Некоторые ключевые элементы по Молдове для семинара IIASA 6-11/11/2023

“Some key elements on Moldova for the IIASA workshop 6-11/11/2023”

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- **Статус Республики Молдова в рамках Конвенции о трансграничном загрязнении воздуха и в протоколах к Конвенции**
- Конвенция 1979 года ЕЭКООН о трансграничном загрязнении воздуха на большие расстояния (CLRTAP) (*Молдова присоединилась к Конвенции 9.06.1995 года Резолюцией Парламента №399 от 16.03.1995 года*) .
- Протокол по стойким органическим загрязнителям (СОЗ) (Орхус, 1998 г.), *подписан 24 .06. 1998, ратифицирован 1 октября 2002 Законом Парламента Nr. 1018 от 25.04.2002*.
- Протокол по тяжелым металлам (Орхус, 1998 г.), *подписан 24 .06. 1998, ратифицирован 1 октября 2002 Законом Парламента Nr. 1018 от 25.04.2002*.
- Протокол о борьбе с подкислением, эвтрофикацией и приземным озоном (Гетеборг,1999 г.) , *подписан 23.05.2000 РМ*.
- Протокол о долгосрочном финансировании совместной программы наблюдения и оценки распространения загрязнителей воздуха на большие расстояния в Европе (ЕМЕП) *Молдова присоединилась к Протоколу 26.07.2016* Законом Парламента Nr. 215 от 3.12.2015 .

- **Status of the Republic of Moldova in the framework of the Convention on Transboundary Air Pollution and in the Protocols to the Convention**
- The 1979 UNECE Convention on Long-range Transboundary Air Pollution (CLRTAP) (Moldova acceded to the Convention of 06.06.1995 by the Resolution of Parliament No. 399 of 16.03.1995).
- The Protocol on Persistent Organic Pollutants (POPs) (Aarhus, 1998), signed on 24 .06. 1998, ratified on October 1, 2002 by the Law of Parliament Nr. 1018 of 04/25/2002.
- The Protocol on Heavy Metals (Aarhus, 1998), signed on 24 .06. 1998, ratified on October 1, 2002 by the Law of Parliament Nr. 1018 of 04/25/2002.
- Protocol to combat acidification, eutrophication and ground-level ozone (Gothenburg, 1999), signed on 23.05.2000 RM.
- The Protocol on the Long-term Financing of the Joint Program for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe (EMEP) Moldova acceded to the Protocol on July 26, 2016 by the Law of Parliament Nr. 215 of December 3, 2015.

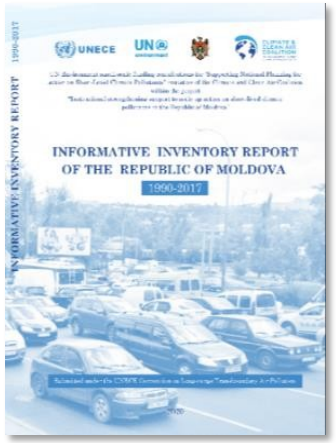
- Slide prepared by Kirillova T.

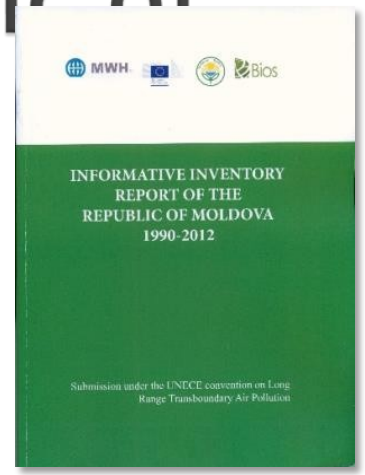
	Подписание Signed	Ратификация (R), Присоединение(a) Ratification(R)
Конвенция 1979 г. Convention 1979	–	a
Протокол ЕМЕП 1984 г. Protocol EMEP 1984 г	–	a
Протокол по сере 1985 г. Protocol S 1985 г.	–	–
Протокол по NOx 1988 г. Protocol Nox 1988 г.	–	–
Протокол по ЛОС 1991 г. Protocol VOC 1991 г.	–	–
Протокол по ТЧ Protocol PM 1998 г.	+	R
Протокол по СОЗ 1998 г. Protocol POPs 1998 г.	+	R
Гётеборгский протокол 1999 г. Protocol Geteborg 1999	+	–

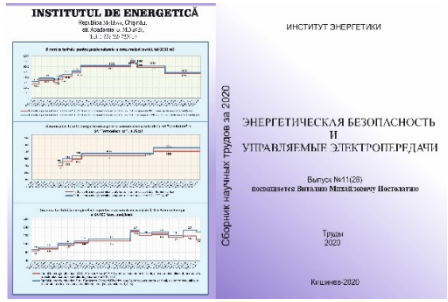
Slide prepared by Kirillova T.

Работы в PM Works in the Republic of Moldova

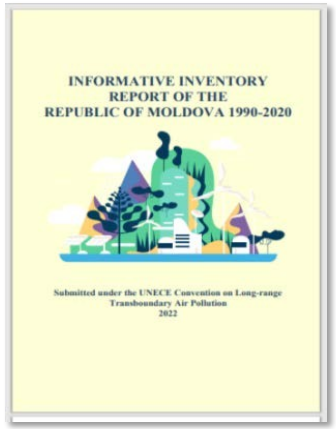
- 2012 Air Governance,
- Copert – Transport

