituțional, administrativ și de management, care să asigure implementarea principiilor economiei verzi în toate sectoarele de dezvoltare social-economică a Republicii Moldova
- **Scopul Foii de parcurs** este de a promova implementarea economiei verzi în Moldova, în armonie cu dezvoltarea economică și bunăstarea socială

Nume, Prenume

Foaia de parcurs pentru promovarea Economiei Verzi în Moldova

Domenii cheie

- Eficiența Energetică
- Ecologizarea IMM
- Agricultură ecologică
- Transportul Durabil
- Producerea mai Pură/Industria Verde

Monitorizarea:

Indicatorii Creșterii Verzi și Obiectivele de Dezvoltare Durabila

Indicatorii Creșterii Verzi

Întrebările de bază:

- Care sînt indicatorii utilizați în Moldova (definiții și surse de date)?
- Sînt indicatorii utilizați relevanți pentru Moldova?
- Care sînt principalele goluri în date sau în calitatea calculelor statistice?

Obiectiv:

→ Identificarea ariilor pentru îmbunătățire

Contextul social-economic

Creșterea economică, productivitatea și competitivitatea

Nume, Prenume

Creșterea economică, productivitatea și competitivitatea

Produsul intern brut (PIB)

- rezultatul final al activității de producție din unitățile producătoare rezidente și care corespunde valorii bunurilor și serviciilor produse de către aceste unități pentru consumul final
- Datele sunt publicate în valută națională, în prețuri curente
- Lucrări statistice elaborate în cadrul Biroului Național de Statistică, Ministerului Finanțelor, Băncii Naționale a Moldovei și agenți economici
- Începând cu anul 1995

Numa, Preambule

Creșterea economică, productivitatea și competitivitatea

Produsul intern brut (PIB)

- Contribuția activităților economice la formarea produsului intern brut
- se prezintă pe activități economice
- MDL, %
- Biroului Național de Statistică, Ministerului Finanțelor, Băncii Naționale a Moldovei și agenți economici
- 1995-2014

Nume, Prenume

Forța de muncă, educația și veniturile

Populația și structura demografică

- Numărul populației prezente – numărul persoanelor care se aflau pe teritoriul respectiv la momentul recensământului
- Densitatea populației
- numărul persoanelor, Persoane/km²
- Cercetări statistice, realizate de Biroul Național de Statistică
- 1950-2015

Nume, Prenume

Forța de muncă, educația și veniturile

Speranța de viață la naștere

- Estimare a numărului mediu de ani pe care o persoană i-ar trăi
- ani, calcule Biroul Național de Statistică
- 2009-2014

Populație activă din punct de vedere economic

- Persoane care furnizează forța de muncă disponibilă
- Cercetarea statistica asupra forței de muncă
- Persoane, % față de total
- 2000-2015

Nume, Prenume

Forța de muncă, educația și veniturile

Rata șomajului

- Ponderea numărului total de șomeri în numărul populației economic activ
- Persoane, % față de total
- Calculele Biroului Național de Statistică,
- 2000-2015

Repartizarea populației ocupate pe tipuri de activități economice

- Mii persoane
- 2000-2015

Nume, Prenume

Veniturile populației și standardele de viață

Venitul mediu pe sectoare economice

- Veniturile disponibile ale gospodăriei reprezintă totalitatea veniturilor bănești și în natură obținute din activitatea salarizată, agricolă, individuală, indemnizații sociale, precum și alte surse devenit
- Valorile absolute în MDL,
- Biroul Național de Statistică,
- din 1997

Nume, Prenume

Veniturile populației și standardele de viață

GINI Index

- Degree of inequality in the distribution of family income in a country
- Data are based on primary household survey data obtained from government statistical agencies and World Bank country departments
- Nu se calculeaza în Moldova
- WB, 2014

Nume, Prenume

Educația

Numărul de instituții (primar, gimnazial, liceal, universitar)

- Cercetările statistice din domeniul educației
- Datele exprimate în valori absolute: numărul de instituții/profesori
- Datele statistice privind sistemul educațional se colectează prin cercetări statistice
- Ministerul Educației, BNS
- Începînd cu 1997

Nume, Prenume

Educația

Numărul de elevi, studenți

- Populația școlară reprezintă totalitatea copiilor, elevilor și studenților cuprinși în procesul de educație și instruire al unui an școlar/universitar
- copiilor/elevilor/studenților sunt prezentate în mii persoane. Indicatori relativi în %: rata de cuprindere
- Ministerul Educației, BNS
- Începând cu 1997

Nume, Prenume

Ocrotirea sănătății

Morbiditatea populației

- descrierea stării de funcționare și a nivelului de performanță a sistemului de sănătate, precum și evaluarea stării de sănătate a populației
- Morbiditatea pe toate grupele de maladii
- Indicatori relativi, raportați la 100/1000/
100000 populație
- Ministerul Sănătății, formularele statistice
- 2008-2015

