


Acquisition of Circulating Fluidized Bed Boiler Business

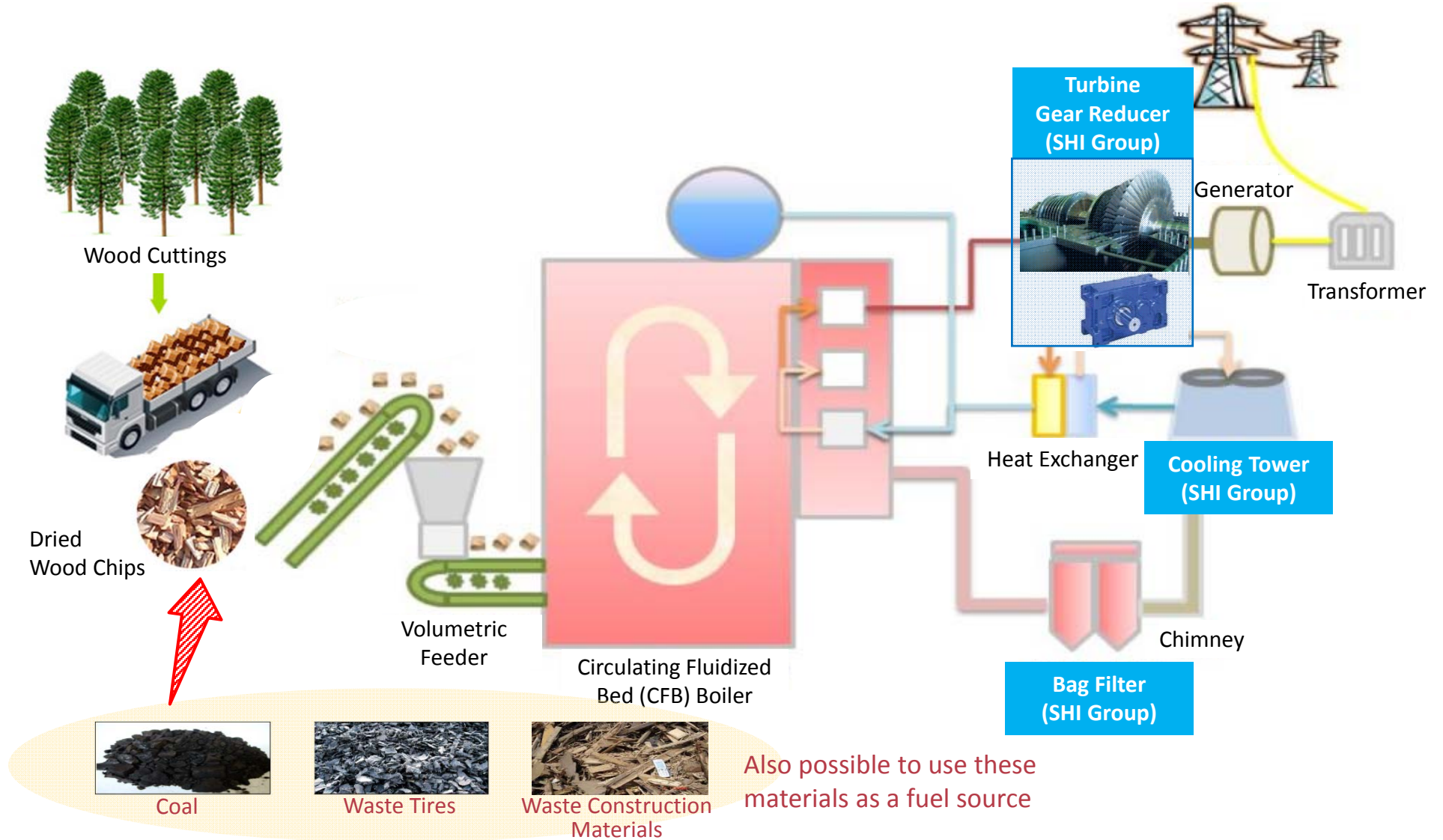
March 2, 2017

 Sumitomo Heavy Industries, Ltd.

