Session 3-A. Progress of APEC goals

The 37th Meeting of APEC Expert Group on Energy Data and Analysis (EGEDA37)

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Mr Edito BARCELONA, EGEDA Secretariat

Outline

- Progress toward APEC's **energy intensity goal.**
- Progress toward APEC's **renewable energy doubling goal.**

Progress toward APEC's energy intensity goal

APEC's final energy intensity

Annual change in APEC final energy intensity, 2006-23

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2005-23
Δ in Final Energy Consumption (FEC)	2.4%	3.6%	0.8%	-1.2%	5.8%	4.2%	2.0%	1.4%	0.4%	0.6%	0.4%	1.5%	3.3%	0.6%	-3.9%	4.8%	3.0%	1.2%	35.3%
Δ in GDP (PPP, constant 2021 US dollars)	5.4%	5.5%	3.1%	-0.3%	5.7%	4.3%	4.3%	3.9%	3.9%	3.7%	3.5%	4.1%	4.2%	3.5%	-1.1%	6.4%	2.9%	3.8%	92.0%
Δ in final energy intensity	-2.9%	-1.8%	-2.2%	-0.9%	0.0%	0.0%	-2.2%	-2.4%	-3.3%	-2.9%	-2.9%	-2.4%	-0.8%	-2.9%	-2.8%	-1.6%	0.0%	-2.5%	**-29.5%**

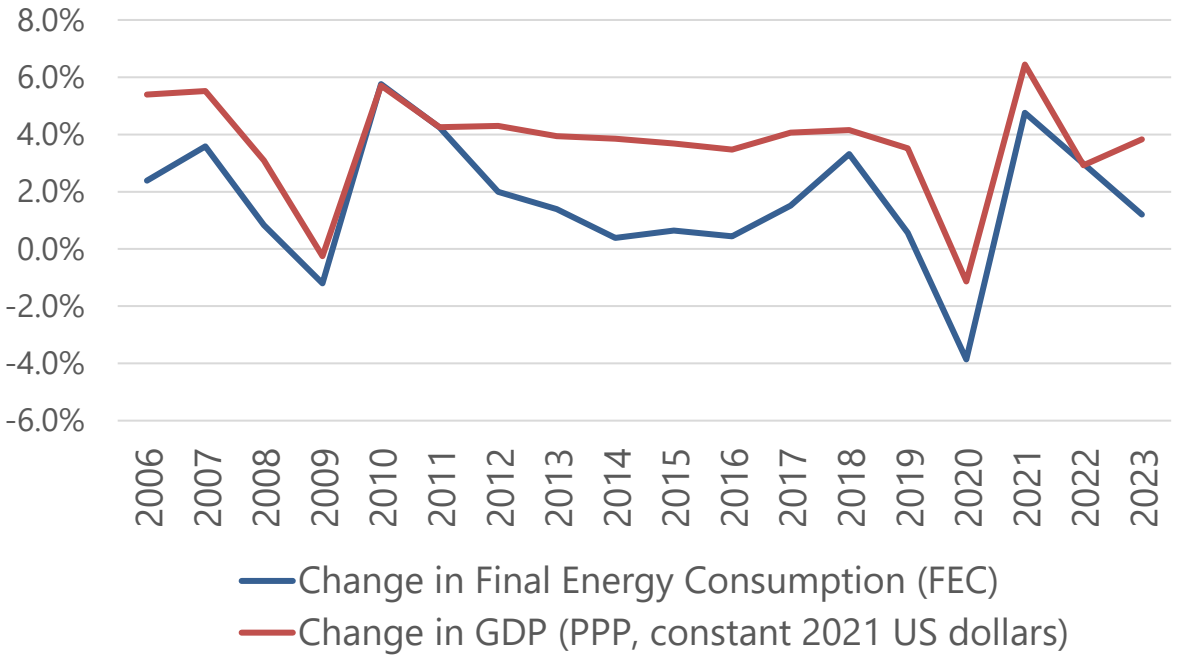
Sources: APEC statistics (EGEDA), WB (GDP PPP), CT (WEO), APERC analysis

APEC Goal: Decrease energy intensity of TFEC by 45% relative to 2005 by 2035.