Nume, Prenume

Productivitatea resurselor și ecologică a economiei

Balanța energetică a țării

- cuprinde indicatori ce vizează producția, importul, exportul, distribuția și consumul final de resurse primare și celor din transformări pentru a asigura activitățile economice dar și consumul gospodăriilor familiale
- unități naturale și în unități energetice convenționale
- Începînd cu anul 2010 în conformitate cu standardele internaționale (AIE, ONU, Eurostat)
- 1997-2014

Nume, Prenume

Productivitatea resurselor și ecologică a economiei

Intensitatea energetică

- cantitatea de energie necesară pentru producerea unei unități de PIB
- Reprezintă consumul intern brut de energie (calculat în tone petrol echivalent - tep) raportat la PIB
- AEE, calcule BNS
- 2004-2014

Energia regenerabilă

- Ponderea energiei din surse regenerabile, %
- 2010-2014

Nume, Prenume



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Productivitatea resurselor și ecologică a economiei

Emisiile Gazelor cu Efect de Seră

- Emisiile gazelor cu efect de seră din toate sectoarele economiei
- Mt CO₂ echivalent; Tone CO₂/PIB
- Rapoartele/comunicările naționale la UN FCCC, Ministerul Mediului, Oficiul Schimbarea Climei
- 1990-2013

Emisiile de CO₂, structura pe sectoare

Nume, Prenume

Productivitatea resurselor și ecologică a economiei

Consumul domestic de materiale

- cantitatea totală de materiale utilizate direct în economie (extracția internă utilizată plus importurile)
- Tone
- Nu se calculează în Moldova
- Ministerul Mediului, BNS

Nume, Prenume



Partnership for Environment and Growth



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Productivitatea resurselor și ecologică a economiei

Generarea deșeurilor (menajere, industriale)

- Deșeuri de producție și consum: stocuri de materie primă, materiale, care și-au pierdut complet sau parțial calitatea inițială, necesară pentru consum
- mii tone
- Conform indicațiilor metodice la formularele statistice
- Ministerul Mediului, BNS
- 2007-2014

Nume, Prenume

Productivitatea resurselor și ecologică a economiei

Reciclarea deșeurilor pe tipul de materiale

- Volumul tipurilor de reziduuri sau deșeuri introduse într-un proces tehnologic pentru a obține reutilizarea și valorificarea lor sau în scopuri ecologice
- mii tone
- Nu se colectează/calculează în Moldova
- Ministerul Mediului, BNS, Agenții economici

Nume, Prenume



Partnership for Environment and Growth



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Productivitatea resurselor și ecologică a economiei

Utilizarea îngrășămintelor minerale

- Fertilizanți chimici în întreprinderile agricole și gospodăriile țărănești (de fermier), cu suprafața terenurilor agricole de 50 ha și peste
- mii tone;
- media, kg/ha
- Ministerul Agriculturii și Industriei Alimentare, BNS
- 2006-2015

Nume, Prenume

Creșterea economică, productivitatea și competitivitatea

Consumul de apă, după necesități

Numărul de consumatori de apă,

Captarea apei din bazine naturale,

Consumul apei

- Unități; mln m³
- Formularul nr.1-gospodăria apelor
- Ministerul Mediului, Agenția Apele Moldovei, BNS
- 2001-2015

Nume, Prenume

Baza resurselor naturale

Volumul resurselor de apă (de suprafață, subterane)

- Cantitatea de apă disponibilă pentru asigurarea activităților economice, individuale (casnice) și al ecosistemelor
- mln m3 an
- Agenția Apele Moldovei, AGRM, Institutul de Ecologie și Geografie, Ministerul Mediului
- 2014

Nume, Prenume

Baza resurselor naturale

Volumul de apă captată

- Volumul de apă captată pentru necesitățile economice și casnice
- mln m³ an
- Agenția Apele Moldovei, Ministerul mediului BNS
- 2008-2014

Volumul de apă pe cap de locuitor

- m³ pe persoană
- 2014

Nume, Prenume

Baza resurselor naturale

Fondul forestier: Suprafața totală a fondului forestier; mii ha

- Totalitatea pădurilor, a terenurilor destinate împaduririi, a celor care servesc nevoilor de cultură, producție sau administrație silvică, a iazurilor, a albiilor pâraielor, a altor terenuri cu destinație forestieră și neproductive, cuprinse în amenajamente silvice
- Agenția Moldsilva, Agenția Relații Funciare și Cadastru
- 2005-2014

Nume, Prenume

Baza resurselor naturale

Fondul forestier:

- Suprafața terenurilor acoperite cu păduri, mii ha
- Rezervele de masă lemnoasă pe picior, mln m³
- Gradul de împădurire, %, Suprafața terenurilor acoperite cu păduri la suprafața uscatului (terenurilor terestre)
- Agenția Moldsilva
- 2005-2014

