

Session 7-A. Collection of data on new energy technologies

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Outline

- **Background**
- **Data under trial collection**
- **More data requirements arising from the revision of the Standard International Energy Classification (SIEC)**

Background

Background

- APEC economies have all adopted energy-transition and decarbonisation goals, with many also setting net-zero or carbon-neutrality commitments. However, their timelines and levels of ambition vary significantly across the region.
- To achieve these goals, economies plan to scale up investment in key clean-energy infrastructure, including:
 - Renewable energy systems (solar, wind, hydro, bioenergy, etc)
 - Energy storage solutions to support variable renewables
 - Electrification of demand and end-use sectors
 - Hydrogen/ammonia supply chains
 - Carbon-capture , utilization and storage (CCUS)
- These developments will require expanded and more detailed energy data collection for EGEDA members.

Background

- **The United Nations Statistical Commission has mandated a revision of the Standard International Energy Classification (SIEC) to:**
 - **Improve harmonization** between SIEC and the Central Product Classification (CPC)
 - **Reflect emerging energy products and technologies** (e.g., hydrogen, ammonia, synthetic fuels)
 - **Ensure international comparability** of energy statistics
 - **Support emerging policy needs** such as decarbonisation and energy transition tracking
- **This revision is directly relevant to EGEDA because:**
 - **New energy products** (hydrogen, ammonia, synthetic fuels) **have been added in new SIEC categories.**
 - **APEC economies will eventually need to align** their national classifications with the revised SIEC.
 - **EGEDA's data collection templates** would need updates to reflect the new structure.
 - It will **enhance our ability to track** energy transition, decarbonisation, and net-zero pathways across the region

Data under trial collection

Data under trial collection

- **District cooling** (added in the electricity and heat questionnaire)
- **Hydrogen/ammonia/electro-fuels** (a new questionnaire was created)
- **Energy storage** (added in the electricity and heat questionnaire)
 - Capacity
 - Electricity stored
 - Electricity supplied to the grid
- **Carbon captured and stored** (added in the CO2 emissions template)

Additional data requirements from SIEC revision

Current standard international energy product classification (SIEC)

- Section 0: Coal and coal products
- Section 1: Peat and peat products
- Section 2: Oil shale/oil sands
- Section 3: Natural gas
- Section 4: Oil and Oil products (**Hydrogen** is currently included as part of "other hydrocarbons")
- Section 5: Biofuels (solid, liquid and gaseous)
- Section 6: Waste (industrial and municipal solid wastes)
- Section 7: Electricity
- Section 8: Heat (**district cooling** is included by just a few APEC economies)
- Section 9: Nuclear energy

Revised SIEC

- Section A: Coal and coal products
- Section B: Peat and peat products
- ~~Section 02: Oil shale/oil sands~~ Moved to Section D: Oil and oil products
- Section C: Natural gas
- Section D: Oil and Oil products (hydrogen is excluded from “other hydrocarbons” and put in a separate Section)
- Section E: Biofuels (solid, liquid and gaseous)
- Section F: Waste (industrial and municipal solid wastes)
- Section G: Electricity
- Section H: Heat
- Section I: Cold
- Section J: Nuclear fuels
- Section K: Hydrogen and derived/synthetic fuels
- Section L: Other fuels n.e.c.

New data after SIEC revision, Coal

SIEC Ver. 1.0		SIEC Ver 2.0	
Code	Product	Code	Product
0110	Anthracite	A110	Anthracite
0121	Coking coal	A121	Coking coal
0210	Sub-bituminous coal	A210	Sub-bituminous coal
0220	Lignite	A220	Lignite
0311	Coke oven coke <i>(current collection, 0311 and 0312 only)</i>	A311	Coke oven coke
0312	Gas coke	A312	Gas coke
0313	Coke breeze	A313	Coke breeze
0314	Semi cokes	A314	Semi cokes
0320	Patent fuel	A320	Patent fuel
0330	Brown coal briquettes (BKB)	A330	Brown coal briquettes (BKB)
0340	Coal tar	A340	Coal tar
0350	Coke oven gas	A350	Coke oven gas
0360	Gas works gas (and other manufactured gases for distribution)	A360	Gas works gas (and other manufactured gases for distribution)
0371	Blast furnace gas	A371	Blast furnace gas
0372	Basic oxygen steel furnace gas	A372	Basic oxygen steel furnace gas
0379	Other recovered gases	A379	Other recovered gases
0390	Other coal products	A390	Other coal products