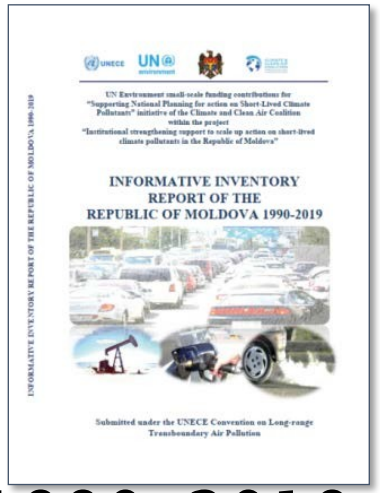


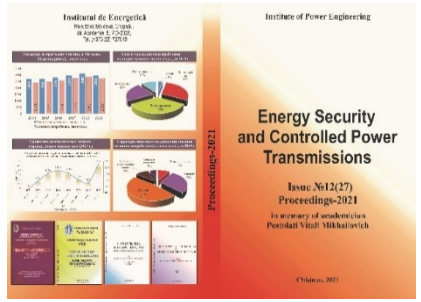




- 2014 on EMEP-2009-
- Energy Sector and others
-







- 2019 EMEP-2016- NFR, IIR -1990-20

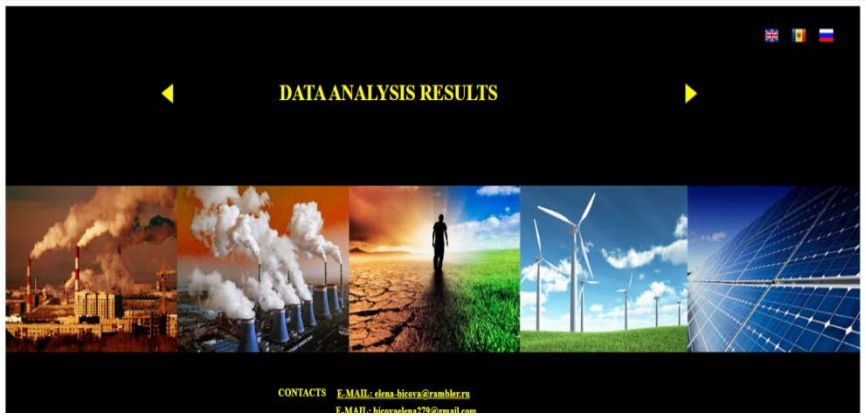
- 2021 EMEP-2016 with its update units- NFR, IIR 1990-2019
- 2022 - NFR, IIR 1990-2020
  - Translate version IIR 1990-2017 and 1990-2019 in 2
    - Proceedings of Energy Security

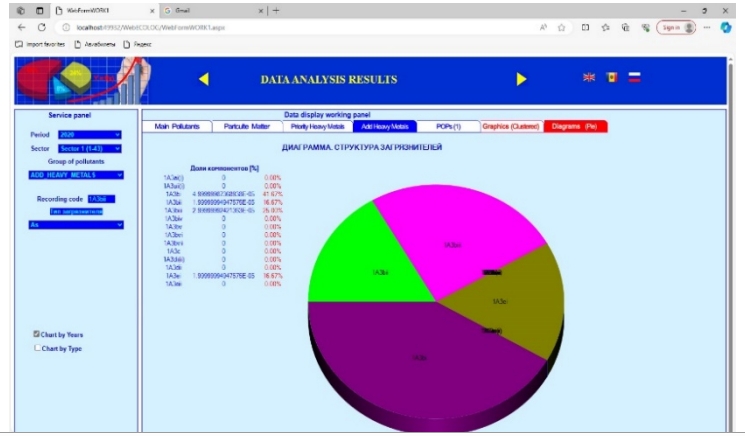
Website ecm25.com

- The site was created to reflect the gross emissions of 25 pollutants that are calculated annually as part of reporting under the CLRTAP convention UNECE.

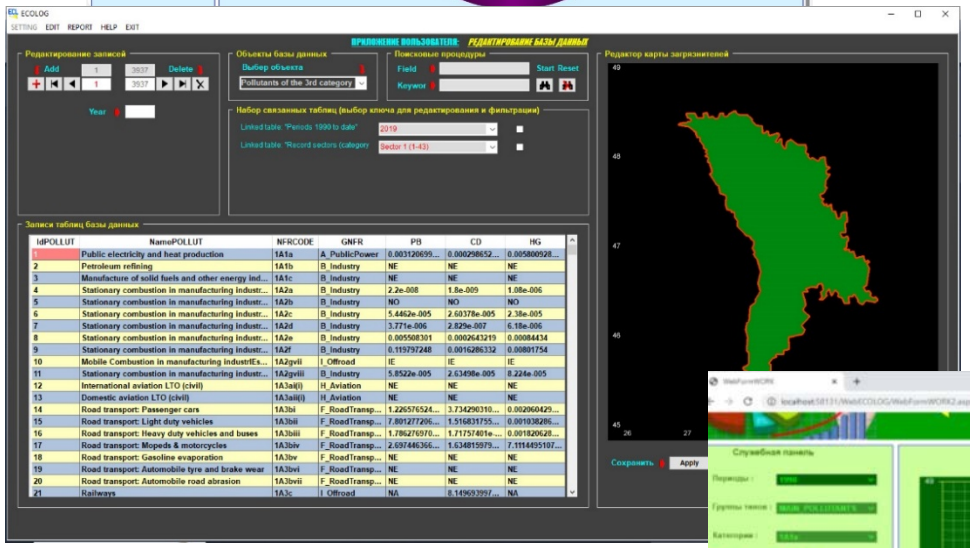
- The calculations are carried out according to EMEP Guideline.
- Over the previous years, 4 issues of IIR have been published for 1990-2012, 1990-2017, 1990-2019 and 1990- 2020.
- Calculations are carried out for the pollutants:
- main pollutants: NO_x, NMVOC. SO_x, NH_3, CO;
- particulate matters: $PM_{2.5}$, PM_{10}, TSP, BC;
- heavy metals: Pb, Cd, Hg, As, Cr, Cu, Ni, Se, Zn;
- persistent organic pollutants: PCDD/F (dioxins/ furans),
- benzo(a)pyrene, benzo(b) fluoranthene, benzo(k) fluoranthene, Indeno(1,2,3-cd) pyrene, HCB, PCBs.
- Emission source categories include 4 sectors - energy, industrial processes, agriculture and waste.

