

NATIONAL STATISTICAL OFFICE OF MONGOLIA

JOINT OECD/UNECE SEMINAR ON IMPLEMENTATION OF SEEA
Session 2 | Guidelines for SEEA implementation and new ways to generate data

**PHYSICAL ENERGY FLOW ACCOUNTS
AND ENVIRONMENTAL TAXES IN
MONGOLIA**

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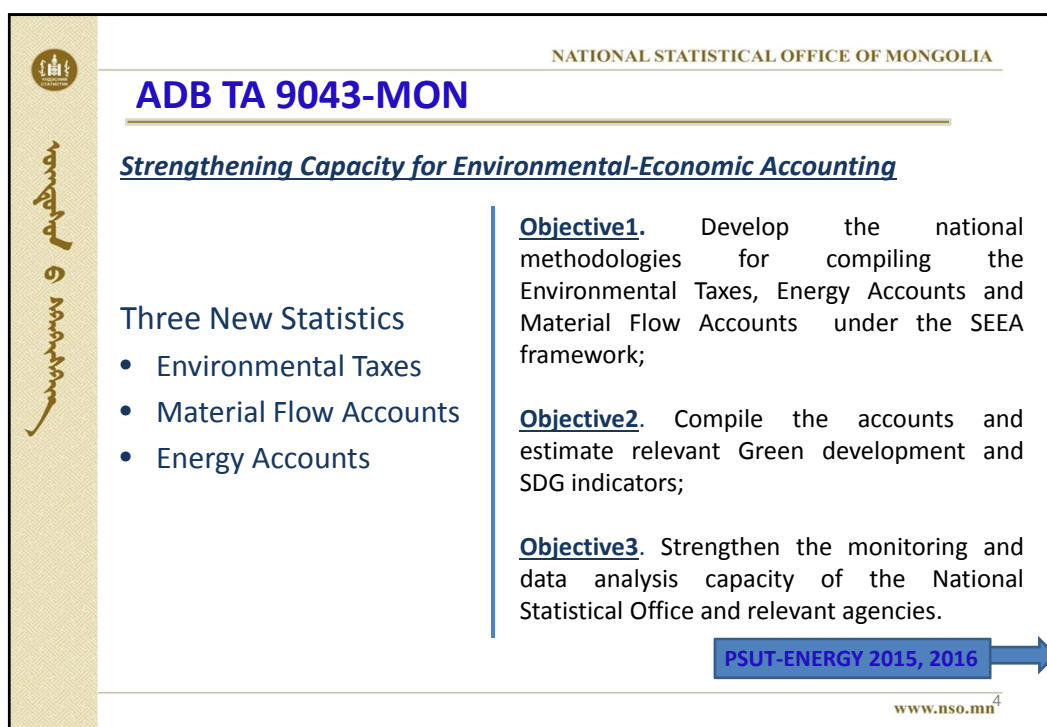
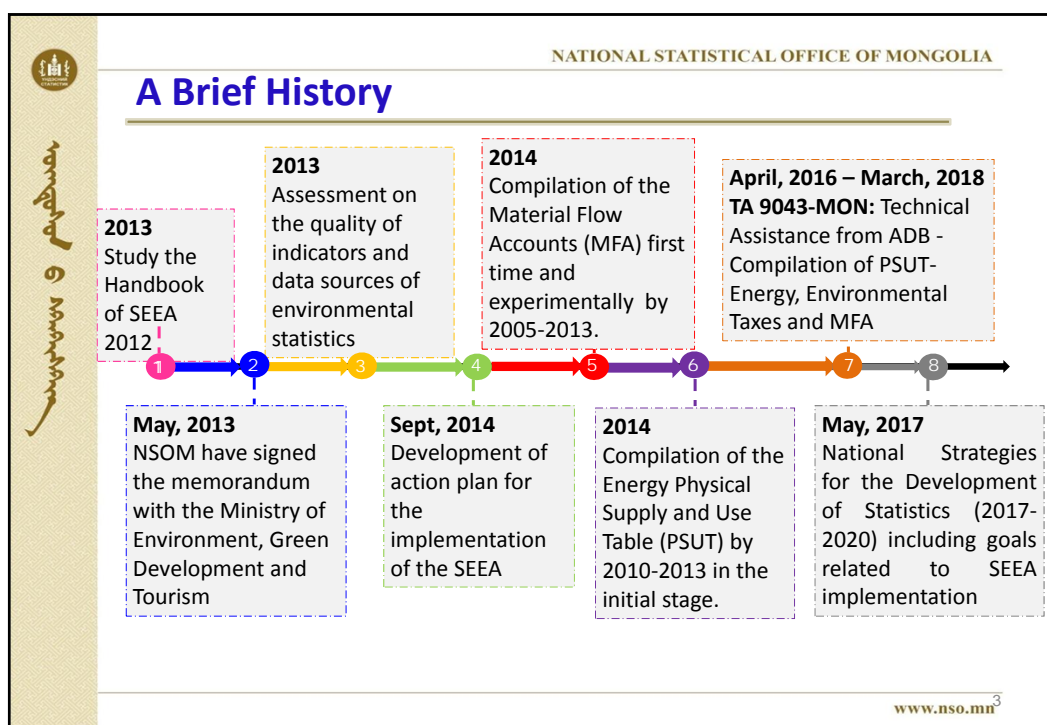
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Outline of Presentation

