



Developing Grid Emission Factor in Mongolia

3 September 2014

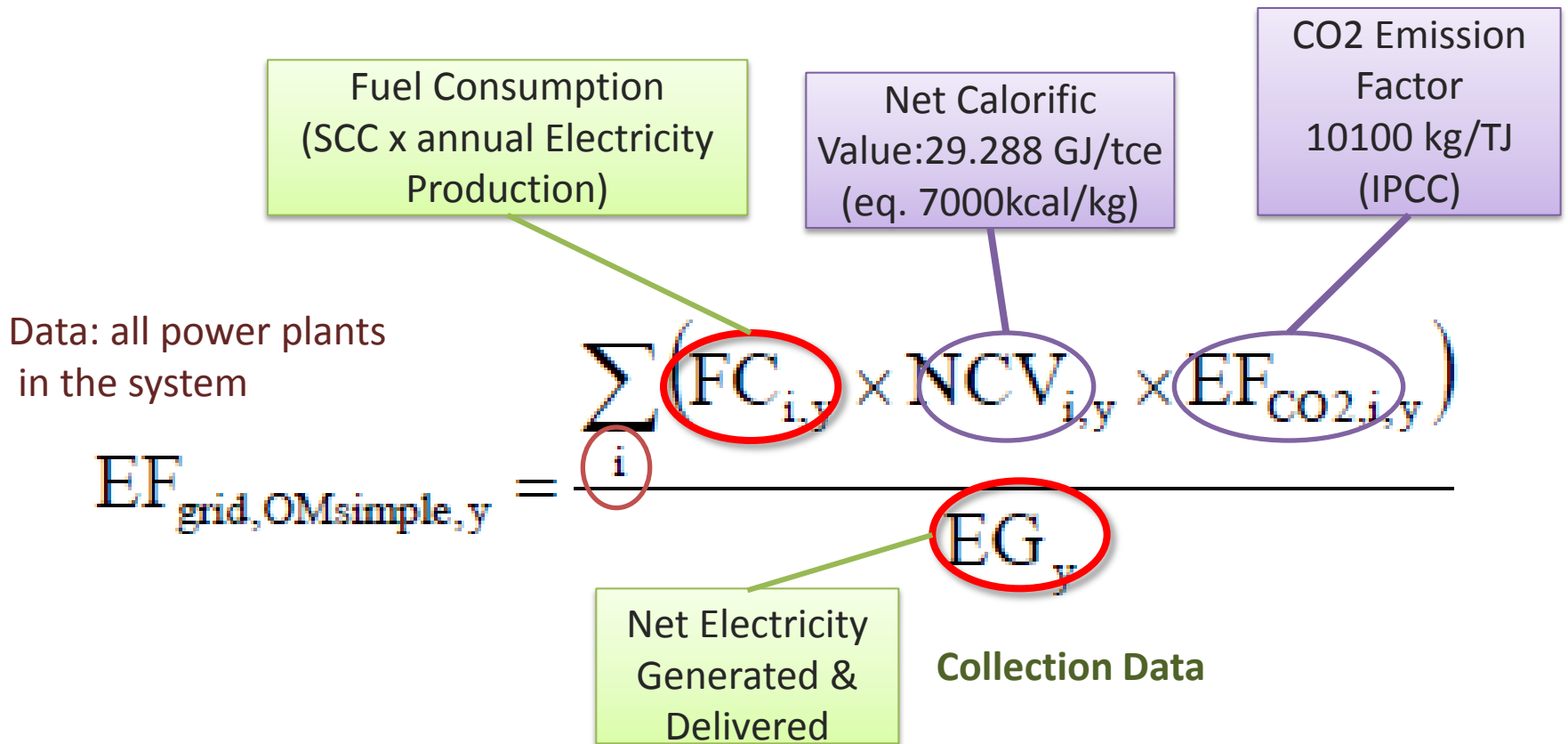
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What is Grid Emission Factor?

- Amount of greenhouse gas (GHG) emission per MWh of electricity in a specified grid. Unit is tCO₂/MWh
- Determined primarily by fuel mix and efficiency of power generators
- Very important value to calculate GHG reduction for energy efficiency improvement for electricity consumption and renewable energy projects.

