



## **AGENDA ITEM 4:**

# **OECD UPDATE ON THE DEVELOPMENT AND USE OF GREEN GROWTH INDICATORS**

**28 October 2019, Geneva**





# Introduction to **OECD Green Growth Indicators**

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## 2009: Green Growth Declaration

*(34 OECD countries signed)*

## 2011: OECD Green Growth Strategy & a measurement framework

- **4 areas**, 26 green growth indicators:
  - 1) productivity in the use of environmental assets and natural resources;
  - 2) natural assets base;
  - 3) environmental dimensions of quality of life;
  - 4) policy responses and economic opportunities.
- no “one-size-fits-all” approach, flexible list, adaptable to national context



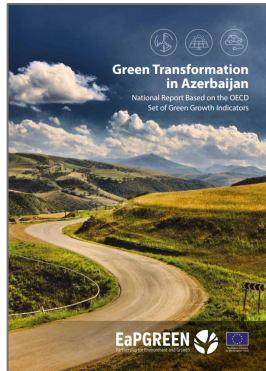
# Key **OECD reports** on green growth indicators

- All OECD countries and key Partners  
(2011, 2014, 2017, 2021 forthcoming)
- Individual OECD countries
  - Netherlands (2011), Denmark, Germany, Korea (2012), Czech Republic (2013), Slovak Republic, Slovenia (2014)
- Region-specific
  - Urban Green Growth in Dynamic Asia (2016)
  - Towards Green Growth in Southeast Asia (2014)
- City-specific
  - Green Growth in Cities (2013) and case-studies
- Sector-specific
  - agriculture, fisheries, jobs, innovation





# Green growth indicators work in EECCA



- **2012: launch of GGIs work in EECCA**
  - Pilot testing in the Kyrgyz Republic
  - Report on Green Growth & Environmental Governance in EECCA
- **2013: launch of EaP GREEN & its GGIs pillar**
  - Regional expert meeting on measuring progress towards green growth in EECCA: Adaptation of the OECD set of GGIs
- **2015: cooperation with UNECE, UN Environment and EEA**
  - Regional expert meeting on Shared Environmental Information System & Green Growth in the EaP Partnership countries & Central Asia
- **2016-2019: regional guide and country applications**
  - Measuring the Green Transformation of the Economy: A Guide for EU Eastern Partnership Countries and Policy Highlights
  - Mining and Green Growth in the EECCA Region
  - Country reports: **Armenia, Azerbaijan, Moldova, Kazakhstan & Ukraine**
  - Further developments of GGIs led by the Statistical Offices: Belarus, Kyrgyzstan, Ukraine...





# Selected GGIs for EECCA in OECD stat database

(2017 or latest available)