- The site includes 3 pages - a title page, tables with gross emissions for each pollutant and each category, and a page for displaying emissions on a map

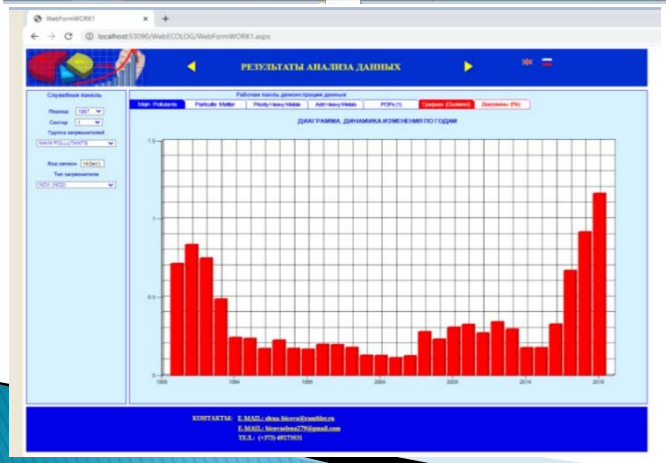


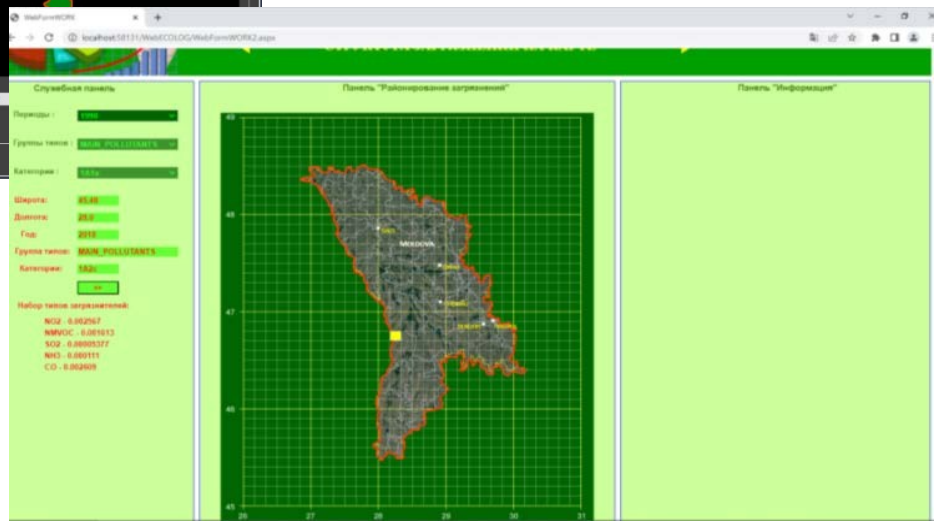


Bicova E. V. and Chalbash O.Kh. (IT) are working on the development of website

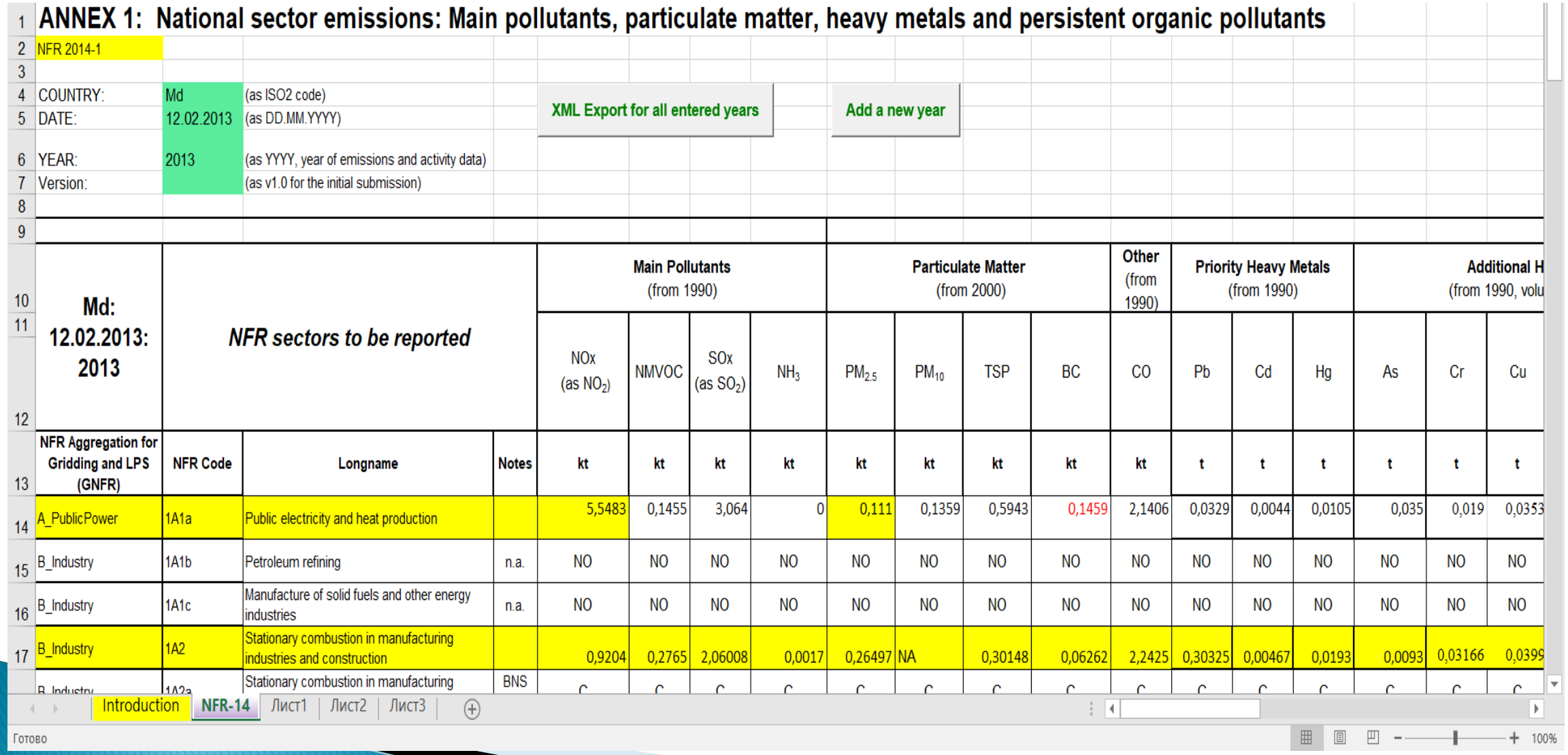


IdPOLLUT	NamePOLLUT	NFRCODE	GNFR	PB	CD	HG
1	Public electricity and heat production	1A1a	A_PublicPower	0.003120699...	0.00029852...	0.005800928...
2	Petroleum refining	1A1b	B_Industry	NE	NE	NE
3	Manufacture of solid fuels and other energy ind...	1A1c	B_Industry	NE	NE	NE
4	Stationary combustion in manufacturing industr...	1A2a	B_Industry	2.2e-008	1.8e-009	1.08e-006
5	Stationary combustion in manufacturing industr...	1A2b	B_Industry	NO	NO	NO
6	Stationary combustion in manufacturing industr...	1A2c	B_Industry	5.4462e-005	2.60378e-005	2.38e-005
7	Stationary combustion in manufacturing industr...	1A2d	B_Industry	3.771e-006	2.829e-007	6.18e-006
8	Stationary combustion in manufacturing industr...	1A2e	B_Industry	0.005508301	0.0002643219	0.00084434
9	Stationary combustion in manufacturing industr...	1A2f	B_Industry	0.115797248	0.0016286332	0.00801754
10	Mobile Combustion in manufacturing industrIEs...	1A2gvii	I_Offroad	IE	IE	IE
11	Stationary combustion in manufacturing industr...	1A2gviii	B_Industry	5.8522e-005	2.63498e-005	8.224e-005
12	International aviation LTO (civil)	1A3ai(i)	H_Aviation	NE	NE	NE
13	Domestic aviation LTO (civil)	1A3aii(i)	H_Aviation	NE	NE	NE
14	Road transport: Passenger cars	1A3bi	F_RoadTransp...	1.226576524...	3.734290310...	0.002060429...
15	Road transport: Light duty vehicles	1A3bii	F_RoadTransp...	7.801277206...	1.516831755...	0.001038286...
16	Road transport: Heavy duty vehicles and buses	1A3biii	F_RoadTransp...	1.786276970...	1.71757401e-...	0.001820628...
17	Road transport: Mopeds & motorcycles	1A3biv	F_RoadTransp...	2.697446366...	1.634815979...	7.1114495107...
18	Road transport: Gasoline evaporation	1A3bv	F_RoadTransp...	NE	NE	NE
19	Road transport: Automobile tyre and brake wear	1A3bvi	F_RoadTransp...	NE	NE	NE
20	Road transport: Automobile road abrasion	1A3bvii	F_RoadTransp...	NE	NE	NE