New data after SIEC revision, Peat and peat products

SIEC Ver. 1.0		SIEC Ver 2.0	
Code	Product	Code	Product
1110	Sod peat	B100	Peat (Sod and milled peat combined)
1120	Milled peat		
1210	Peat briquettes	B210	Peat briquettes
1290	Other peat products	B290	Other peat products

New data after SIEC revision, Oil

SIEC Ver. 1.0		SIEC Ver 2.0	
Code	Product	Code	Product
2000	Oil shale/oil sands	C100	Oil shale
4100	Conventional crude oil	C231	Crude oil (excluding bitumen and extra heavy and synthetic crude oil)
4200	Natural gas liquids	C300	Natural gas liquids
4300	Refinery feedstocks	C400	Refinery feedstocks
4400	Additives/Oxygenates	C500	Additives/Oxygenates
4500	Other hydrocarbons	C210	Bitumen (crude, natural or diluted)
		C220	Extra heavy oil
		C232	Synthetic crude oil
		C611	Synthetic petroleum products from coal (i.e., coal-to-liquids)
		C611	Synthetic petroleum products from natural gas (i.e., gas-to-liquids)
4610-4699	Petroleum products (LPG, Gasoline, diesel, fuel oil, bitumen (distillate) etc.)	C710-C799	Petroleum products (LPG, Gasoline, diesel, fuel oil, bitumen (distillate) etc.)

New data after SIEC revision, Natural Gas

SIEC Ver. 1.0		SIEC Ver 2.0	
Code	Product	Code	Product
3000	Natural gas	D110	Wet or raw natural gas
		D120	Processed gaseous natural gas
		D200	Liquified natural gas (LNG)

New data after SIEC revision, Bioenergy

SIEC Ver. 1.0		SIEC Ver 2.0	
Code	Product	Code	Product
5111	Wood pellets	E111	Fuel wood
		E131	Solid wood processing residues
		E151	Wood pellets and briquettes
5119	Other fuelwood, wood residues and by-products	E112	Logging residues
		E119	Other harvested wood biomass
		E159	Other biomass pellets and briquettes
		E191	Post-consumer wood
		E199	Other solid biofuels
5150	Other vegetal and marine residues	E121	Energy crops
		E122	Straw
		E129	Other harvested non-wood residue
5120	Bagasse	E132	Bagasse
5130	Animal waste	E141	Manure/dung
		E142	Animal processing residues
		E149	Other animal residues
5140	Black liquor	E133	Black liquor

New data after SIEC revision, Bioenergy (cont.)

SIEC Ver. 1.0		SIEC Ver 2.0	
Code	Product	Code	Product
5160	Charcoal	E161	Lump charcoal
		E162	Charcoal briquettes
5210	Biogasoline	E211	Biomethanol
		E212	Bioethanol
		E213	Biobutanol
		E214	Bio-MTBE
		E215	Bio-ETBE
		E219	Other biogasolines
5220	Biodiesels	E221	Transesterified biodiesel
		E222	Thermal process biodiesel
		E223	Straight vegetable oil
		E224	Hydrogenated vegetable oil diesel
		E229	Other biodiesels
5230	Bio jet kerosene	E230	Bio jet kerosene
5290	Other liquid biofuels	E291	Bio-LPG
		E299	Other liquid biofuels

New data after SIEC revision, Bioenergy (cont.)

SIEC Ver. 1.0		SIEC Ver 2.0	
Code	Product	Code	Product
5311	Landfill gas	E311	Landfill gaseous biofuels
5312	Sewage sludge gas	E312	Wastewater sludge gaseous biofuels
5319	Other biogases from anaerobic fermentation	E319	Other gaseous biofuels from anaerobic digestion
		E331	Biomethane
		E332	Bio-Dimethyl ether
		E339	Other gaseous biofuels products
5320	Biogases from thermal process	E320	Gaseous biofuels from thermal process

New data after SIEC revision, Wastes

SIEC Ver. 1.0		SIEC Ver 2.0	
Code	Product	Code	Product
6100 and 6200	Industrial waste and Municipal waste	F111	Biogenic solid post-consumer waste and industrial by-products - Of which: municipal content - Of which: industrial content
		F112	Non-biogenic solid post-consumer waste and industrial by-products - Of which: municipal content - Of which: industrial content
		F211	Solid biogenic energy products derived from post-consumer waste and industrial by-products - Of which: municipal content - Of which: industrial content
		F212	Solid non-biogenic energy products derived from post-consumer waste and industrial by-products - Of which: municipal content - Of which: industrial content

