

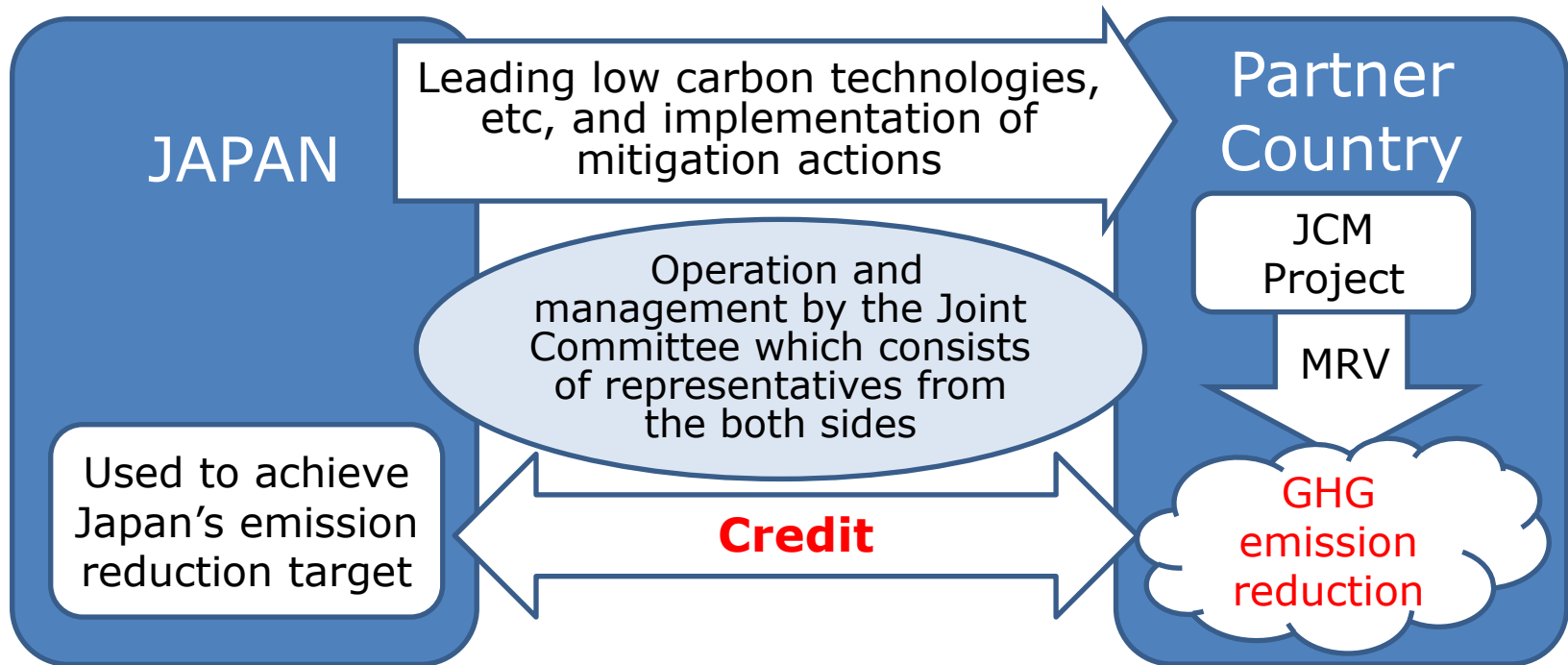
Proposal of HOB BaU for the application of JCM

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GHG emission reduction under JCM project