21	Railways	1A3c	I_Offroad	NA	8.149693997...	NA





NFR – versia 2014.1 Расчеты 1990–2020



ANNEX 1: National sector emissions: Main pollutants, particulate matter, heavy metals and persistent organic pollutants

NFR 2014-1

COUNTRY:	Md	(as ISO2 code)
DATE:	12.02.2013	(as DD.MM.YYYY)
YEAR:	2013	(as YYYY, year of emissions and activity data)
Version:		(as v1.0 for the initial submission)

XML Export for all entered years

Add a new year

Md: 12.02.2013: 2013	*NFR sectors to be reported*			Main Pollutants (from 1990)				Particulate Matter (from 2000)				Other (from 1990)	Priority Heavy Metals (from 1990)			Additional H (from 1990, volu		
				NOx (as NO_2)	NMVOC	SOx (as SO_2)	NH_3	$PM_{2.5}$	PM_{10}	TSP	BC	CO	Pb	Cd	Hg	As	Cr	Cu
NFR Aggregation for Gridding and LPS (GNFR)	NFR Code	Longname	Notes	kt	kt	kt	kt	kt	kt	kt	kt	kt	t	t	t	t	t	t
A_PublicPower	1A1a	Public electricity and heat production		5,5483	0,1455	3,064	0	0,111	0,1359	0,5943	0,1459	2,1406	0,0329	0,0044	0,0105	0,035	0,019	0,0353
B_Industry	1A1b	Petroleum refining	n.a.	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
B_Industry	1A1c	Manufacture of solid fuels and other energy industries	n.a.	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
B_Industry	1A2	Stationary combustion in manufacturing industries and construction		0,9204	0,2765	2,06008	0,0017	0,26497	NA	0,30148	0,06262	2,2425	0,30325	0,00467	0,0193	0,0093	0,03166	0,0399
B_Industry	1A2a	Stationary combustion in manufacturing	BNS	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C

Introduction | NFR-14 | Лист1 | Лист2 | Лист3

Готово

100%

Доступность данных: Энергетика
Data Accessibility: Energy, Macro

Топливно-энергетический балансы

(Energy Balances 1990,1993-2016)

Статистические ежегодники 1990,1993-2016

www.statistica.md

Трудность: изменения форматов представления данных .

Для ТЭБ- 4 формата

Для СЕ- ежегодные изменения

Общая тенденция – сближение с европейской статистикой

Energy Balances 1990,1993-2021 (EB)

Statistical yearbooks 1990,1993-2021 (SY)

www.statistica.gov.md

Difficulty: change the presentation of data.

For EB- 4 different formats

For SY - annual changes

The general trend is rapprochement with European statistics.