Selected green growth indicators	Armenia	Azerbaijan	Belarus	Georgia	Moldova	Ukraine
<b>Socio-economic context</b>						
Real GDP, Index 2000=100	286.8	435.5	215.8	251.5	218.1	142.4
Value added in agriculture, % of total value added	17.7	6.0	7.9	9.0	14.3	13.7
Value added in industry, % of total value added	27.5	51.7	36.1	24.9	14.3	27.1
Value added in services, % of total value added	54.8	42.3	56.0	66.1	71.4	59.2
Real GDP per capita, US Dollar, 2010	8,609.8	15,581.9	16,880.7	9,058.9	4,254.9	7,442.2
Population density, inhabitants per km2	98.3	112.3	45.7	56.3	119.9	73.6
Labour tax revenue, % GDP	6.13	4.5	14.6	7.7	12.2	12.4
Labour tax revenue, % total tax revenue	28.87	27.5	42.0	29.8	38.7	38.8
<b>Environmental and resource productivity</b>						
<i>CO2 Productivity</i>						
Production-based CO2 productivity, GDP per unit of energy-related CO2 emissions, US dollars per kilogram, 2010	4.8	4.9	2.9	3.8	2.2	1.6
Production-based CO2 intensity, energy-related CO2 per capita, Tonnes	1.7	3.2	5.6	2.2	1.9	4.4
Production-based CO2 emissions, index 2000=100	144.1	115.0	101.9	191.3	118.5	67.0
Production-based CO2 emissions, Tonnes, Millions	4.9	31.4	53.1	8.8	7.7	197.7
<i>Energy productivity</i>						
Energy productivity, GDP per unit of TPES, US Dollar, 2010	7,758.8	10,756.5	6,232.4	7,053.0	4,543.2	3,401.2
Energy intensity, TPES per capita, Tonnes of oil equivalent (toe)	1.0	1.5	2.6	1.2	0.9	2.1
Total primary energy supply, index 2000=100	150.1	125.9	101.4	167.1	131.8	70.5
Total primary energy supply, Tonnes of oil equivalent (toe), Millions	3.0	14.2	25.0	4.8	3.8	94.4
Renewable energy supply, % TPES	11.5	1.7	5.5	25.2	18.9	3.8
Renewable electricity, % total electricity generation	32.2	7.8	1.2	80.7	4.2	7.7
Energy consumption in agriculture, % total energy consumption	2.0	4.7	5.5	0.7	2.9	4.1
Energy consumption in services, % total energy consumption	9.4	6.6	11.2	10.0	9.3	9.4
Energy consumption in industry, % total energy consumption	15.1	16.1	21.5	15.7	16.8	29.0
Energy consumption in transport, % total energy consumption	29.3	24.9	20.5	33.4	24.5	17.7
Energy consumption in other sectors, % total energy consumption	44.3	47.6	41.3	40.2	46.5	39.8
<b>Natural asset base</b>						
<i>Freshwater resources</i>						
Permanent surface water, % total surface	4.5	0.6	0.9	0.3	0.8	2.1
Seasonal surface water, % total surface	0.1	0.6	0.3	0.2	0.3	0.4
Conversion of permanent water to not-water surface, % permanent water, since 1984	0.5	7.1	2.5	3.3	8.0	2.4
Conversion of permanent to seasonal water surface, % permanent water, since 1984	0.3	13.2	5.3	7.0	14.8	3.1
Conversion of not-water to permanent water surface, % permanent water, since 1984	2.6	13.6	9.4	18.3	9.9	4.9
Conversion of seasonal to permanent water surface, % permanent water, since 1984	0.8	0.6	1.2	2.8	1.2	1.2
<i>Land resources</i>						
Natural and semi-natural vegetated land, % total	35.1	17.1	45.3	60.5	8.1	18.1
Bare land, % total	1.3	2.4	0	2.1	0.0	0.0
Cropland, % total	56.9	31.2	52.7	35.3	84.7	75.2
Artificial surfaces, % total	2.2	0.8	0.9	1.5	6.3	4.2
Water, % total	4.5	48.5	1.1	0.6	0.9	2.5
Loss of natural and semi-natural vegetated land, % since 1992	8.1	6.3	5.8	2.4	1.4	3.7
Loss of natural and semi-natural vegetated land, % since 2004	1.2	1.1	0.8	1.1	0.3	0.6
Gain of natural and semi-natural vegetated land, % since 1992	3.4	2.7	10.1	2.6	8.2	15.2