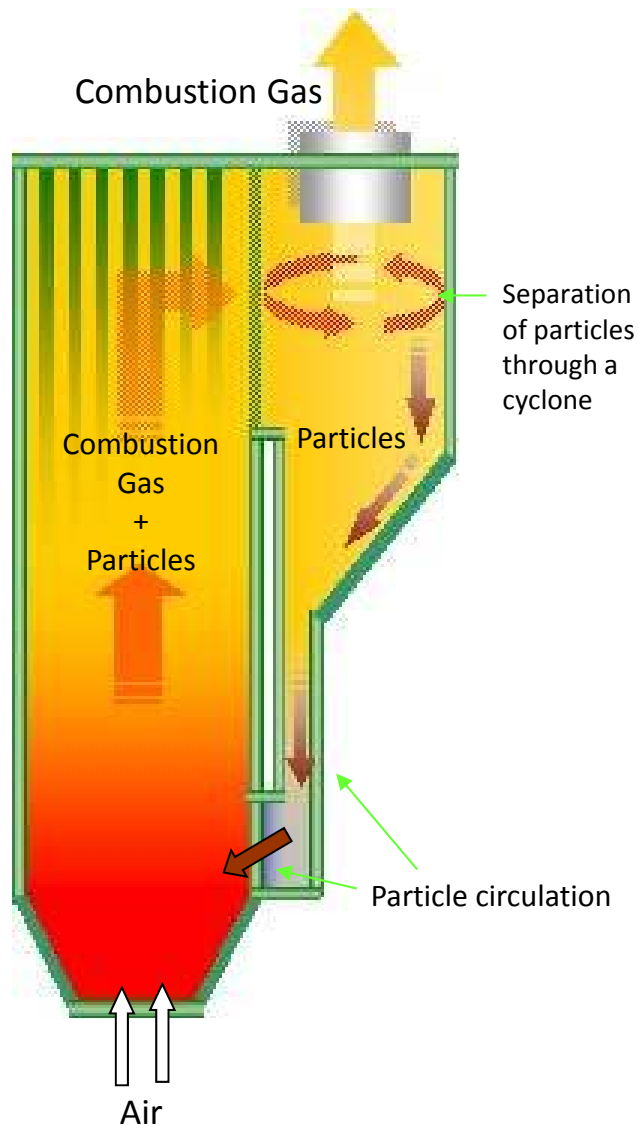
Shinji Nishimura
Senior Executive Vice President and Representative Director

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Flow Diagram of Power Generation Utilizing the CFB Boiler



Features of the CFB Boiler



■ Combustion Mechanism

Air is injected into the bottom of the boiler chamber and the heated particles and fuel are mixed in a suspended manner. Through this, various fuels are burned efficiently. The combustion particles and gas that rise together are separated using a cyclone, and returned to the bottom of the boiler, further improving the combustion efficiency.

■ Features

1. Compatible with various fuel sources

⇒ Compatible with more difficult fuel sources such as biomass, low-grade coal, construction waste, waste tires, waste plastic, coal refuse, and paper sludge.

2. No need for the fuel source to be ground finely

⇒ Wires and other materials inside waste tires can be removed smoothly (no need for prior separation).

