



# Compilation experience on Energy Accounts in Bhutan

12<sup>th</sup> April, 2023, SIAP, Chiba, Japan

National Statistics Bureau

# Legal and development policy context

- ❖ The Constitution of the kingdom of Bhutan

- ✓ *Requires conserving natural resources and prevent degradation of ecosystem, and maintain at least 60% of forest cover for all times.*

- ❖ Gross National Happiness as development policy

- ✓ *Environmental conservation as one of the pillars of GNH and it is integrated in every policy and development plans of the country.*

# Energy accounts

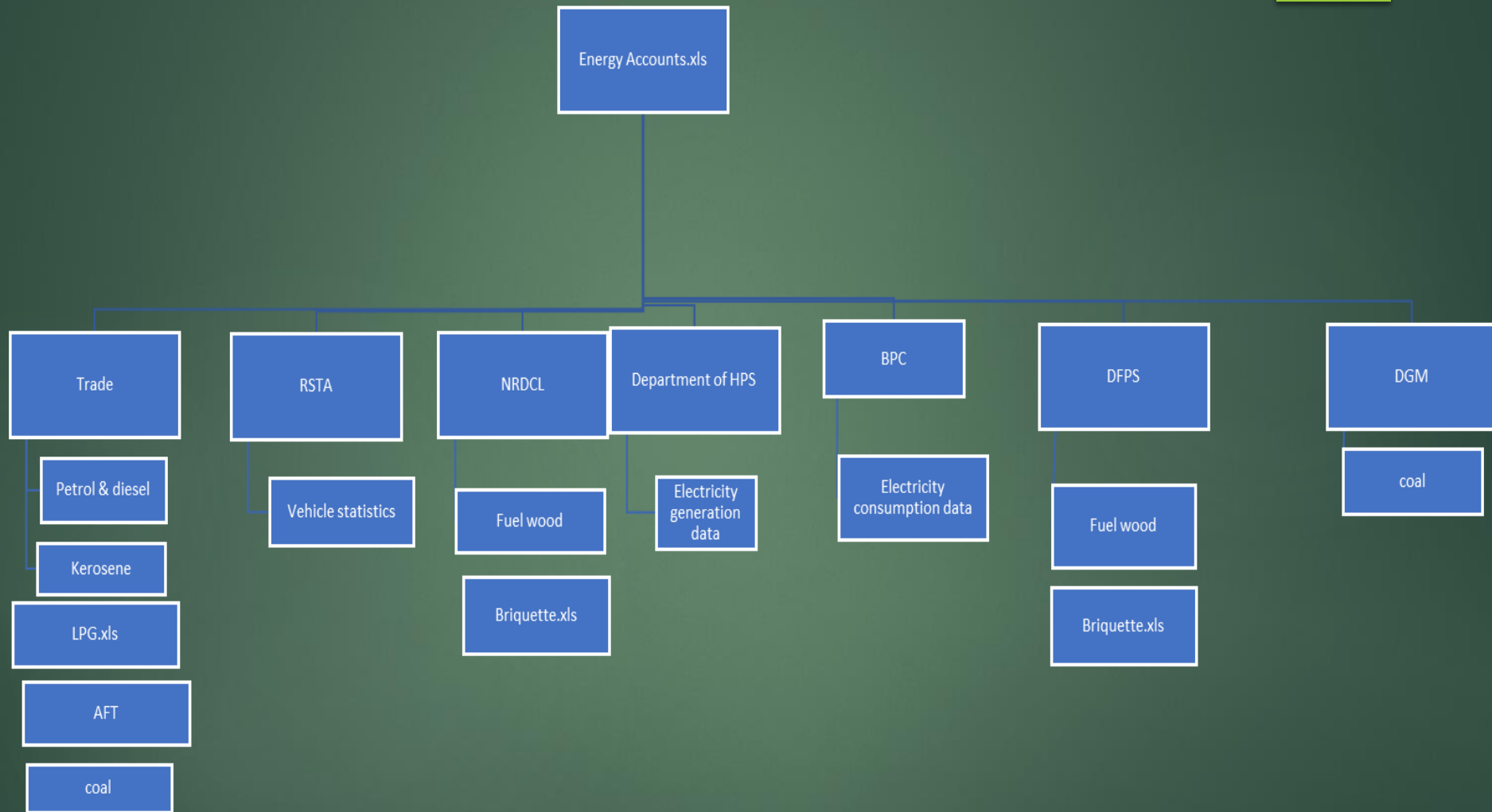


- ❖ Environmental Statistics and Accounts was first compiled and published in 2014 as part of the National Accounts report
- ❖ Following energy supply and Use Table were prepared:
  - ✓ Electricity Account
  - ✓ Fossil Fuel Account (Petrol & Diesel)
- ❖ The accounts were prepared both for volume and monetary values

# Energy accounts

- ❖ In 2018 experimental Energy Account developed
  - ✓ Limited energy products
  - ✓ Only for total industry and Household
- ❖ Beginning in 2021 Energy Account was developed and compiled following the PFEA