- 1. Brief history**
- 2. ADB TA 9043-Mon**
- 3. Physical Energy Flow Accounts (PEFA)**
 - Data sources
 - Data collection
 - Compilation of PEFA
- 4. Environmental Taxes**
 - Data sources
 - Framework
 - Compilation of Environmental Taxes

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DATA SOURCES

Why 2015 base year ? *BASE YEAR for the compilation Input-output Tables in 2015.*

Main data Sources

- **DATABASES of electricity and heat distributing companies**
- **VAT REGISTER DATA**
- **BASE SURVEY on Energy production and consumption**
- **International data source**
- **Balance of Electricity, Thermal Energy and Coal**
- **Business register (NSO)**
- **Other administrative information**
- **External Trade Data**
- **Input-Output Tables, 2010**
- **Livestock census**
- **Household Income and Expenditure Survey (HIES)**

Initial Status:

- No established regular official statistics for making energy balances or energy accounts
- Only heat (incomplete), electricity and coal production statistics
- No information on energy use – who uses the energy? Only some from national accounts Use Table (monetary only)

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DATA COLLECTION

In some cases collected data twice from different sources

- **Survey**
 - Importers – what they purchased & sold to whom
 - Electricity producers, Thermal heat producers and Coal Mines – how much they produced and sold to whom
 - Sample survey for Agriculture, Manufacturing, Construction, Water and sewerage industries
- **Databases / registers to figure out WHO is using these products**
 - Electricity distributors, heat distributors
 - VAT register – petrol purchases
- **Calculations for households living in ger areas**
 - Nomadic herder households
 - Households living in ger areas in urban
 - Households living in ger areas in rural

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COMPILATION OF THE PEFA

	TOTAL SUPPLY, TJ	
P00	ENERGY PRODUCTS	808 979.6
P08	Hard coal	478 906.1
P09	Brown coal	127 027.4
P25	Crude oil	51 914.2
P11	Motor spirit (without bio)	19 204.5
P12	Other spirits	389.2
P13	Kerosene	195.8
P14	Transport diesel (without bio)	28 229.5
P15	Fuel Oils	128.5
P16	Lubricants	467.4
P17	Other petroleum products	68.8
P18	Aviation Fuels	2 188.8
P19	Other oils	37.2
P20	Waste oils	0.3
P21	LPG - Propane	556.2
P22	LPG - butane	562.8
P23	Petroleum Jelly, paraffin waxes	2.7
P24	Bitumen and asphalt, natural	1 791.8
P10	Coke and semi-coke of coal	6.3
P27	Electrical energy (million.kWh)	23 317.1
P28	Heat (Hot water) (thous.giga.cal)	43 429.4
P29	Heat (Steam) (thous.giga.cal)	3 025.9
P26	Wood, wood waste & other solid biomass, charcoal	27 414.0

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Extracted products

Imported products
(Petroleum products 100% import)

Produced products

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CASE 1. VAT REGISTER DATA

P11	Motor spirit (without bio)	<i>Challenges: No data about the end use of these fuel products by industries and households. The HIES questionnaire contains questions on consumption of oil products but two or three products are combined in one item.</i>
	Petrol, A-80	
	Petrol, A-92	
	Petrol, A-95	
	Petrol, A-98	
P12	Other spirits	<i>Solution: "No need to develop transportation model using vehicle register"</i>
P14	Transport diesel (without bio)	
P16	Lubricants	
P21	LPG - Propane	
P22	LPG - butane	<ul style="list-style-type: none"> Calculation of use of the fuel products based on the big data

- In Mongolia, there is a register listing all sales of products of which VAT is paid, including the sales of fuel-products from gas-stations. The sale is registered in monetary and physical units for the fuel products. This VAT register data therefore contains data that is needed in the PEFA for distributing the sale from gas-stations by industries.
- The vast amounts of information in the VAT register data has been systematized according to ISIC-2-digit industries and by fuel-types.