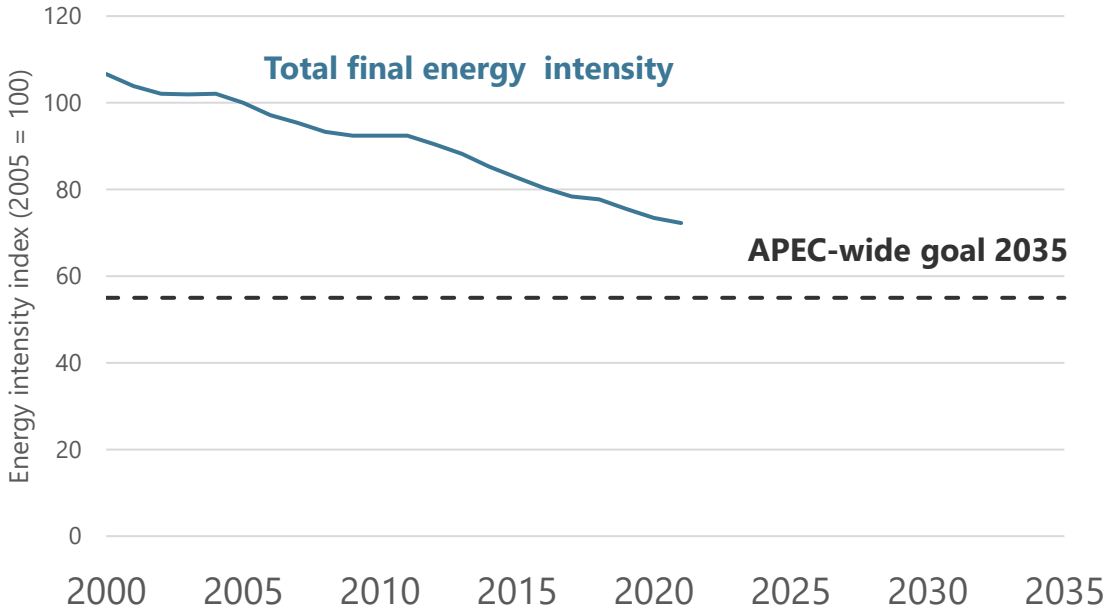
- Final energy intensity has reduced by 29.5% compared to 2005.
- The final energy intensity improvement in 2023 was more than two percentage points from 2022, bringing the average improvement between 2006 and 2023 to almost 2%.
- GDP increased to 3.8% in 2023, almost one percentage point increase from 2022 and the average growth between 2011 and 2019 (just after the financial crisis and before COVID-19).

Decoupling of FEC and GDP

Change in FEC vs change in GDP (2006-2023)



APEC final energy intensity reduction goal



- GDP continues to decouple from the final energy consumption from 2005 to 2023, even during and after COVID-19;
- Current final energy intensity improvement (-29.5%) is just 34% away from the goal.

Progress toward APEC's renewable energy doubling goal

Increase renewable energy share in both primary and final consumption, including electricity generation

Primary energy supply, PJ

	2010	2023	% change
Non-renewables	**288,229**	**341,991**	**18.7%**
Coal	116,944	129,528	10.8%
Oil	89,684	103,991	16.0%
Gas	62,313	87,346	40.2%
Other non-renewables	19,287	21,126	9.5%
Traditional biomass	**3,209**	**2,558**	**-20.3%**
Modern renewable energy	**14,645**	**30,821**	**110.5%**
Modern biomass	4,186	6,959	66.2%
Hydro	6,357	8,615	35.5%
Geothermal	1,471	1,863	26.6%
Solar	157	4,112	2521.9%
Wind	586	5,261	798.3%
Other renewables	1,889	4,012	112.4%
Total	**306,083**	**375,371**	**22.6%**
Modern RE share	**4.78%**	**8.21%**	**71.6%**

Final energy consumption, PJ

	2010	2023	% change
Non-renewables	**165,110**	**191,505**	**16.0%**
Coal	32,126	25,573	-20.4%
Oil	64,214	71,018	10.6%
Gas	26,155	36,928	41.2%
Electricity	34,515	44,691	29.5%
Heat	7,884	12,921	63.9%
Other non-renewables	217	375	73.1%
Traditional biomass	**3,209**	**2,558**	**-20.3%**
Modern renewable energy	**10,757**	**22,790**	**111.9%**
Electricity	6,290	16,235	158.1%
Heat	62	68	9.6%
Modern biomass	2,816	2,940	4.4%
Other renewables	1,589	3,547	123.2%
Total	**179,076**	**216,853**	**21.1%**
Modern RE share	**6.01%**	**10.51%**	**75.0%**

Note: Consumption of electricity and heat from renewables is calculated from the share of total electricity and heat production.Sources: APEC statistics (EGEDA), APERC analysis

- **RE share of the primary energy supply is just 1.4 percentage points away from the goal, while the share in final energy consumption is 1.5 percentage points away from the goal.**