Полнота (охват секторов [источников выбросов] и загрязняющих веществ) разработанных в настоящее время кадастров выбросов

Completeness (coverage of [emission source] sectors and pollutants) of currently developed emission inventories Energy – 42 cat, 2 regions

Наличие прогнозов – используете ли вы формальные модели для прогнозирования использования энергии и/или развития в сельскохозяйственном секторе?
Availability of forecasts – do you use formal models to forecast energy use and/or development in the agricultural sector

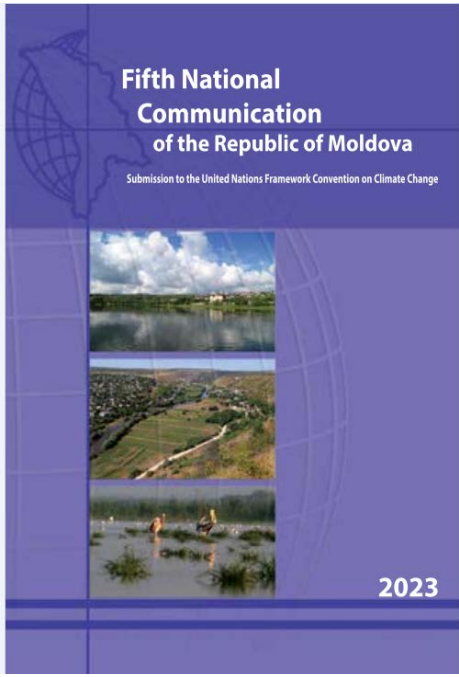
- 5 National Communication-last circle with GHG prognoses by all sectors
- Our group have prepared Short time forecast of Energy Balances (7 circles from 2015 for Government)
- Our group worked and with LEAP, but not finishing work (2019-2020)
- Our group take part in development NECP in current year with until 2050, “Times” 2 scenarios forecast in Energy sector and GHG (for Government)

Доступна ли информация о сети мониторинга загрязнения воздуха и фактических измерениях? За какие годы? Данные о местоположении станций имеются?

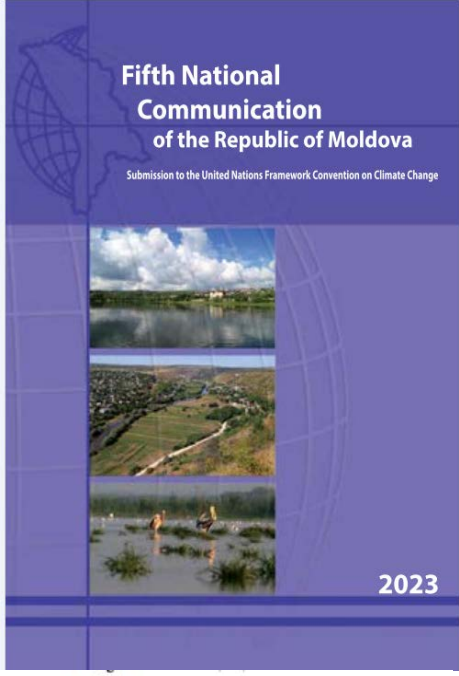
Is information available on the air pollution monitoring network and actual measurements? For what years? Is there data on station locations?

- 5 National Communication has 7 Section about this :
- Chapter 7. Research and Systematic Observations
- Meteorological Center of the State Hydrometeorological Service

- 17 oficial station for actual measurements and new 1 automatic from 2021



5 National Communication has 7 Section about this : Chapter 7. Research and Systematic Observations



CHAPTER 7. RESEARCH AND SYSTEMIC OBSERVATIONS

7.1. Historic Background

The first meteorological observations were made in Chisinau in 1844. In 1878, the first hydrological post on the Dniester River was organized in Bender (1878). During the years 1880-1900 meteorological observations started at five stations of the country: Briceni (1887), Soroca (1890), Comrat (1892), Ploti (1894) and Tiraspol (1898).

At the beginning of the 20th century, the stationary meteorological observations were made at 11 stations, and hydrological observations were made at five stations. But at most stations and posts the observations were episodic, often interrupted by military action during the two world wars.

The Hydrometeorological Department of the RoM was established in October 1944 to ensure development of regular hydrometeorological observations. In the same year, the Meteorological Bureau with forecasting groups was set up in the structure of the Department. The Meteorological Bureau worked extensively on evaluation of the methodology used by the Moscow Central Forecasting Institute and its adaptation to the conditions of the RoM, as well as on development of new methodologies. The Hydrological Forecasting Group has developed hydrological forecasting methods on the Dniester and Prut rivers.

The first rainflood forecast was issued in 1950, and the first

posts. At present the extent of these activities has considerably increased. Observations of 45 indices are made on 13 rivers on 32 posts, in 42 sections, and in three water basins. Since 1976, the quality control of surface waters has been organized according to five hydrobiological indices. Observations on atmospheric air pollution started in Chisinau in 1969 at three stationary posts on four indices and gradually expanded both in terms of the number of observation posts and the determined components. Currently, these observations are made on seven components at stationary posts in four cities of the country.

Air pollution forecasts are issued since 1979. Use of chemical products in agriculture preconditioned the need for soil quality monitoring and pesticide control.

The monitoring began in 1976 with establishment of the laboratories on soil pollution monitoring that nowadays are widely dispersed across the whole territory of the country, in places where chemical products are used.

According to the Resolution of the Parliament of the RoM of 29 July 1994, the State Hydrometeorological Service is a member of the World Meteorological Organization (WMO).

Since 2001, a forward-looking plan has been put in place to develop and strengthen the SHS potential. To achieve this goal, the Government and the National Ecological Fund provided

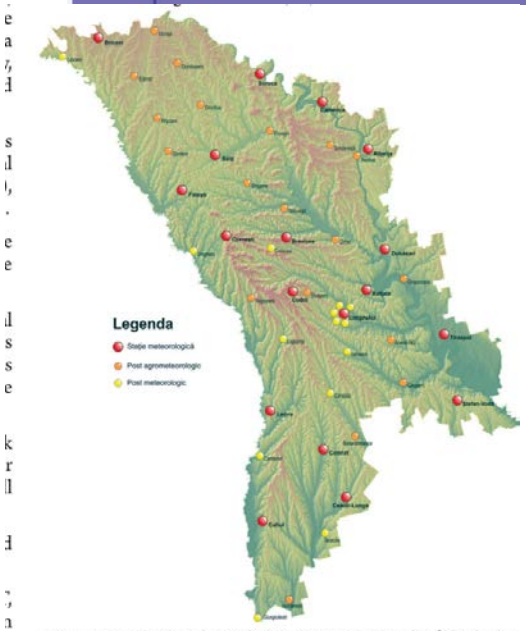


Figure 7-1: Meteorological observation network of the SHS c
the RoM.