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CASE 1. VAT REGISTER DATA

The main purpose of considering the VAT-register as a possible data source for the PEFA were:

- The main source for the total use of fuels by industries
- To estimate the total household use of fuels (Total use of HHs = Total supply - Total use of fuels by industries)
- To calculate a distribution key for fuels for the different ISIC industries.

TABLE D: Calculation of share of total use by industries and HH

	Diesel	Gasoline	Diesel (Aircraft fuel), tonne	LPG	Lubricants	Bitumen and asphalt, natura
Total use (=supply (from ET))	582,946	387,021	40,316	28,603	12,856	2,589
Total industries (from VAT)	421,926	138,777	40,316	5,882	3,929	2,589
Total Households (residual)	161,020	248,245	0	22,721	8,928	0
% industries of total import or supply	72%	36%	100%	21%	31%	100%
% households of total import	28%	64%	0%	79%	69%	0%

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CASE 2. DATABASES OF DISTRIBUTORS

Structure of the Mongolian Energy (electricity) System

Western Energy System
Hydro PP-1, electricity transmission and distribution

Central Energy System
Thermal PP-7, Wind PP-1, National Power Transmission Grid, Electricity Distribution Network-7, Heating Distribution Network-2

Altai-Uliastain Energy System
Hydro PP-1, electricity transmission and distribution

Eastern Energy System
Thermal PP-1, electricity transmission and distribution

Source: Ministry of Energy

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CASE 2. DATABASES OF DISTRIBUTORS

Challenges: *No data about the end use of electricity and heat by services industries and households. We collected some data by specific survey from electricity producers, thermal heat producers – how much they produced and sold to whom. In the survey result, the most amount of total supply were distributed to retail trade and others.*

Solution: Databases were collected from 12 companies that distribute electricity and thermal energy to users.

- 11 companies supply 90.2% of total electricity to users.
- 1 company supply 91.6% of total heat to users in UB.

The companies use “customer number” which been utilized.

The main purpose of considering the databases as a possible data source for the PEFA were:

- The main source for the total use of electricity and heat by industries and HHs

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CASE 3. HOUSEHOLDS LIVING IN GER AREA

Challenges: *No data about the use of electricity and solid fuels of by households in the specific area*

- Households in rural areas use a variety of different sources of energy for producing electricity (from solar panels) and heat (firewood, dung and coal).
- Households living in ger area in urban areas use solid fuel for cooking and heating.

Solution:

1. **Own use production of electricity (Nomadic HHs)** – based on Livestock census

Indicators:

- Number of solar panels
- Number of equipment by type– TV, lighting, charging cell phone, power to satellite disk, small refrigerator, washing machine, computer
- Average amount of electricity used per hour (kWh/hour) from distributor
- Number of hours using electricity each day of summer or winter from the time use survey and other sources

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CASE 3. HOUSEHOLDS LIVING IN GER AREA

2. Own use production of firewood, coal and dung (Nomadic HHs) – based on Livestock census


Indicators:

- Number of HH use solid fuel for cooking and heating by fuel's type by province
- Average amount of solid fuel used per year by province
- Forested area information

3. Own use production of firewood, coal and dung in urban areas and rural area (non-nomadic HHs)

Indicators:

- Number of HH use solid fuel for cooking and heating by fuel's type by province –based on the Population Database
- Average amount of solid fuel used per year by province –based on HIES

ENVIRONMENTAL TAXES 

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FRAMEWORK RELATED TAXES STATISTICS

(1) Energy products (including fuel for transport)

- Excise tax on imported petroleum
- Import duty on petroleum
- Special tax on petroleum

(2) Transport (excluding fuel for transport)

- Excise tax on imported vehicles
- Import duty on vehicles
- Tax on vehicle (Annual)