New data after SIEC revision, Electricity

SIEC Ver. 1.0		SIEC Ver 2.0	
Code	Product	Code	Product
7000	Electricity	G111	Electricity from pure hydro plants
		G112	Electricity from mixed hydro plants
		G113	Electricity from pure pumped hydro plants
		G120	Electricity from tide, wave, ocean
		G131	Electricity from wind onshore
		G132	Electricity from wind offshore
		G141	Electricity from solar PV
		G142	Electricity from solar thermal
		G151	Electricity from deep geothermal
		G152	Electricity from shallow geothermal
		G210	Electricity from solid biofuels
		G220	Electricity from liquid biofuels
		G230	Electricity from gaseous biofuels
		G290	Electricity from biofuels n.e.c.

New data after SIEC revision, Electricity (cont.)

SIEC Ver. 1.0		SIEC Ver 2.0	
Code	Product	Code	Product
7000	Electricity	G310	Electricity from coal and coal products
		G320	Electricity from peat and peat products
		G330	Electricity from natural gas
		G340	Electricity from oil and oil products
		G410	Electricity from solid post-consumer waste, industrial by-products, and related energy products derived from these materials, <i>biogenic origin</i>
		G420	Electricity from solid post-consumer waste, industrial by-products, and related energy products derived from these materials, <i>non-biogenic origin</i>
		G430	Electricity from solid post-consumer waste, industrial by-products, and related energy products derived from these materials, <i>unspecified origin</i>
		G500	Electricity from nuclear
		G600	Electricity from synthetic fuels
		G900	Other Electricity n.e.c.

New data after SIEC revision, Heat

SIEC Ver. 1.0		SIEC Ver 2.0	
Code	Product	Code	Product
8000	Heat	H111	Heat from concentrated solar thermal
		H119	Heat from other solar thermal
		H121	Heat from deep geothermal
		H122	Heat from shallow geothermal
		H130	Heat from hydrothermal
		H140	Heat from aerothermal
		H210	Heat from solid biofuels
		H220	Heat from liquid biofuels
		H230	Heat from gaseous biofuels
		H290	Heat from biofuels n.e.c
		H310	Heat from coal and coal products
		H320	Heat from peat and peat products
		H330	Heat from natural gas
		H340	Heat from oil and oil products
		H390	Heat from fossil fuels n.e.c.

New data after SIEC revision, Heat (cont.)

SIEC Ver. 1.0		SIEC Ver 2.0	
Code	Product	Code	Product
8000	Heat	H410	Heat from solid post-consumer waste, industrial by-products, and related energy products derived from these materials, <i>biogenic origin</i>
		H420	Heat from solid post-consumer waste, industrial by-products, and related energy products derived from these materials, <i>non-biogenic origin</i>
		H430	Heat from solid post-consumer waste, industrial by-products, and related energy products derived from these materials, <i>unspecified origin</i>
		H500	Heat from nuclear
		H600	Heat from chemical process
		H900	Heat from Other sources n.e.c.

New data after SIEC revision, Cold

SIEC Ver. 1.0		SIEC Ver 2.0	
Code	Product	Code	Product
9900	Other fuels n.e.c.	I100	Cold from natural sources
		I200	Cold from artificial sources

New data after SIEC revision, Hydrogen and derived/ synthetic fuels and Other fuels n.e.c.

SIEC Ver. 1.0		SIEC Ver 2.0	
Code	Product	Code	Product
4500	Other hydrocarbons	K110	Electrolytic hydrogen
		K120	Non-electrolytic hydrogen
		K200	Ammonia
		K310	Hydrogen derived methane
		K320	Hydrogen derived methanol
		K330	Hydrogen derived gasolines
		K340	Hydrogen derived kerosenes
		K350	Hydrogen derived diesels
		K390	Hydrogen derived fuels
		K400	Fuels derived from (non-biogenic) waste using chemical and/or thermal processing
		K900	Other derived/synthetic fuels
9900	Other fuels n.e.c.	L100	Other fuels n.e.c.

Summary

- APEC's decarbonisation goals are driving demand for more detailed, harmonised data on emerging energy products and technologies.
- EGEDA is expanding data collection (hydrogen, ammonia, electro-fuels, district cooling, storage, CCS) and must align templates with the revised SIEC.
- Revised questionnaires are expected for the 2026–2027 cycle, strengthening APEC's ability to track energy-transition progress.

Thank you.

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