Chapter 7. Research and Systematic Observations

- CHAPTER 7. RESEARCH AND SYSTEMIC OBSERVATIONS
- 7.1. Historic
- 7.2. Institutions Involved in the Systemic Observations
  - 7.2.1. Legal Framework, Organization and Functioning of the State Hydrometeorological Servic
  - 7.2.2. Special Service for Active Influences on Hydrometeorological Activity
  - 7.2.3. Environmental Agency 7.2.4. International Civil Aviation Organization
- 7.3. National Hydrometeorological Monitoring System ·
  - 7.3.1. General Context
  - 7.3.2. Meteorological Monitoring System
  - 7.3.3. Agroclimatic Monitoring System
  - 7.3.4. Hydrological Monitoring System
  - 7.3.5. Environmental Quality Monitoring System
  - 7.3.6. Radar Monitoring System
  - 7.3.7. Other Monitoring Systems
- 7.4. Research Activity
- 7.5. Information on International Assistance to Support Surveillance Networks
- 7.6. General Policy for Environmental Monitoring Systems Development
- 7.7. Socio-Economic Benefit of Climate Services, Climate Change Adaptation and New Technolog
  - 7.7.1. Socio-Economic Benefit of Climate Services
  - 7.7.2. Climate Change Adaptation and Application of New Technologies to Improve Climate Services
- 7.8. Information on International Data Exchange Issues
  - 7.8.2. Data Collection System

- systematic information of civil society about the quality of the environment.

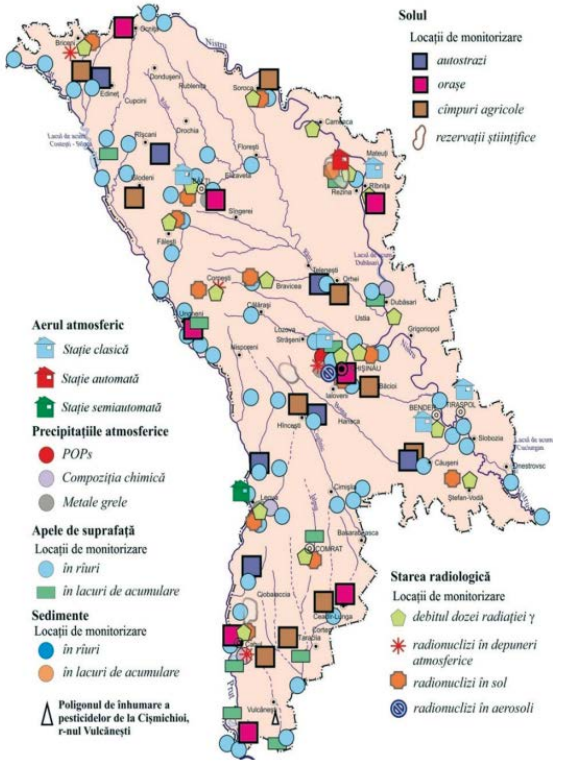
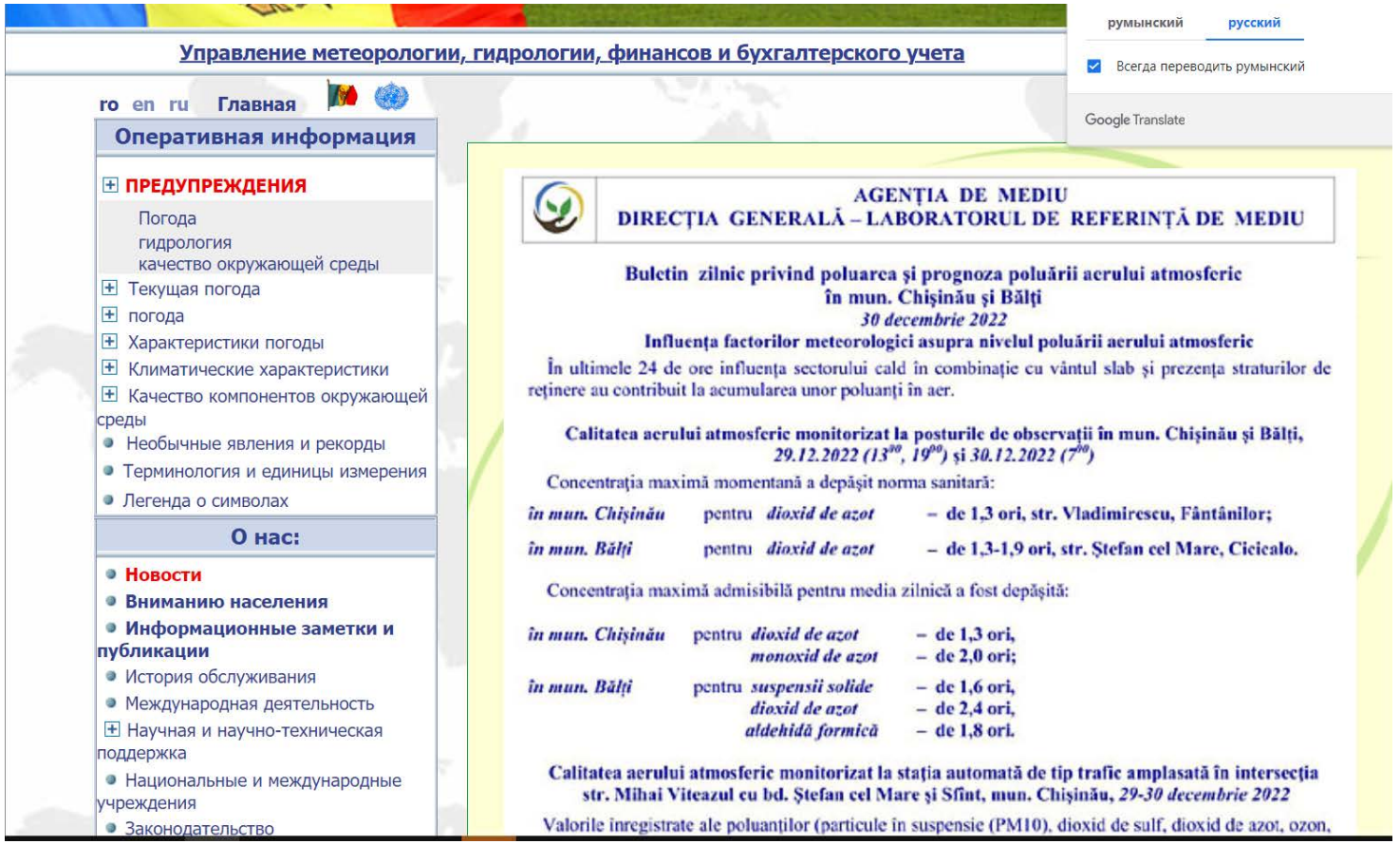


Figure 7-7: Environmental Components Monitoring Network.