(3) Pollution

- Air pollution tax on vehicle (CO₂)
- Fee on water pollution
- Air pollution tax on volatile organic compounds
- Air pollution tax on raw coal
- Air pollution tax on large sources

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FRAMEWORK RELATED TAXES STATISTICS

(4) Natural Resources

- Fee on permit to use of natural resources other than minerals
- Fee on use of natural resources ("The minimum amounts of fee revenues to be spent on an annual basis on environmental protection and natural resource restoration measures as designated in **article 18.1 of Law of Mongolia on Natural resource fee** are as follows:)
 - Fee on hunting (**50% of fee revenues**)
 - Fee on use of firewood (**85% of fee revenues**)
 - Fee on use of natural plants (**15% of fee revenues**)
 - Fee on use of mineral water, water resource (1) ground water and spring, and (2) industrial and household use (**35% of fee revenues**)
- Fee on use of commonly occurring minerals – sand, gravel, stones
- Land fee ("Depending on the measures to be taken in a year and the year's land fee revenue, the Government shall decide each year the amount of fund to be expended on land protection, rehabilitation, or land organization measures" **Law of Mongolia on Land fees. 10.3.**)

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COMPILATION OF ENVIRONMENTAL TAXES

Data sources:

- Ministry of Finance
- General Department of Taxation
- Customs Agency
- Local tax authorities

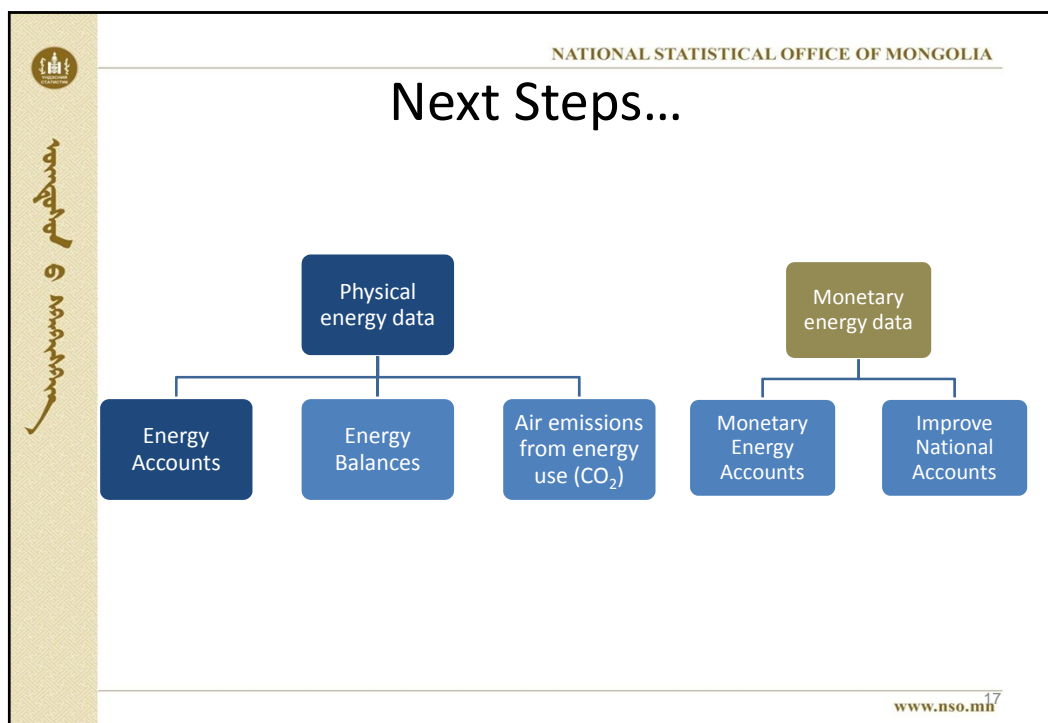
Challenges:

- Difficulty - to identify environmental taxes
- For some of the local taxes, such as the fee on use of natural resources that are collected through local governance, they have the information about who has paid the taxes.
- The taxes on fuels that are purchased through retail and wholesale dealers

Solution:

- Fee on use of natural resources - Additional information that who paid the taxes collected from the local tax authorities.
- The taxes on fuels - distribution keys are based on the energy accounts which have used the VAT-register as a basis

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Thank you for your attention.

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