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EXPERIENCE-SHARING WORKSHOP

Tay Do Steel Company Limited

THÉP TÂY ĐÔ
THÉP ĐÃ TÔI THẾ ĐẤY
SINCE 1995

I. About Tay Do Steel Company (TSC)



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I. About Tay Do Steel Company (TSC)

- Within 30 years of experience, Tay Do Steel continuously invests in modern equipment and technologies.
- We have achieved ISO certifications to affirm our commitment to quality, environmental responsibility, and energy use.

9001:2015

14001:2015

ISO 50001
ENERGY MANAGEMENT

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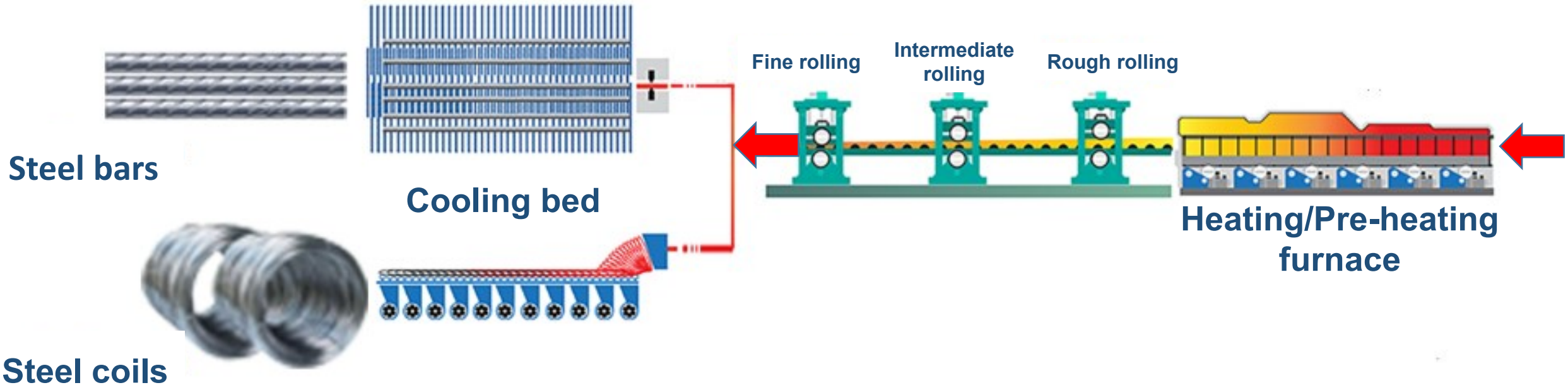