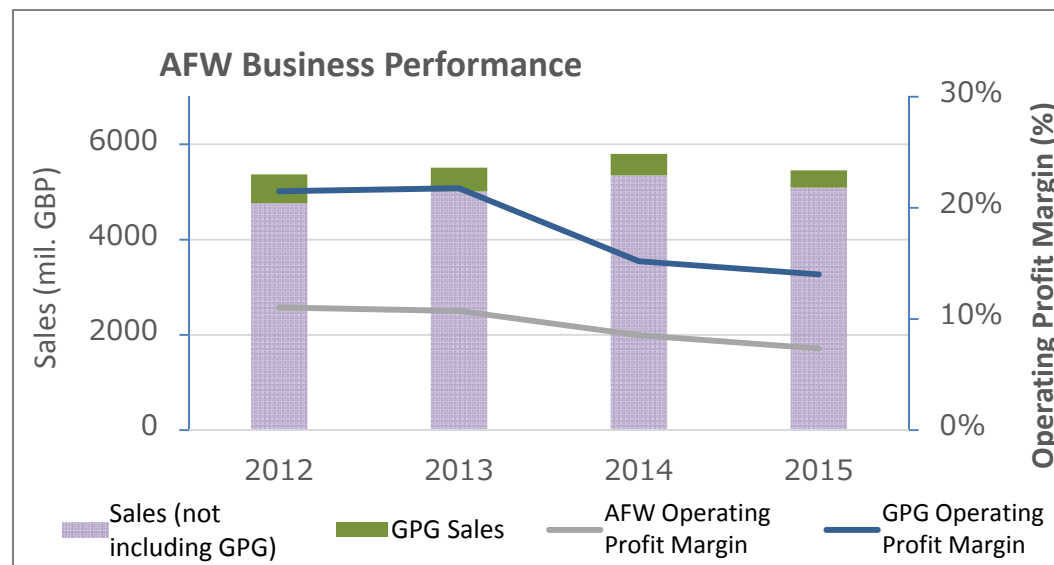
3. Controls the generation of NO_x

⇒ Due to the high combustion efficiency, temperatures are comparatively lower than other methods, controlling the amount of NO_x emissions that are generated.

Profile of AFW and GPG

1. Amec Foster Wheeler (AFW)

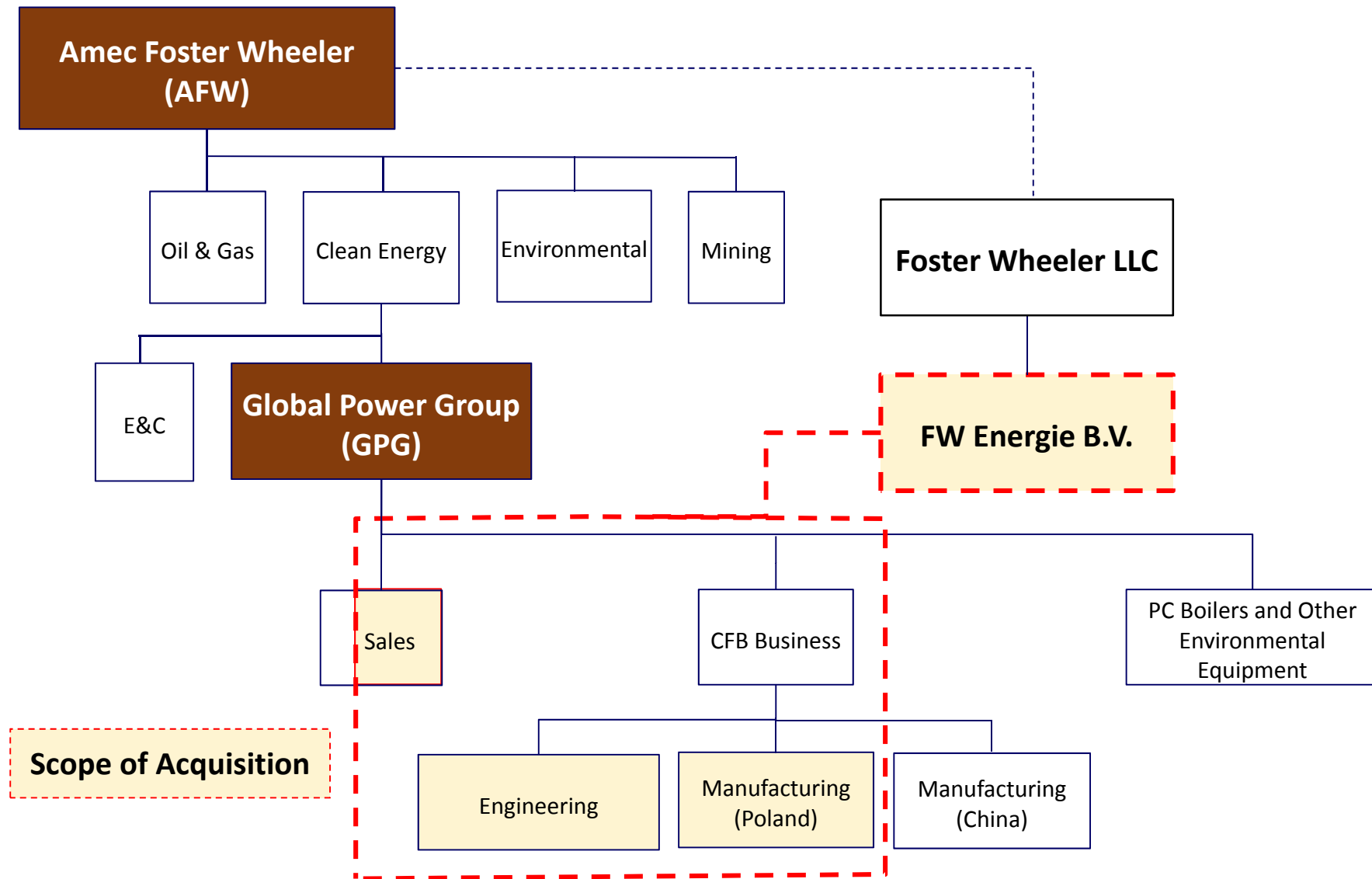
- 1) **Head Office: London (U.K.)**
- 2) **Established: 1848**
- 3) **No. of Employees: Approximately 40,000**
(as at 12/2015)
- 4) **Sales: GBP5,445 million (as at 12/2015)**
(approximately JPY650 billion)
- 5) **Main Business Activities: Engineering**
Oil & Gas (54%),
Clean Energy (28%),
Environmental (11%),
Mining (7%)