Meteorological Center of the State Hydrometeorological Service



Meteorological Center of the State Hydrometeorological Service –ПДК

Предельно допустимые концентрации (ПМК) в почве и воздействия негативное воздействие на окружающую среду и здоровье населения

Нет. делать	загрязнитель	СМА, мг/кг	Плохое влияние
1.	Количество ГХГ	0,1	СОЗ – химические вещества, обладающие токсичными свойствами, чрезвычайно опасные, обладающие высокой степенью устойчивости к разложению и накоплению в живых организмах и окружающей среде. Действие СОЗ на организм человека приводит к увеличению заболеваемости раком, аномалиям развития, низкой фертильности, ослаблению иммунитета, снижению интеллектуальных способностей, заболеваниям печени.
2.	Количество ДДТ	0,1	
3.	Сумма БПК	0,06	
4.	ГБЦ	0,03	
5.	нитрат	130	Нитраты сами по себе слаботоксичны, оказывая скорее местное раздражение пищеварительной трубки, вызывая застойные явления и кровоизлияния на пищеварительном и почечного уровнях.
6.	фосфат	двести	
7.	С мобильного	3.0	Металлы поступают в живую клетку в виде катионов, но их включение строго регламентировано, поскольку в больших количествах практически все металлы токсичны, обладают свойством накапливаться в организме человека, поэтому замедляют или даже блокируют внутриклеточные биохимические процессы, обладают мутагенные свойства и канцерогены.
8.	Зн мобильный	23,0	
9.	Не мобильный	4.0	
10.	Пб мобильный	6.0	
11.	Pb всего	32,0	
12.	Мобильный телефон	140,0	
13.	я полностью	1500,0	
14.	общий цинк*	220,0	
15.	Всего*	132,0	
16.	Нет всего*	80,0	

			почечного уровнях.
6.	фосфат	двести	
7.	С мобильного	3.0	Металлы поступают в жи виде катионов, но их вкл регламентировано, поскол количествах практически токсичны, обладают накапливаться в органи поэтому замедляют или да внутриклеточные б процессы, обладают свойства и канцерогены.
8.	Зн мобильный	23,0	
9.	Не мобильный	4.0	
10.	Пб мобильный	6.0	
11.	Pb всего	32,0	
12.	Мобильный телефон	140,0	
13.	я полностью	1500,0	
14.	общий цинк*	220,0	
15.	Всего*	132,0	
16.	Нет всего*	80,0	

тип почвы - почти нейтральная, нейтральная, нейтрально-суглинистая и г

Классификация почв по степени кислотности

Значение pH (H_2O)	Кислотность почвы
3,6-4,3	очень сильная кислота
4,4-5,0	сильная кислота
5,1-5,8	умеренно кислый
5,9-6,8	слабая кислота
6,9-7,2	нейтральный
7,3-8,4	слабощелочной
8,5-9,0	умеренно щелочной
9,1-9,4	сильно щелочной

Классификация почв по содержанию обменных оснований, ммоль/100 г почвы

индикатор	Контент		
	Низкий	Оптимум	Взял
Ca^{++} Нравится	<15	25-35	>45
Mg^{++}	<1	2-6	>10
Ca^{+++} Mg^{++}	<16	27-41	>55

Классификация почв по содержанию гумуса и питательных веществ

Степень классификации	Гумус, %	нитрификационная способность, $N(NO_3^-)$, мг/кг	Подвижный фосфор по Методике Мачигин, мг P_2O_5/кг	Калий по методу Мачигина, мг K_2O/кг
очень низкий	до 2 лет	до 5 лет	до 10 лет	до 50
низкий	2-3	5-10	11-15	50-100
умеренный	3-4	10-15	15-30	100-200
оптимальный	4-5	15-20	31-45	200-300
взял	5-6	более 20	45-60	300-400
очень высоко	более 6		старше 60	более 400