Grid Emission Factor (2010-2012, CES, Operating Margin)



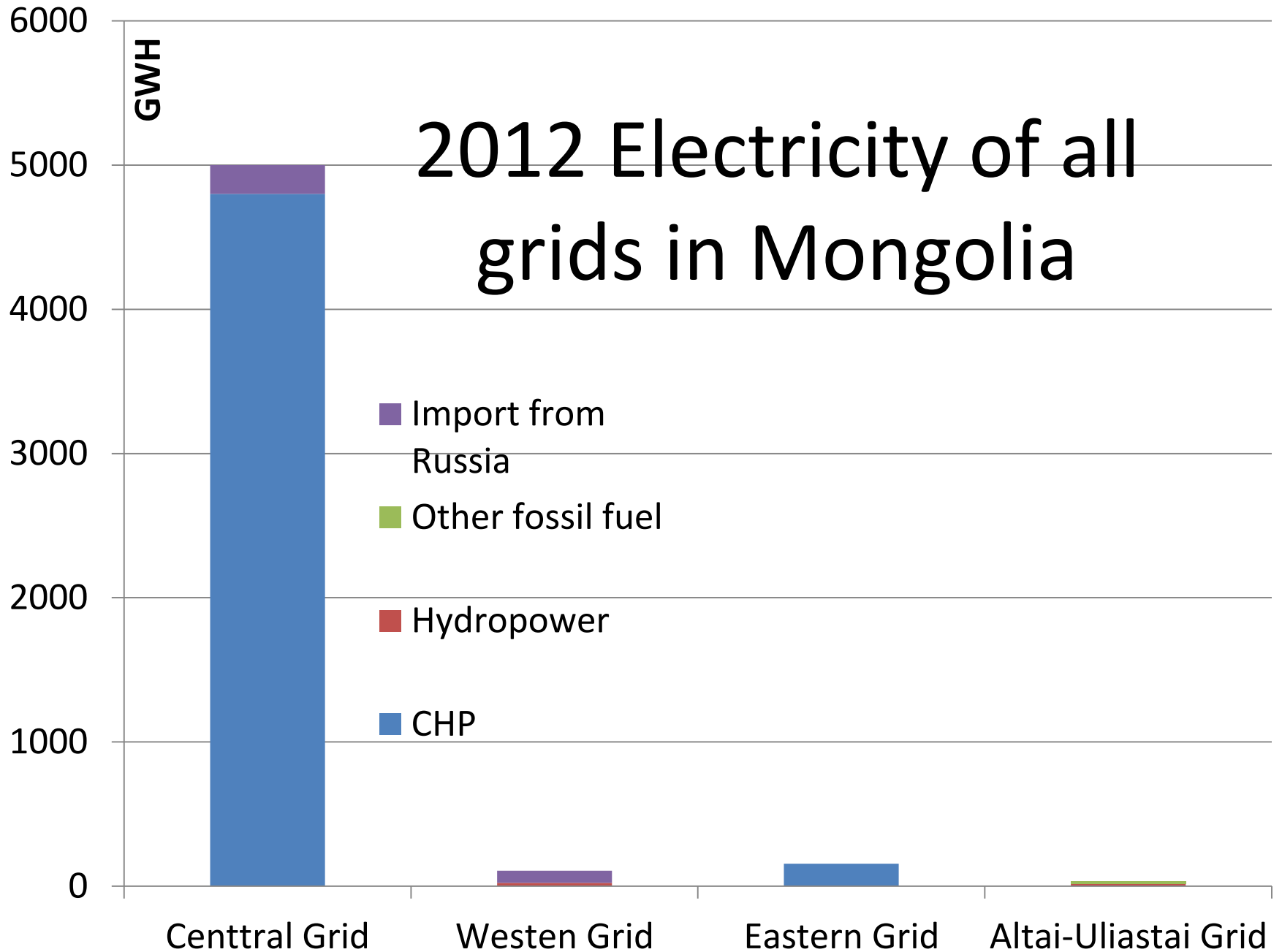
Operating Margin	Build Margin
1.1542 tCO2/MWh	1.0566 tCO2/MWh

Electricity of all grids in Mongolia (2012)