# Data Sources



# Physical Energy Flow Account (PEFA) Energy Classes

PEFA Code	Official Label	Adjusted code	Short label
N00	NATURAL ENERGY INPUTS		
N01	Fossil non-renewable natural energy inputs	N01	Fossil non-renewables
N03	Hydro based renewable natural energy inputs	N03	Hydro based renewables
N04	Wind based renewable natural energy inputs	N04	Wind based renewables
N06	Biomass based renewable natural energy inputs	N06a	Biomass (Fuelwood)
		N06b	Biomass (Briquettes)
P00	ENERGY PRODUCTS		
P08	Hard coal	P08a	Hard coal (Domestic)
		P08b	Hard coal (Imported)
P11	Secondary coal products (coke, coal tar, patent fuel, BKB and peat products)	P11	Secondary coal (coke/semicoke)
P14	Motor spirit (without bio)	P14	Motor spirit (petrol)
P15	Kerosenes and jet fuels (without bio)	P15a	Kerosenes
		P15b	Jet fuels
P17	Transport diesel (without bio)	P17	Transport diesel
P19	Residual fuel oil	P19	Residual fuel oil
P20	Refinery gas, ethane and LPG	P20	Refinery gas, ethane and LPG
P23	Wood, wood waste and other solid biomass, charcoal	P23a	Biomass (Fuelwood)
		P23b	Biomass (Briquettes)
P26	Electrical Energy	P26	Electrical Energy
R00	ENERGY RESIDUALS		
R30	Energy losses all kinds of (during extraction, distribution, storage and transformation, and dissipative heat from end use)	R30a	Energy losses (Distribution)







## Use of Energy, 2020 (PJ)

Code	Label	Industries							Households	Imports	Environment	Total
		A	B	C	D	H		Tot				
		Agriculture, forestry and fishing	Mining and quarrying	Manufacturing	Electricity, g&w, steam	Transportation and storage	All other industries	Total Industries				
<b>N00</b>	<b>NATURAL ENERGY INPUTS</b>											
N01	Fossil non-renewables									1020		1020
N03	Hydro based renewables									41001		41001
N04	Wind based renewables									4		4
N06a	Biomass (Fuelwood)									1		1
N06b	Biomass (Briquettes)									5		5
<b>P00</b>	<b>ENERGY PRODUCTS</b>											0
P08a	Hard coal (domestic)		1020									1020
P08b	Hard coal (imported)									1771		1771
P11	Secondary coal (coke/semicoke)									2044		2044
P14	Motor spirit (petrol)									1120		1120
P15a	Kerosenes									64		64
P15b	Jet fuels									61		61
P17	Transport diesel									3837		3837
P20	Refinery gas, ethane and LPG									458		458
P23a	Biomass (Fuelwood)	1										1
P23b	Biomass (Briquettes)	5										5
P26	Electrical Energy				40019					295		40314
<b>R00</b>	<b>ENERGY RESIDUALS</b>											0
R30a	Energy losses (Distribution)				986							986
R30b	Energy losses (Transformation)	743	553	10454	111	1981	1067	14908	2746			17654
	<b>TOTAL</b>	<b>749</b>	<b>1573</b>	<b>10454</b>	<b>41116</b>	<b>1981</b>	<b>1067</b>	<b>56940</b>	<b>2746</b>	<b>9650</b>	<b>42032</b>	<b>111367</b>

## Use of Energy, 2020 (PJ)

Code	Label	Industries						Total Industries	House holds	Accumulation	Exports	Environment	Total
		A	B	C	D	H							
		Agriculture, forestry and fishing	Mining and quarrying	Manufacturing	Electricity, gas, steam	Transportation and storage	All other industries						
<b>N00</b>	<b>NATURAL ENERGY INPUTS</b>												
N01	Fossil non-renewables		1020					1020				1020	
N03	Hydro based renewables				41001			41001				41001	
N04	Wind based renewables				4			4				4	
N06a	Biomass (Fuelwood)	1						1				1	
N06b	Biomass (Briquettes)	5						5				5	
<b>P00</b>	<b>ENERGY PRODUCTS</b>												
P08a	Hard coal (domestic)			1014				1014			6	1020	
P08b	Hard coal (imported)			1771				1771				1771	
P11	Secondary coal (coke/semicoke)			2044				2044				2044	
P14	Motor spirit (petrol)	0	0	5	2	349	25	382	736		2	1120	
P15a	Kerosenes			0				0	64			64	
P15b	Jet fuels					61		61				61	
P17	Transport diesel	718	0	1099	14	1498	285	3615	222		0	3837	
P20	Refinery gas, ethane and LPG			32				32	426			458	
P23a	Biomass (Fuelwood)						1	1	1			1	
P23b	Biomass (Briquettes)								5			5	
P26	Electrical Energy	24	553	4489	95	72	757	5989	1291		33033	40314	
<b>R00</b>	<b>ENERGY RESIDUALS</b>												
R30a	Energy losses (Distribution)											986	
R30b	Energy losses (Transformation)											17654	
	<b>TOTAL</b>	<b>749</b>	<b>1573</b>	<b>10454</b>	<b>41116</b>	<b>1981</b>	<b>1067</b>	<b>56940</b>	<b>2746</b>	<b>0</b>	<b>33041</b>	<b>18640</b>	<b>111367</b>

# Issues & Challenges



## ❖ **Compilation issues**

- ✓ **Data gaps**
- ✓ **Industry Classification**
- ✓ **Data consistency**

## ❖ **Resource issue**

- ✓ **Financial Resources**
- ✓ **Lack of Manpower and technical capacity**

# Way forward

- ❖ In future, to extend the scope of the report beyond Energy with the availability of information based on policy and priority needs of the government

**Thanks for your  
attention!**