Nume, Prenume

Baza resurselor naturale

Fondul forestier:

- Tăieri, ha
- Volumul masei lemnoase din tăieri silvice, mii m³
- Regenerarea pădurilor, ha
- Agenția Moldsilva, Agenția Relații Funciare și Cadastru, BNS
- 2005-2014

Nume, Prenume

Baza resurselor naturale

Structura fondului funciar

Terenuri cu destinație agricolă, ale localităților, fondul de rezervă, destinate industriei, transporturilor, comunicațiilor și cu alte destinații special, terenuri ale fondului silvic și destinate ocrotirii naturii, terenuri ale fondului apelor

- mii ha, %
- Agenția Relații Funciare și Cadastru, BNS
- 2001-2014

Nume, Prenume

Baza resurselor naturale

Flora și fauna

- Specii de animale
- Specii de plante
- Specii din Cartea Roșie (III)
- Ministerul Mediului, Institutele ASM
- 2001-2015

Nume, Prenume

Baza resurselor naturale

Arii naturale protejate de stat

Spațiu natural, delimitat geografic, cu elemente naturale reprezentative și rare, desemnat și reglementat în scopul conservării și protecției tuturor factorilor de mediu din limitele lui

- numărul, mii ha
- Legea privind fondul ariilor naturale protejate de stat, 1998, cu modificări și completări
- Ministerul Mediului, BNS
- 1998-2015

Nume, Prenume

Dimensiunea de mediu al calității vieții

Poluarea aerului

Evacuarea unor substanțe poluante specifice în aerul atmosferic de sursele staționare; de transportul auto

- mii tone

- Surse staționare – formulare statistice; Transportul auto – calcule; Concentrațiile zilnice – Serviciul Hidrometeorologic de Stat

- 2007-2014

PM10, PM2.5

Particule în suspensie, Mg/m³

Numar, Prenume

Dimensiunea de mediu al calității vieții

Acces la surse îmbunătățite de apă și canalizare

Numărul de persoane conectat la apeduct

Numărul de persoane din numărul total de locuitori cu
posibilitatea de a utiliza ce puțin 20 litri/zi/persoană
dintr-o sursă îmbunătățită, situată în raza de 1 km de
la casa consumatorului

- Persoane, %
- Ministerul Mediului, Ministerul Sănătății
- 2007-2014

Nume, Prenume

Oportunitățile economice și poziția guvernului

Tehnologii verzi

Inovații în domeniul economiei verzi

Numărul de angajați în economia verde

- Numărul de angajați în sectorul de servicii și produse de mediu
- Nr, % din numărul total de angajați
- Ministerul Economiei, Ministerul Muncii, BNS

Nume, Prenume

Oportunitățile economice și poziția guvernului

Producerea mai pură

- Numărul de întreprinderi, care aplică procedurile de producere mai pură
- Resurse economisite și beneficiile financiare
 - Unități, Tone, m3, KW, mii lei
 - Programului National de Producere mai Pura (NCPP) din Republica Moldova
 - 2010-2015

Nume, Prenume

Oportunitățile economice și poziția guvernului

Investiții în protecția mediului

Fondul Ecologic Național

Plățile pentru poluare

Plățile pentru mărfuri periculoase mediului

Ministerul Mediului, 2010-2015
Nume, Prenume

Oportunitățile economice și poziția guvernului

Agricultura ecologică

- Suprafața terenurilor pentru producerea produselor agricole organice
- Nr de fermieri în conversie, certificați
- Produse ecologice (produse, exportate etc)
- Subvenții pentru agricultura ecologică
- ha, nr de gospodarii de fermier, mii tone, mii lei
- MAIA, 2003-2015

Nume, Prenume

Oportunitățile economice și poziția guvernului

IMM vezi

Numărul de IMM care aplică una sau mai multe procese din domeniul economiei verzi (eficiența energetică, reciclarea, etc)

Metodologia UNEP și UNIDO

- ODIMM, Ministerul Economiei, AEE

Nume, Prenume

Oportunitățile economice și poziția guvernului

Prețul energiei, Lei/kW

Prețul apei, Lei/M3

Prețul pentru colectarea deșeurilor, lei/kg/persoana

Nume, Prenume

Raportul privind Indicatorii Creșterii Verzi

Structura Raportului

Structurat in conformitate cu domeniile si indicatorii

(vedeti copia materialelor distribuite)

Nume, Prenume

Planul de realizare

Tabelul cu lista Indicatorilor

25 noiembrie – 5 decembrie 2016 – ianuarie 2017

Capitolul privind Indicatorii din Foaia de parcurs

25 noiembrie – 5 decembrie 2016 – februarie 2017

Raportul privind Indicatorii Creșterii Verzi

9 decembrie 2016 – ianuarie-februarie 2017 – 01
martie 2017

Nume, Prenume

Va mulțumesc pentru atenție!

Nume, Prenume