# Selected GGIs for EECCA in OECD stat database

Gain of natural and semi-natural vegetated land, % since 2004	0.7	1.1	2.7	1.1	1.3	3.6
Conversion from natural and semi-natural land to cropland, % since 1992	7.7	5.9	5.5	2.2	1.0	2.9
Conversion from natural and semi-natural land to artificial surfaces, % since 1992	0.1	0.2	0.1	0.1	0.2	0.5
Conversion from cropland to artificial surfaces, % since 1992	1.3	0.9	0.9	1.7	3.8	3.0
Built up area, % total land	1.5	1.8	0.5	1.3	...	2.5
Built up area per capita, Square metres	150.6	164.1	114.5	227.3	...	330.9
New built up area, % since 1990	14.0	47.4	24.6	20.3	...	22.0
New built up area, % since 2000	6.0	26.9	12.5	10.5	...	11.8
<i>Forest resources</i>						
Forest resource stocks, Cubic metres, Millions	40.7	149.2	1,669.3	454.5	50.4	2,196.0
Forests under sustainable management certification, % total forest area	...	...	152.8	0	0	14.9
<i>Environmental dimension of quality of life</i>						
<i>Exposure to environmental risks</i>						
Mean population exposure to PM2.5, Micrograms per cubic metre	32.6	20.7	19.0	22.2	16.6	20.7
Percentage of population exposed to more than 10 micrograms/m3, %	100.0	99.9	99.9	99.8	100.0	99.9
Percentage of population exposed to more than 35 micrograms/m3, %	38.5	1.0	2.1	0.1	0	0
Mortality from exposure to ambient PM2.5, Per 1 000 000 inhabitants	694.3	461.2	846.9	557.2	540.2	1,025.7
Welfare costs of premature mortalities from exposure to ambient PM2.5, GDP equivalent, %	7.8	4.9	8.9	6.2	6.5	11.7
Mortality from exposure to ambient ozone	52.7	23.2	17.6	45.3	22.4	26.3
Welfare costs of premature deaths from exposure to ambient ozone, GDP equivalent	0.6	0.2	0.2	0.5	0.3	0.3
Mortality from exposure to lead	135.1	100.9	123.5	139.2	133.3	86.1
Welfare costs of premature deaths from exposure to lead, GDP equivalent	1.5	1.1	1.3	1.6	1.6	1.0
<i>Access to drinking water and sewage treatment</i>						
Population with access to improved drinking water sources, % total population	60.6	71.5	94.4	73.0	70.0	92.2
Population with access to improved sanitation, % total population	...	...	76.2	...	...	...
<i>Economic opportunities and policy responses</i>						
<i>Technology and innovation: Patents</i>						
Development of environment-related technologies, % all technologies	20.9	1.9	0	9.3	7.6	9.1
Relative advantage in environment-related technology, Ratio	2.6	0.2	0	1.2	0.9	1.1
Development of environment-related technologies, % inventions worldwide	0	0	0	0.0	0.0	0.1
Development of environment-related technologies, inventions per capita, Number	1.2	0	0	0.3	0.3	0.5
<i>International financial flows: Official Development Assistance</i>						
ODA - all sectors - biodiversity, % total ODA	...	0	...	...	...	...
ODA - all sectors - climate change mitigation, % total ODA	...	0	...	...	...	...
ODA - all sectors - climate change adaptation, % total ODA	...	0	...	...	...	...
ODA - all sectors - desertification, % total ODA	...	0	...	...	...	...
ODA - renewable energy sector, % total allocable ODA	...	0	...	...	...	...
ODA - water supply and sanitation sector, % total allocable ODA	...	0	...	...	...	...
ODA - environment sector, % total allocable ODA	...	2.7	...	...	...	...
Net ODA provided, % GNI	...	0	...	...	...	...
<i>Environmental taxes and transfers</i>						
Petrol end-user price, USD per litre	1.7	1.8	2.3	...	2.1	3.5
Diesel end-user price, USD per litre	1.5	1.5	2.4	...	1.8	3.2



# New work on green growth indicators

## New regional EU-funded Programme



Action funded by  
the European Union

# EU4Environment

Armenia, Azerbaijan, Belarus, Georgia, Republic of Moldova, Ukraine

from 2019-2022, five organisations



will be supporting six countries



Armenia



Azerbaijan



Belarus



Georgia



Moldova



Ukraine



Action funded by  
the European Union

## Result 5: Monitoring of progress & GGIs

- Pilot projects in 2 countries (Belarus & Georgia)
- 4 updates (Armenia, Azerbaijan, Moldova & Ukraine)
- Country profiles & updates (all six countries)
- Regional dimension (progress assessment, experience sharing, *possible regional conference as in 2015*)

Action implemented by:







# Upcoming events and publications (OECD-wide)

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- **14 Nov 2019: Launch of the report on Green Growth Indicators in Kazakhstan**
- **19-21 Nov 2019: Working Party on Environmental Information**
  - 2019 edition of “Environment at a Glance”: from paper to digital
    - New web-based report with interactive graphics and live updates (18 November 2019)
  - Environmental data, indicators & accounting
    - Data collection & quality, environmental-economic accounting & SEEA
    - New databases: sustainable ocean economy & geography of well-being
    - Improving international data on inland waters, climate and biodiversity expenditure, waste, materials & circular economy
  - Environmental information & reporting
    - Environmental information in countries, progress towards SDGs
    - Consolidated legal instrument on environmental information and reporting
  - Material flows & resource productivity
    - Calculation method for material footprints, report on countries’ progress
- **February 2020: Joint OECD/UNECE Seminar on SEEA Implementation**
- **OECD green growth indicators**
  - Regular update of OECD online database
  - Next report: 2021 (possibly web-based with interactive graphics)



# Thank you for your attention

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EU4Environment: <https://www.oecd.org/environment/outreach>

EaP GREEN: <http://www.green-economies-eap.org/>

OECD GGIs homepage: <http://oe.cd/ggi>

OECD online database with selected GGIs: <http://oe.cd/ggi-data>