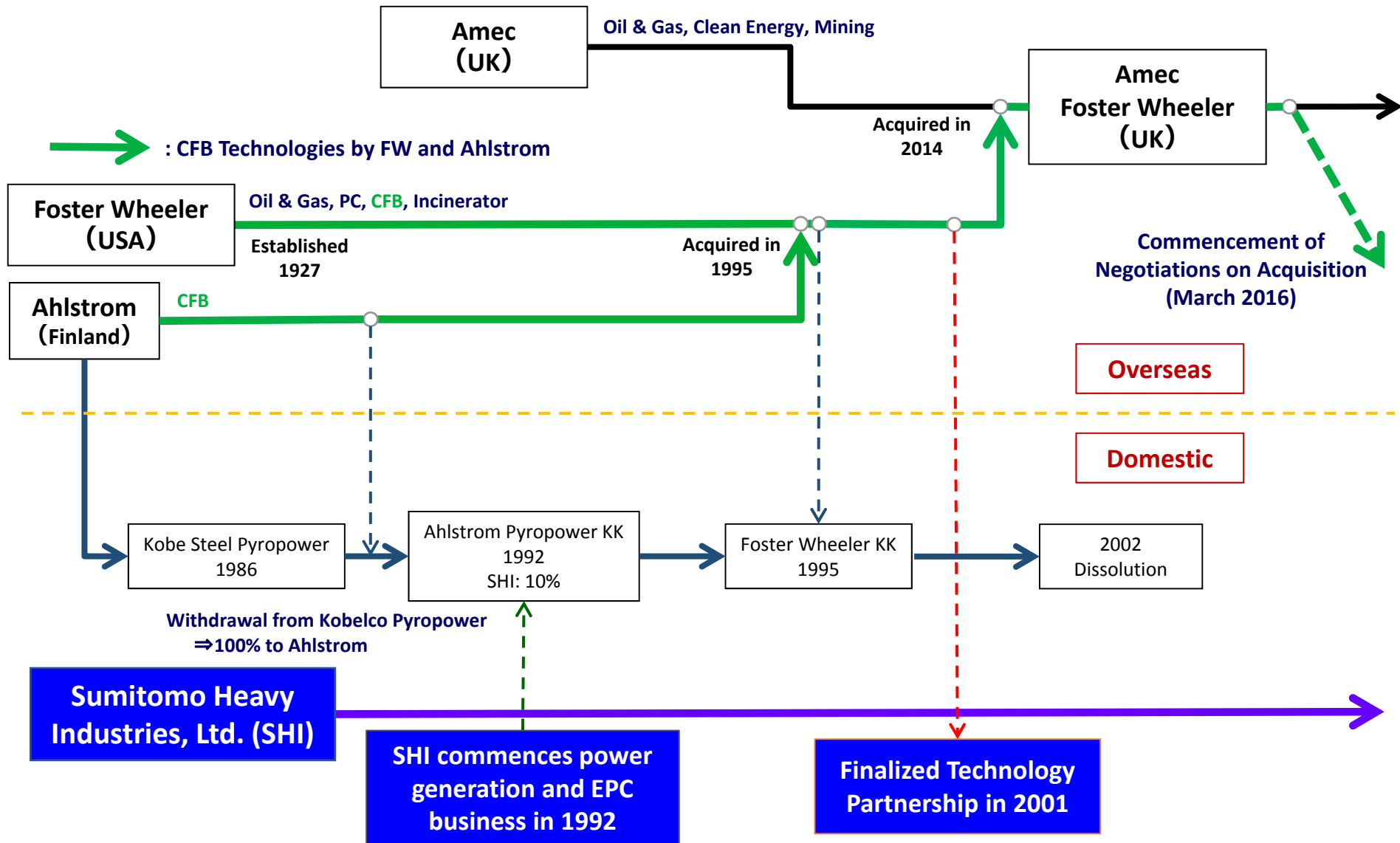
2. Global Power Group (GPG)