Main products

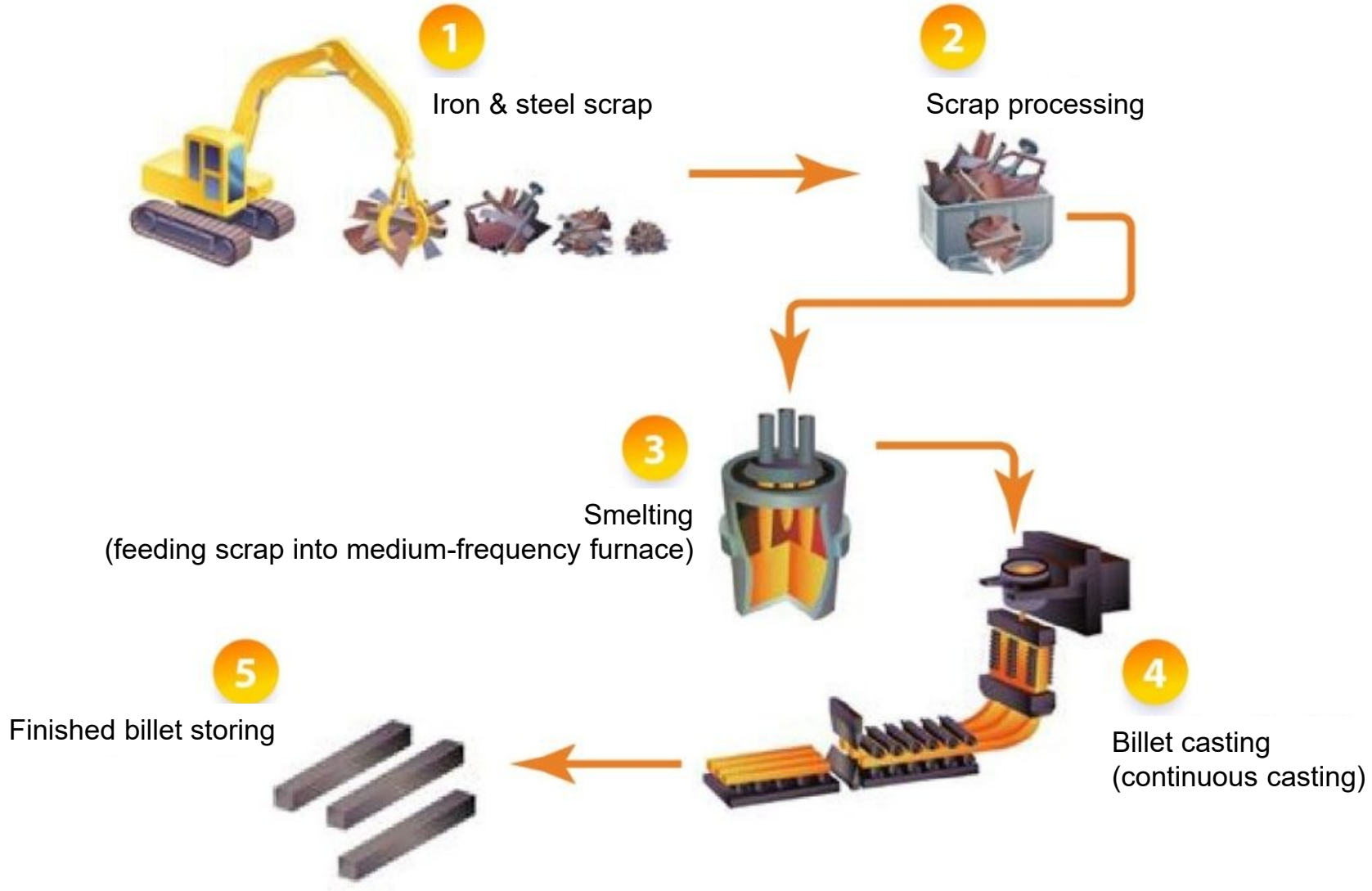
I. About Tay Do Steel Company (TSC)

Production process of steel bars and steel coils



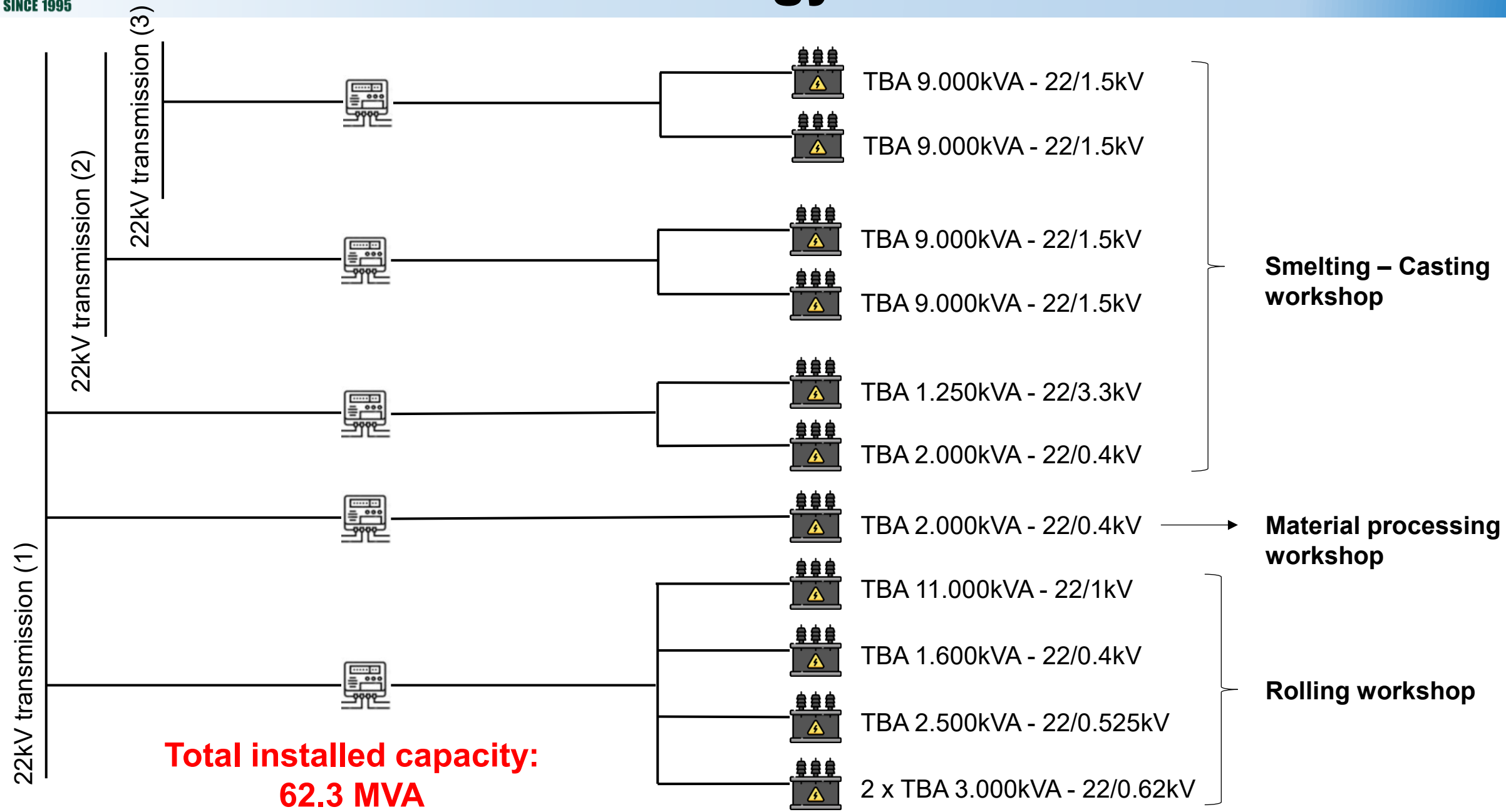
I. About Tay Do Steel Company (TSC)