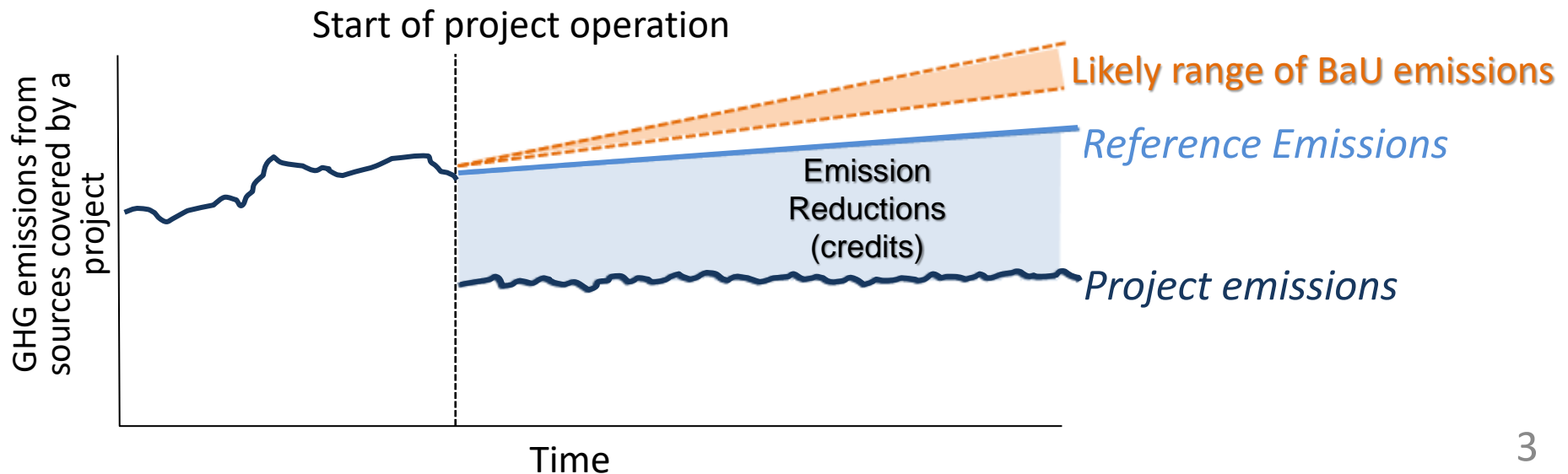
Basic Concept of the JCM



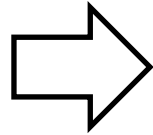
Appropriately evaluating contributions to GHG emission reduction in a quantitative manner and use as credit in each countries

Concept for credit issue under JCM

- In the JCM, emission reductions to be credited are defined as the difference between “reference emissions” and project emissions.
- The reference emissions are calculated below business-as-usual (BaU) emissions which represent plausible emissions in providing the same outputs or service level of the proposed JCM project in the partner country.



Previous reference HOB



Reference HOB
(Odcon vertical type)

Project HOB (Corborobot)

- Used as Approval Methodology of JCM (NM_AM002)
- Boiler efficiency : 53.3% (Coal fired)

Assumption of new Reference HOB



- Select the most popular HOBs working in Ulaanbaatar
(Present: Coal vs Gas, Prediction: Processed fuel vs Gas)
- Select the highest boiler efficiency of the selected HOBs as BaU
- Select the reference boiler efficiency when firing processed fuel in the selected HOBs