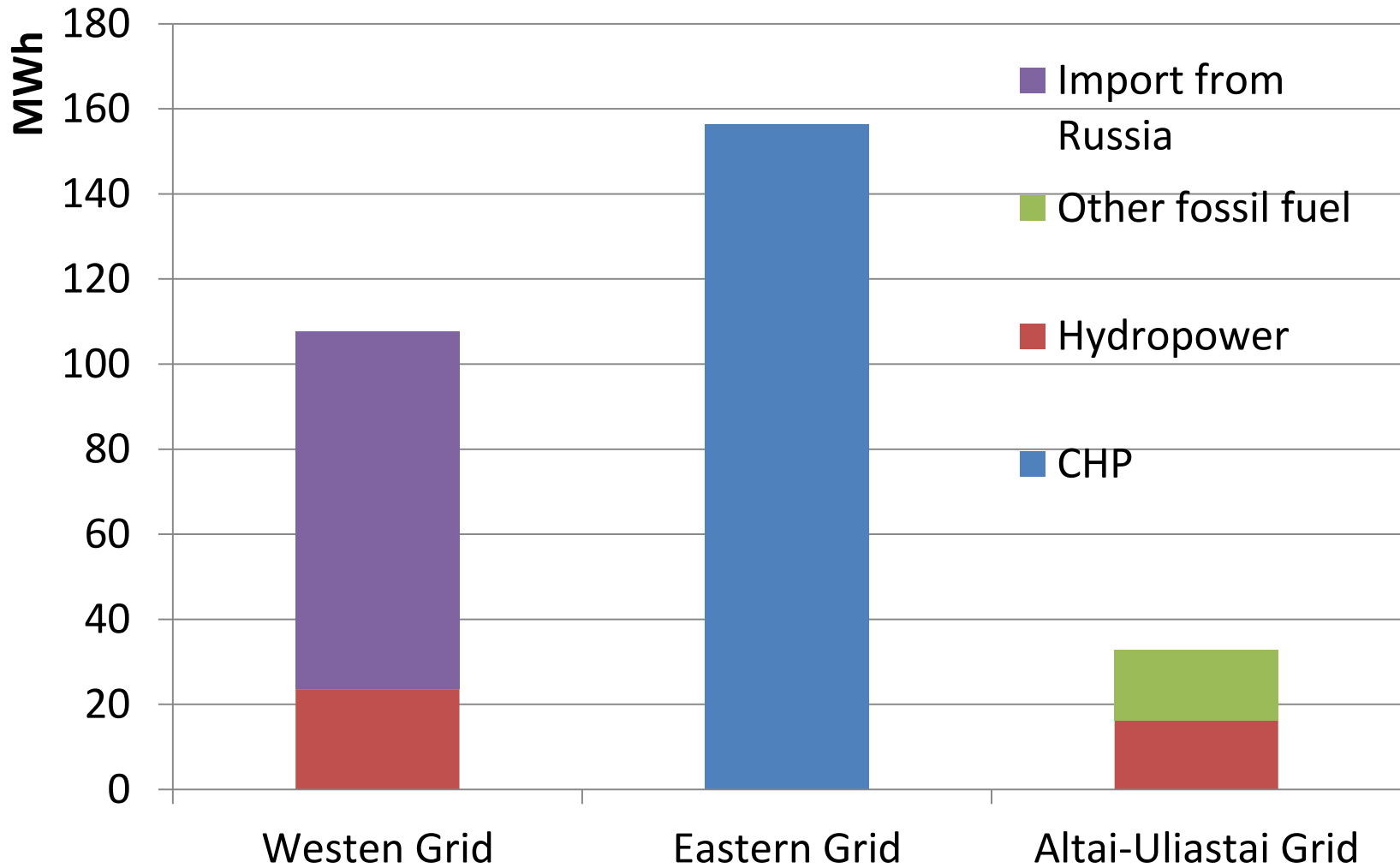
	CHP	Hydropower	Other fossil fuel	Import from Russia	Total	Remark
Central Grid	4,800,000	0	0	200,000	5,000,000	5 CHP plants
Western Grid	0	23,562	0	84,081	107,643	Durugun HPP and Import from Russia
Eastern Grid	156,385	0	0	0	5,000,000	Choibalsan CHP
Altai-Uliastai Grid	0	16,221	16,569	0	5,000,000	Taishir HPP and diesel

Unit: MWh

2012 Electricity of all grids in Mongolia



Without Central Grid



IGES's understanding on Mongolia's power grids

- **Dominance of Combined Heat and Power plants**
 - coal consumption for electricity production and heat production are separated
- **4 major grids with limited connection**
 - Central Grid, Western Grid, Eastern Grid, Altai-Uliastai Grid.
 - Very weak grid connection in Central-Western and Central-Altai-Uliastai
- **Electricity import from Russia**
 - To central and Western grids

Some questions

- In non-CES grids, is the following data available? Where can they be obtained?
 - Power generation
 - Specific coal consumption (for CHP plants)
 - Fuel consumption (for diesel plants)
- What is the current status of grids that are mutually connected / will be connected? (central and western?)