For GAINS- Macro-Statistical yearbooks

POP	Population - download and upload possible from "Activity pathway for all processes" template	POP Численность населения и численность экономически активного населения, 10 ^ 6 человек	
GDP	Gross domestic product (market exchange rate)	ВВП Валовой внутренний продукт (рыночный обменный курс) 10 ^ 9 Евро	
GDP_PPP	Gross domestic product (purchasing power parity)	GDP_PPP Валовой внутренний продукт (паритет покупательной способности) 10 ^ 9 Euro PPP	
PPP/MEX	Ratio of GDP in PPP terms to GDP calculated with market exchange rates (value calculated, do not input)	PPP / MEX Соотношение ВВП в условиях ППП к ВВП, рассчитанное по рыночным обменным курсам (значение рассчитано, не вводится) коэффициент	
VA_TOT	Gross value added - total	VA_TOT Валовая добавленная стоимость - всего ,10 ^ 9 евро	
VA_AGR	Value added - agriculture, forestry, fishing	VA_AGR Добавленная стоимость - сельское хозяйство, лесное хозяйство, рыболовство 10 ^ 9 Euro	
VA_CONSTR	Value added - construction	VA_CONSTR Добавленная стоимость - строительство ,10 ^ 9 Евро	
VA_TERT	Value added - tertiary sector (transport, trade, other services)	VA_TERT Добавленная стоимость - третичный сектор (транспорт, торговля, другие услуги) 10 ^ 9 Евро MEX	
VA_COMM	of which: commercial sector (trade, other services)	VA_COMM, из которых: коммерческий сектор (торговля, другие услуги) ,10 ^ 9 евро	
VA_TRANS	of which: transport	VA_TRANS, из которых: транспорт, 10 ^ 9 Евро	
VA_ENER	Value added - energy	VA_ENER Добавленная стоимость – энергия, 10 ^ 9 Евро	
VA_MINE	of which: mining and quarrying	VA_MINE, из которых: добыча и добыча 10 ^ 9 Евро	
VA_ELGW	of which: electricity, gas and water supply	VA_ELGW, из которых: электричество, газ и водоснабжение, 10 ^ 9 Евро	
VA_ORCKNF	Mineral oil refining, coke and nuclear fuel; Included in VA_INDOTH	VA_ORCKNF Очистка минерального масла, кокса и ядерного топлива; Включено в VA_INDOTH 10 ^ 9 Euro	
VA_IND	Value added - manufacturing industry (except energy)	VA_IND Добавленная стоимость - обрабатывающая промышленность (кроме энергии) 10 ^ 9 Euro	
VA_INDMET	Value added - basic metals	VA_INDMET Добавленная стоимость - основные металлы 10 ^ 9 Евро	
VA_INDISTE	of which: iron and steel	VA_INDISTE из которых: железо и сталь 10 ^ 9 Euro	
VA_INDNFME	of wich: non-ferrous metals	VA_INDNFME из которых: цветные металлы 10 ^ 9 Euro	
VA_INDCHEM	Value added - chemicals	VA_INDCHEM Добавленная стоимость - химикаты 10 ^ 9 Euro	
VA_INDNMMI	Value added - non-metalic minerals	VA_INDNMMI Добавленная стоимость - неметаллические минералы 10 ^ 9 Euro	
VA_INDPAP	Value added - pulp, paper, paper products and printing	VA_INDPAP Добавленная стоимость - целлюлоза, бумага, бумажные изделия и печать 10 ^ 9 Euro	
VA_PRINT	of which: printing and publishing	VA_PRINT, из которых: печать и публикация 10 ^ 9 Euro	
VA_INDOTH	Value added - other industries (includes VA_ORCKNF)	VA_INDOTH Добавленная стоимость - другие отрасли (включая VA_ORCKNF) 10 ^ 9 Euro	
VA_INDFOOD	of which: food, beverages, tobacco	VA_INDFOOD, из которых: продукты питания, напитки, табак 10 ^ 9 Euro	
VA_INDTEX	of which: textile, leather, footwear	VA_INDTEX из которых: текстиль, кожа, обувь 10 ^ 9 Euro	
VA_INDWOOD	of which: wood and wood products	VA_INDWOOD, из которых: древесина и изделия из дерева 10 ^ 9 Euro	
VA_INDRUB	of which: plastics and rubber	VA_INDRUB, из которых: пластмассы и резина 10 ^ 9 Euro	


United Nations
Climate Change Secretariat

United Nations Framework Convention on Climate Change

CERTIFICATE

Elena Bicova

successfully completed the courses:

General and cross-cutting aspects of the review of National Communications and Biennial Reports

under the Training Programme for review experts for the technical review of biennial reports and national communications of Parties included in Annex I to the Convention

Donald Cooper
Director, Transparency Division

2021


GreenVoyage 2050
IMO INTERNATIONAL MARITIME ORGANIZATION
GLOBAL INDUSTRY ALLIANCE

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This is to certify that

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An Introduction to Energy Efficient Ship Operation

July 26, 2022

Mr Jose Matheickal
Chief
Department of Partnerships and Projects


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Elena Bicova

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DIRECTOR
ENVIRONMENT DIVISION
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This is to certify that

TATIANA KIRILLOVA

has passed the proficiency examination and other requirements for the course

501 IPCC: Introduction to Cross-Cutting Issues

On February 16th, 2020

In witness hereof

Michael Gillenwater
Dean

William Kojo Agyemang-Bonsu
Manager
Mitigation, Data and Analysis Programme

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United Nations Framework Convention on Climate Change

Certificate of Completion

This is to certify that

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has successfully completed the following modules of the
Basic Course
of the *Training programme for review experts for the technical review of greenhouse gas inventories of Parties included in Annex I to the Convention (Decision 14/CP.20)*:

Overview of the UNFCCC Reporting and Review Processes and General IPCC Inventory Guidance
&
Energy

William Kojo Agyemang-Bonsu
Manager, Mitigation and Transparency Support Sub-Programme
Mitigation, Data and Analysis Programme
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July 28, 2022

Marco Keiner
DIRECTOR
ENVIRONMENT DIVISION
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UN CC:Learn
The One UN Climate Change Learning Partnership

СЕРТИФИКАТ ОБ ОКОНЧАНИИ

Tatiana Kirillova

ЭЛЕКТРОННОГО КУРСА UN CC:LEARN «ИЗМЕНЕНИЕ КЛИМАТА: ОТ ОБУЧЕНИЯ К ДЕЙСТВИЯМ»

November 8, 2022


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On February 16th, 2020

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Michael Gillenwater
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511 IPCC: Energy

On March 12th, 2020

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Dean

William Kojo Agyemang-Bonsu
Manager
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501 IPCC: Introduction to Cross-Cutting Issues

On February 16th, 2020

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CERTIFICATE OF TRAINING

This is to certify that

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UNFCCC Online IPCC Guidelines Training Program

Through the receipt of a Certificate of Proficiency in courses 501 IPCC and 511 IPCC

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Michael Gillenwater
Dean

William Kojo Agyemang-Bonsu
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Climate Change Secretariat

United Nations Framework Convention on Climate Change

CERTIFICATE

Irina Vasiliev

successfully completed the courses:

General and cross-cutting aspects of the review of National Communications and Biennial Reports

Technical review of GHG emissions, emission trends, projections and the total effect of policies and measures

under the Training Programme for review experts for the technical review of biennial reports and national communications of Parties included in Annex I to the Convention

Donald Cooper
Director, Transparency Division

2021


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has passed the proficiency examination and other requirements for the course

511 IPCC: Energy

On March 26th, 2020

In witness hereof

Michael Gillenwater
Dean

William Kojo Agyemang-Bonsu
Manager
Mitigation, Data and Analysis Programme

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Спасибо за внимание!
Thanks for attention!