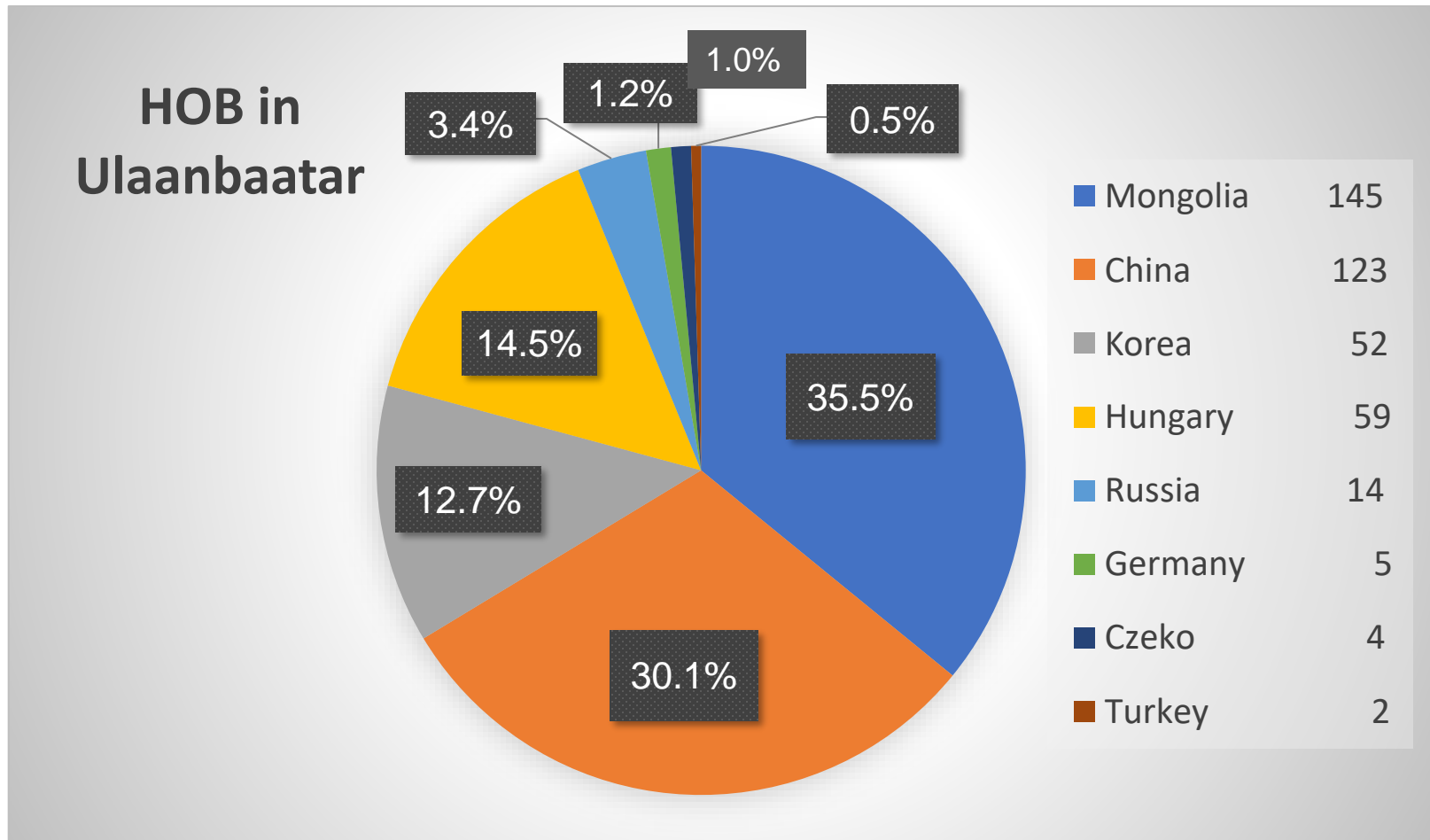
Working HOB in Ulaanbaatar

Хүснэгт Улаанбаатар хотын 101кВт дээш нүүрсэн галлагаатай УХЗ-ны нэгтгэсэн мэдээлэл

Дүүрэг	хороо	Хариуцагч байгууллагын нэр, зуухны нэр	Тусгай зөвшөөрөлтэй эсэх	Үйлдвэрлэгч улс	Марк	Хүчин чадал (кВт)	УХЗ тоо
БЗД	2	ХИХУГ	●	Солонгос	KCR-240	350	1
				Хятад	SHG-0.4	400	1
		Дарь эх хөгжлийн төв		Монгол	Одкон НРЖ-25	250	1
		Гранд такси ХХК		Монгол	Одкон НРЖ-45	450	3
		Цагдаагийн 2-р хэлтэс		Монгол	МУХТ-1.2	1200	1
	4	Дэлхийн халуун ус хангамж		Хятад	DZH-0.7	700	2
		Их засаг ДС		Хятад	SHG-0.35-0.7	350	4
					QLD-0.11		
					QLD-2L		
					SHG-0.35		
	Батлан хамгаалахын 124-р ангийн амралт		Хятад	DZL-90-70	700	3	
			Монгол	НРЖ-60	600	2	
	8	Трансбас ХХК		Хятад	DZL-1.8	1800	1
		ЗХЖШ 310-р анги	●	Хятад	DZL-2.8	2800	3
				Монгол	НРЖ-20	200	1
		Гал унтраах 63-р анги		Солонгос	KCR-300	300	2
		68-р сургууль		Монгол	TK-0.7	700	2
		Барилгын менежер ХХК		Хятад	Fluton-0.7	700	1
		36 айлын орон сууц		Монгол	НРЖ-20	200	1
		Таван ган Худалдааны Төв		Хятад	DZL-2.8	2800	2
УБ емпати сургууль			Хятад	DZL-2.8	2800	1	
Хилийн цэргийн 0164 анги		Монгол	БЗУ-54	540	1		