Share of modern renewables in electricity generation

Electricity generation, TWh

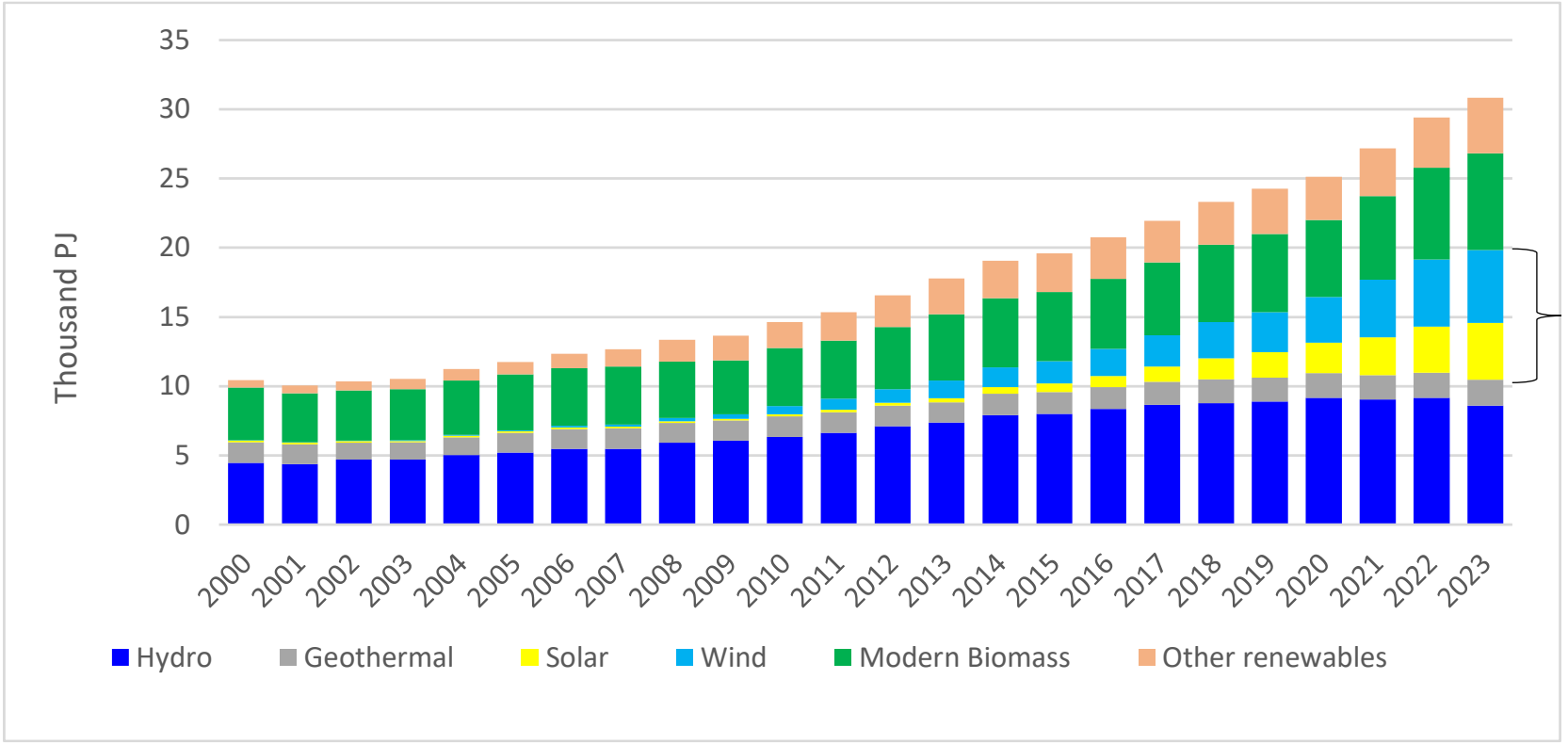
	2010	2023	% change
Non-renewables	**11,334**	**14,305**	**26.2%**
Coal	6,577	8,183	24.4%
Oil	325	150	-54.0%
Gas	2,687	4,053	50.9%
Nuclear	1,658	1,844	11.2%
Other non-renewables	87	75	-14.0%
Modern renewable energy	**2,108**	**5,329**	**152.8%**
Modern biomass	67	269	300.9%
Hydro	1,780	2,450	37.6%
Geothermal	46	60	29.1%
Solar	9	1,056	11642.6%
Wind	163	1,461	798.3%
Other renewables	43	34	-21.6%
Total	**13,442**	**19,634**	**46.1%**
Modern RE share	**15.68%**	**27.14%**	**73.1%**

Sources: APEC statistics (EGEDA), APERC analysis

- **Renewable share of electricity generation also constantly shows good progress and is 4.8 percentage points away from the goal.**

Renewable energy supply

Total supply by energy source (PJ) 2000 - 2023



Sources: APEC statistics (EGEDA), APERC analysis

- Solar grew almost 45% (CAGR) and wind grew almost 18% (CAGR) since 2010.

A few thoughts about the energy goals

Summary

- **APEC GDP and final energy consumption rebounded after the pandemic**, and the long-term decoupling trend has resumed, with energy demand growing more slowly than economic output.
- **Energy intensity improvement accelerated again in 2023**, following two years of slower progress, reinforcing APEC's trajectory toward greater efficiency and structural shifts in the economy.
- **Renewables — especially solar and wind — were the fastest-growing energy sources in 2023**, continuing their role as the main drivers of low-carbon supply growth across the region.
- **Looking ahead, the question is whether APEC should adopt a new collective goal**. Any new target — whether on renewables, electrification, efficiency, or emissions — would require **EGEDA to expand or adapt its data collection** to ensure consistent monitoring and reporting across economies.

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Thank you.

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