Steel billet production process



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II. Energy use status



Total installed capacity: 62.3 MVA

II. Energy use status

List of transport means within the plant

#	Type of transport means	Capacity (m3)	Power (KW / RMP)	Fuel consumption (Liter / hour)
1	Hyundai 3000LC-7	1.2	164/1900	18.6
2	Hyundai 3000LC-7A	1.2	147/1900	20.4
3	Komatsu 200-3	0.7	88.3/2100	5.3
4	Caterpillar EL240B	1.2	112.5/2200	9.2
5	Hitachi EX200-5	0.7	98.4/1950	5.7
6	Kobelco SK350DLC-8	1.4	197/2100	14.7
7	Kobelco SK350DLC-9	1.4	213/2100	19.7
8	Kobelco SK220LC-3	0.9	123.4/2150	7.5
9	Caterpillar E200B	0.7	128/1800	8.6
10	Hitachi ZX200-5G	0.9	125/2100	8.6

II. Energy use status

List of transport means within the plant

#	Type of transport means	Capacity (m3)	Power (KW / RMP)	Fuel consumption (Liter / hour)
11	Hitachi ZX200-5G	0.9	125/2100	9.9
12	Hitachi ZX240-5G	1.2	132/2150	11.5
13	Hitachi ZX240-5G	1.2	132/2150	11.9
14	Hyundai 3000LC-7	1.2	164/1900	8.5
15	Kobelco SK350DLC-10	1.6	200/2100	10.3
16	Solar 280LC-III	1.2	136.5/1900	8
17	Solar 50W-V	0.3	42/2400	8
18	Kobelco SK135SR-2	0.5	69.2/2000	11
19	Caterpillar 320 (Đã lắp động cơ điện)	0.7	105/1800	-

II. Energy use status

Table of Fuel consumption statistics in recent years

#	Fuel	Unit	2022	2023	2024
1	Electricity	kWh	11,237,190	90,601,696	138,147,179
		TOE	1,734	13,980	21,316
2	LPG	Kg	-	9,237	31,986
		TOE	-	10	35
3	CNG	Mil m3	2.46	1.68	-
		TOE	2,214	1,512	-
4	DO	Litre	34,836	267,255	454,000
		TOE	31	235	400
5	Petrol	Litre	20,000	20,000	77,815
		TOE	17	17	65
Total (TOE)			**3,996**	**15,754**	**21,816**