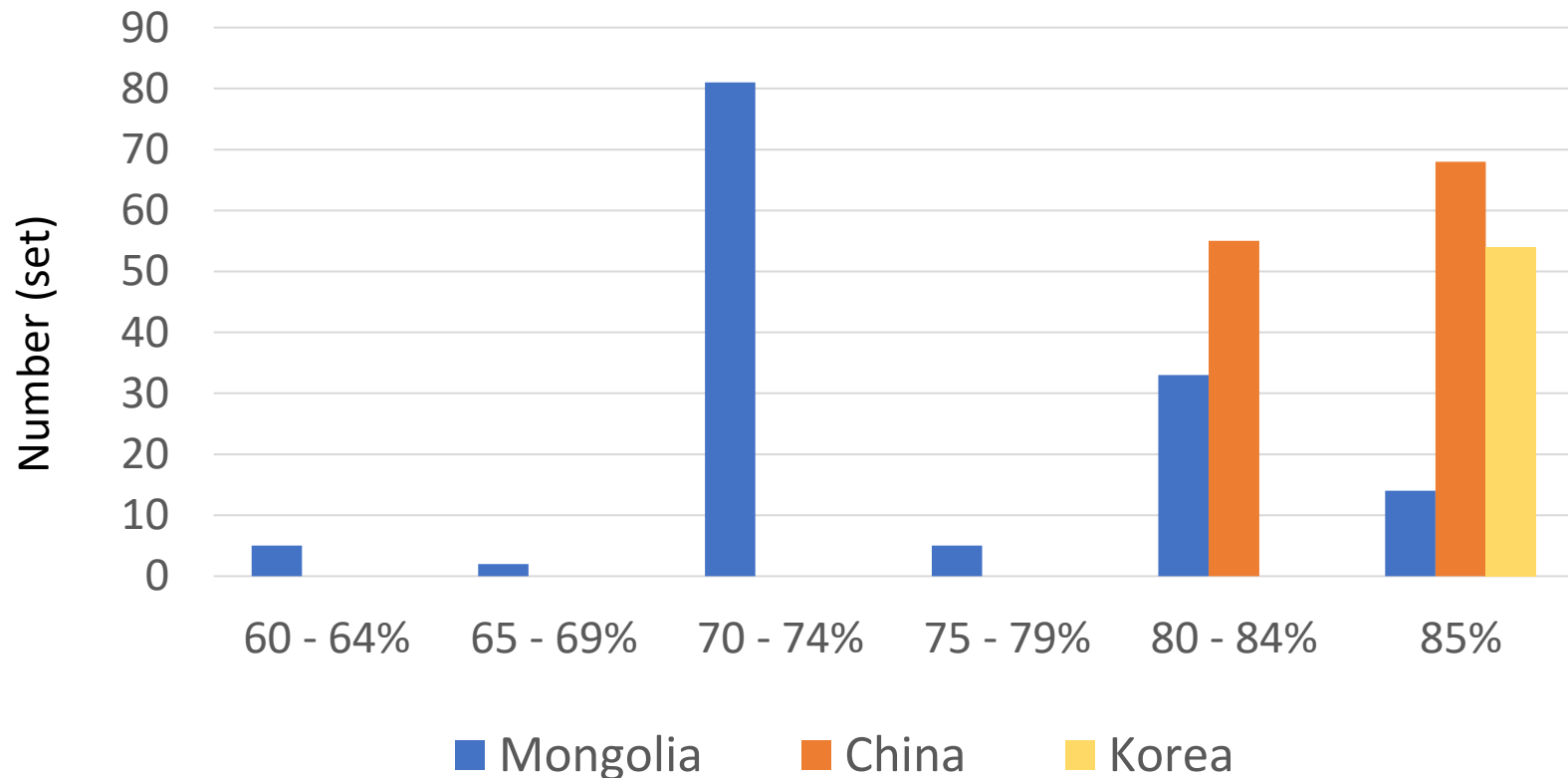
Coal fired: 87.5%

Working HOB in Ulaanbaatar



HOB share : (Mongolia) + (China) + (Korea) = 78.3 %

HOB boiler efficiency

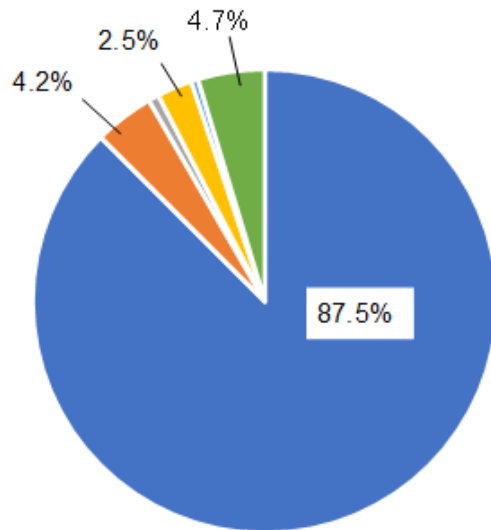


BaU of coal fired HOB boiler efficiency : 70 – 85%

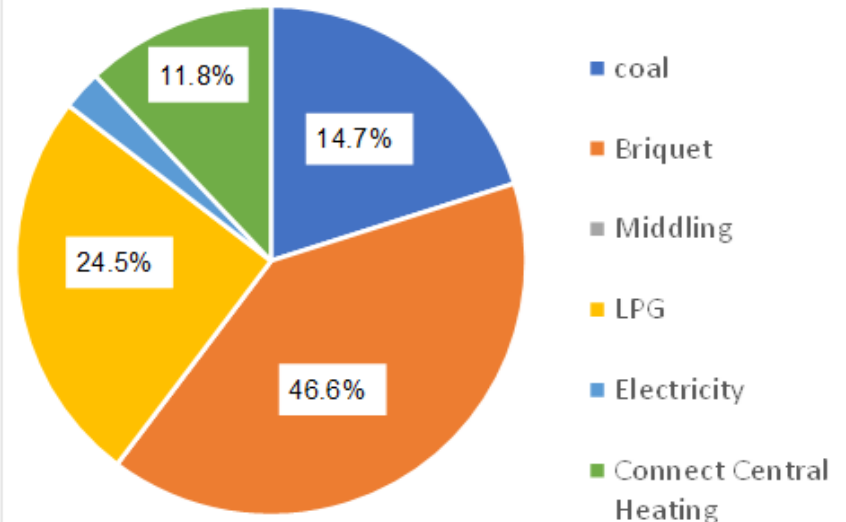
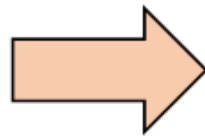
Reference of processed fuel fired HOB boiler efficiency : > 85%

HOB fuel conversion

HOB output	Coal	Briquet	Middling	LPG	Electricity	Connect Central Heating	Total
101-300kW	145	12	3	4	2	3	169
301-500kW	64	2		4		4	74
501-700kW	53	3				5	61
701-1000kW	14						14
1000kW-	81			2		7	90
Total	357	17	3	10	2	19	408



2021



2025

Determine the reference boiler efficiency

- Show the boiler efficiency to fire processed fuel in selected HOBs
→ Not yet
- Use the default boiler efficiency (UNFCCC methodological tool)

CLEAN DEVELOPMENT MECHANISM

TOOL09

Methodological tool

Determining the baseline efficiency of thermal or electric energy generation systems

Version 03.0



United Nations
Framework Convention on
Climate Change

Determine the reference boiler efficiency



Option A: Use the manufacturer's load-efficiency function;

Option B: Establish a load-efficiency function based on measurements and a regression analysis;
Determining the baseline efficiency of thermal or electric energy generation systems Version 03.0 6 of 14

Option C: Establish the efficiency based on historical data and a regression analysis;

Option D: Use the manufacturer's efficiency values;

Option E: Determine the efficiency based on measurements and use a conservative value;

Option F: Use a default value.

Default value of Methodological Tool 09



Table 1. Default efficiency factor for thermal applications

Technology of the energy generation system

Default efficiency

a. Natural gas fired boiler (w/o condenser)	92%
b. Oil fired boilers adapted as Natural gas fired boiler (w/o condenser)	87%
c. Oil fired boiler	90%
d. Biomass fired boiler (on dry biomass basis)	85%
e. coal fired boiler	90%
f. Other	100%

Summary

Boiler efficiency value