- 1) **Head Office: Clinton, NJ (U.S.A.) – Finland is the design head office**
- 2) **Established: FW (the original company) was established in 1884.**
- 3) **No. of Employees: Approximately 2,300 (as at 12/2015)**
- 4) **Sales: USD553.7 million (approximately JPY56 billion) (as at 12/2015)**
- 5) **Main Business Activities:**
Boiler (CFB, PC, HRSG), Exhaust Gas Equipment, Operation of Power Generation Plants
Number one in the world in terms of deliveries of CFB units

Scope of Acquisition (Business Diagram)



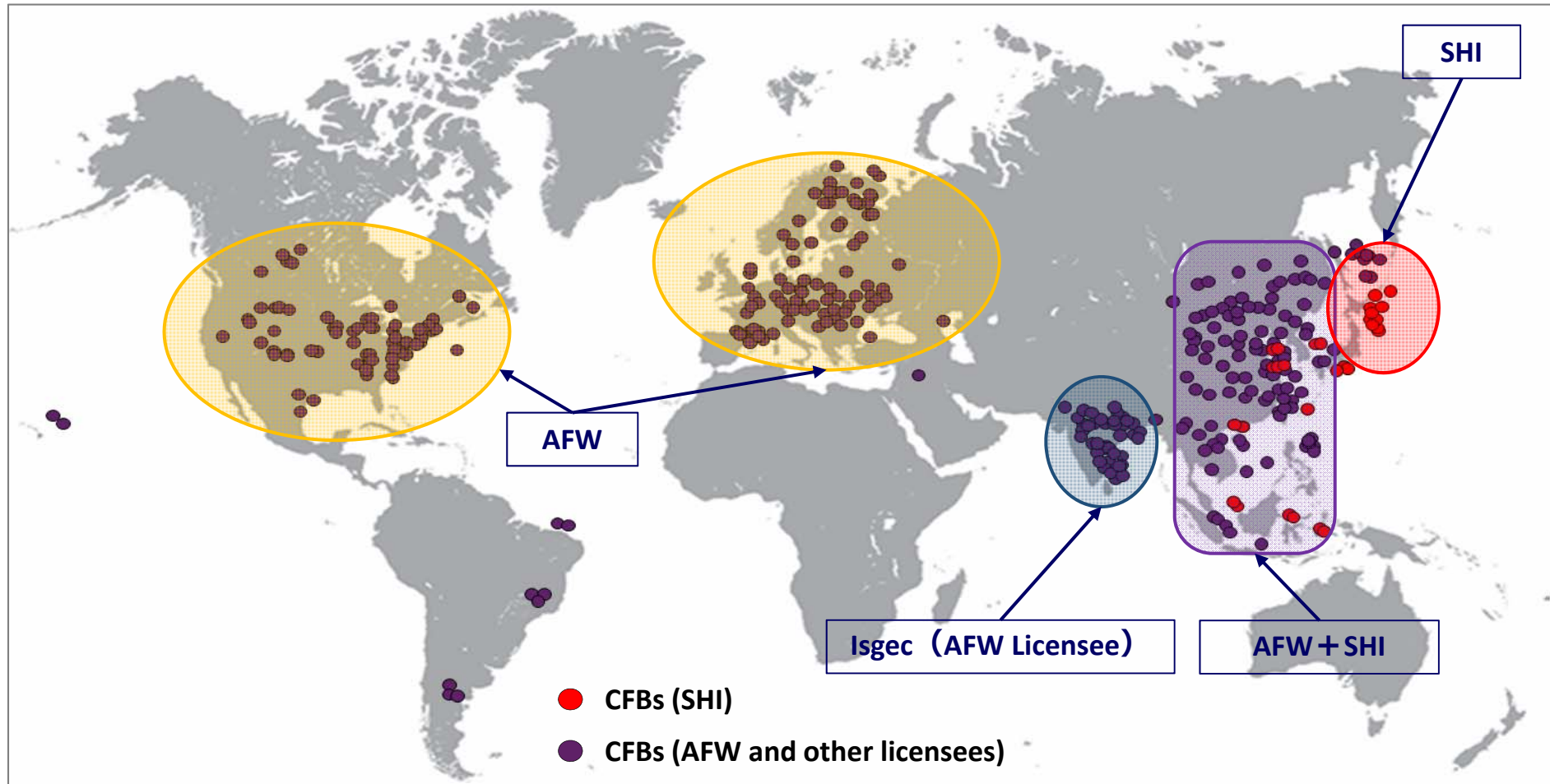
Timeline Leading to the Acquisition



The Purposes of This Acquisition

- 1. Promote growth in the energy business of SHI Group**
- 2. Develop CFB boiler business throughout the world**
- 3. Secure the technology and brand of CFB boiler after expiration of the current license agreement (to be expired in December 2021)**
- 4. Obstruct M&A by competitors**

Competitive Advantage (Product Delivery Areas)



SHI: Exclusively in Japan / Asia (excluding China and India)
AFW: Global development of business including Asia



Mutually complement target delivery areas /
Ensure dominance over other competitors

Competitive Advantage (Generation Capacity)

AFW and SHI

	Total Sold Unit	1975- 2015	
		Unit	%
AFW	5MW	9	3%
	Up to 112MW	202	74%
	113-200MW	30	11%
	201-350MW	26	10%
	over 350MW+SC	5	2%
	Total	272	100%

+

SHI	5MW	10	16%
	Up to 112MW	50	78%
	113-200MW	4	6%
	201-350MW	0	0%
	over 350MW+SC	0	0%
	Total	63	100%

	Total Sold Unit	1975- 2015	
		Unit	%
AFW + SHI	5MW	19	6%
	Up to 112MW	252	75%
	113-200MW	34	10%
	201-350MW	26	8%
	over 351MW+SC	5	1%
	Total	335	100%

VS

Company A (No. 2 in Market Share)

	Total Sold Unit	1975- 2015	
		Unit	%
Company A	5MW	2	2%
	Up to 112MW	63	77%
	113-200MW	14	17%
	201-350MW	3	4%
	over 351MW+SC	0	0%
	Total	82	100%