III. Improvement plan

1. Use 100% LED lighting

2. Install VSD for air compressors and pumps

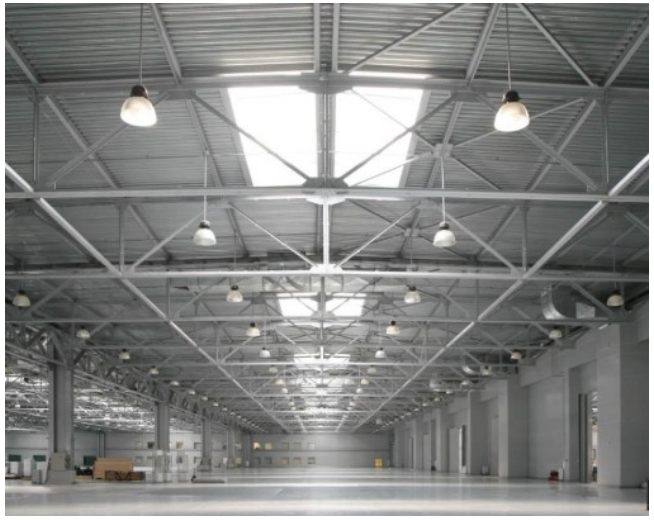
3. Convert diesel motor to electricity motor

4. Install rooftop solar system

5. Invest in a shredding machine to improve input material quality

III. Improvement plan





1. Use 100% LED lighting

- Prioritize natural light usage
- Use LED lights for office and workshops instead of fluorescent & high-voltage lights
- Reduce energy use: 144 MWh/year
- Reduce emissions: 95 tons of CO2e/year

III. Improvement plan

2. Install VSD for air compressors and pumps

- Reduce energy use: 72 MWh/year
- Reduce emissions: 47.5 tons of CO2e/year



III. Improvement plan

3. Shift from diesel motor to electricity motor

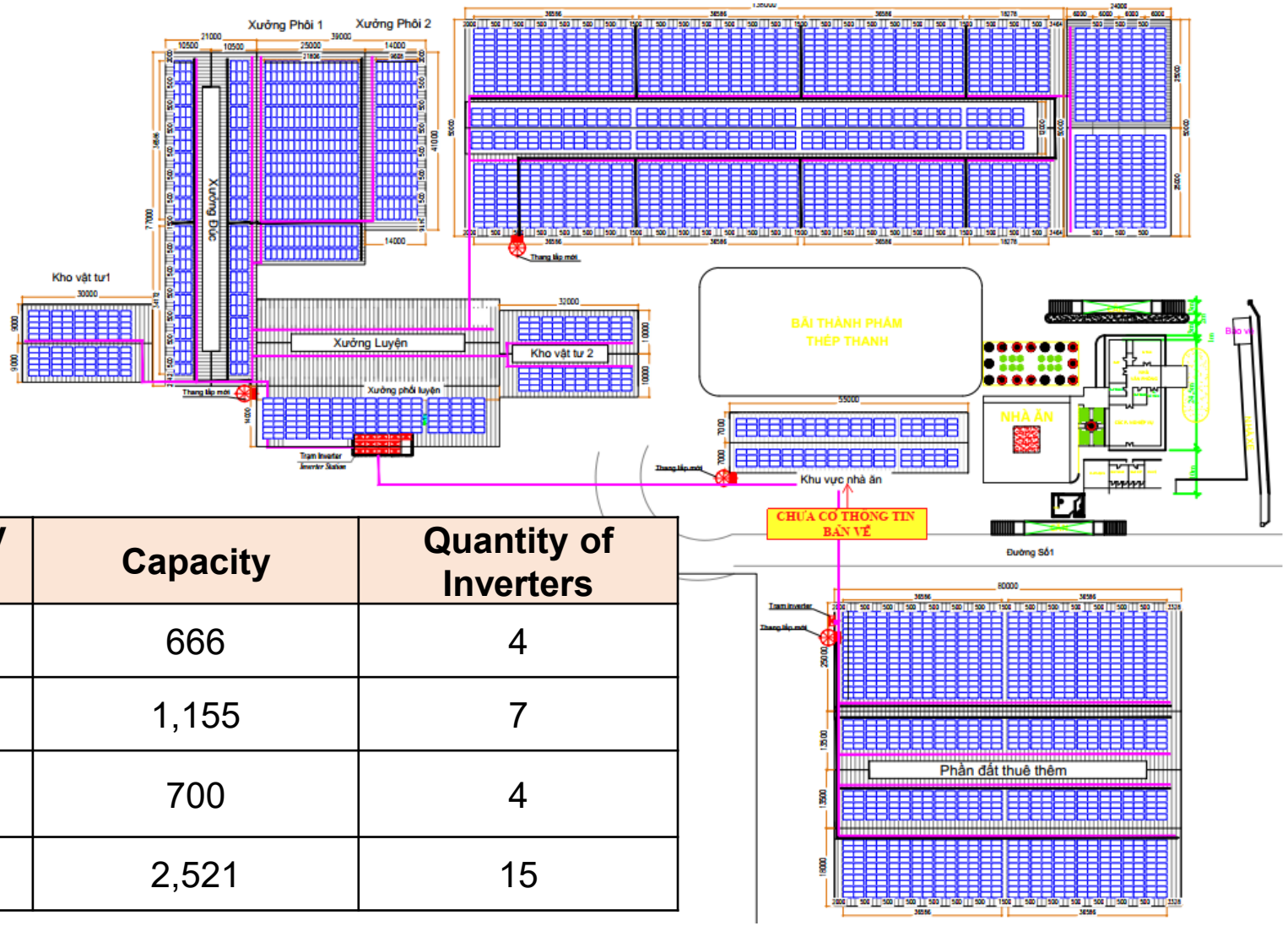


- Convert from diesel motors to electricity motors for construction vehicles with capacity higher than 132kW
- Emission reduction: 300 tons CO2e/year

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III. Improvement plan

4. Install rooftop solar system



Place	Quantity of PV panels	Capacity	Quantity of Inverters
Smelting-Casting	930	666	4
Rolling	1,616	1,155	7
Material processing	980	700	4
Total	3,526	2,521	15

III. Improvement plan

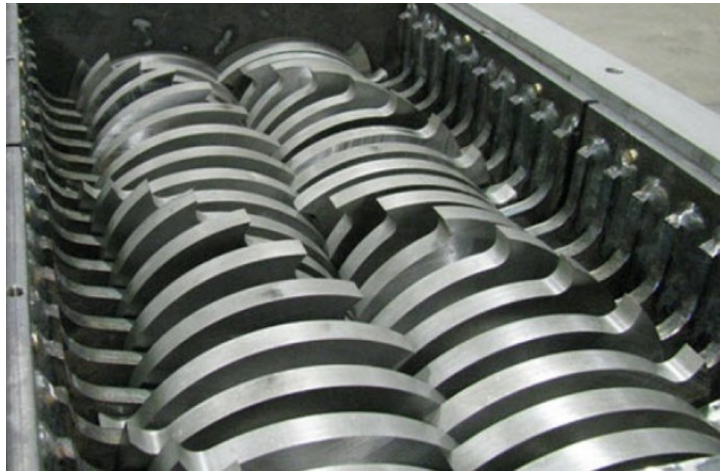
4. Install rooftop solar system

Parameters	Unit	Value
Total installable rooftop solar power capacity	kWp	2,521
Estimated annual output of solar power	MWh/year	2,948
Total electricity consumption in 2024	MWh/year	138,000
Estimated shared of RE in total electricity consumption	%	2,14
Electricity price during PEAK hours	VND/kWh	3,398
Electricity price during OFF-PEAK hours	VND/kWh	1,833
Estimated discount from the project	%	4
Annual cost savings from the project	Million VND/year	238
GHG emission reduction	tCO2e/year	1,943

III. Improvement plan

5. Invest in a shredding machine to improve input material quality





- Invest in new machines to shred input scrap in combination with other improvements

=> **Reduce smelting time: 110 mins -> 90 mins**

- Reduce energy use 2%: 2,342 MWh/year
- Reduce emission: 1,544 tons of CO2e/year

III. Improvement plan

Energy consumption reduction	→	2 (%/year)
Cost saving	→	13 (billion VND/year)
Emission reduction	→	3,941 (4%) (ton of CO_2e/year)

IV. Pending issues

1. Using high-efficiency transformers & electricity motors (>94%)

- Possible price increase by 15 - 30% - depending on capacity & technology

=> Extend the payback period

2. Heat recovery from smelting – casting – rolling processes

- High initial investment cost
- Stability of waste heat sources
- Requirement for system maintenance & operation


Thank you