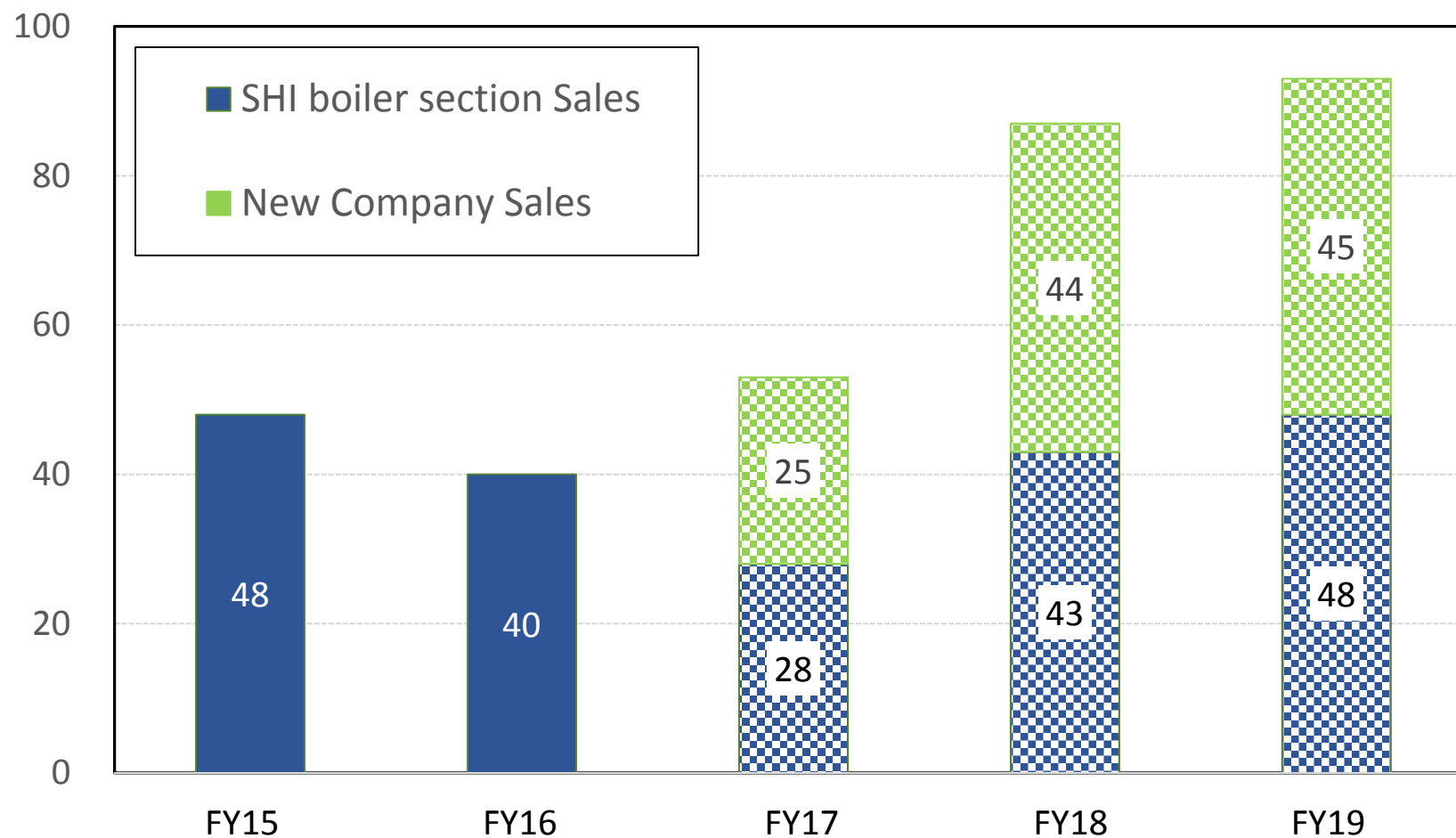
SHI: Small scale generation capacity
AFW: Medium-to-large scale generation capacity



Mutually complement generation capacity /
Ensure dominance over other competitors

Future Sales Projections

Sales: (bil. JPY)



✂ Exchange Rate: USD1 = JPY110

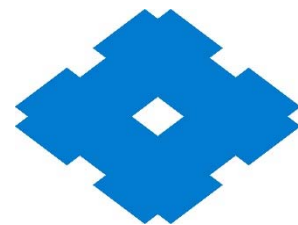
Schedule

2017

March 2 – Signing of Stock Purchase Agreement

March to June – PMI (Preparation for integration)

July to September – Closing (scheduled)



Sumitomo
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