

MOU Signing with Government Agency

To Secure Sustainable Feedstock & FSC Certification; Total 30 Million tons

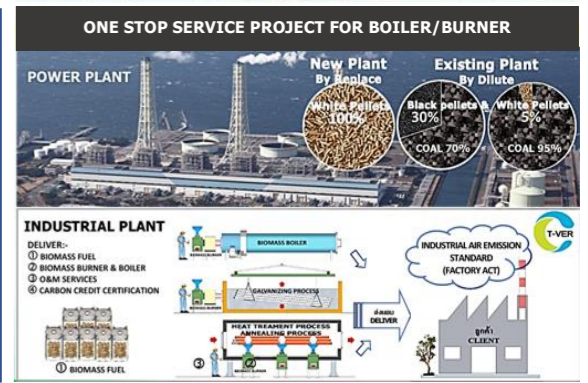
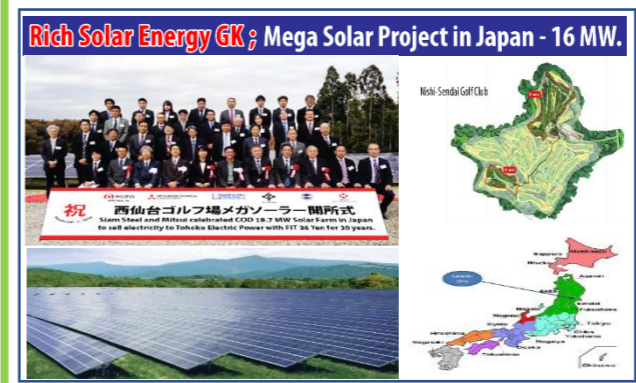
Rubber Tree: secured 15 Million Tons/Year under Rubber Authority of Thailand
Fast Growing Tree: secured 15 Million Tons/Year under Agricultural Land Reform Office



Our Products



- **250 Plants** to produce Biomass Fuel 15 million tons/year
- Each plant within 100km from woods and within 300km from ports



Logistic & Service Center

Item	Port	Capacity to Support Vessel (DWT)
1	Bangkok Port	12,000
2	Sriracha Port	120,000
3	Map Ta Phut Port	120,000
4	Laem Chabang Port	100,000
5	Sattahip Port	40,000
6	Prachuap Port	100,000
7	Koh Sichang - Ayutthaya Jetty - Bangkokong Jetty	100,000
8	Kerry Siam Sea Port (Sattahip)	100,000
9	Khanoms Port (Nakhon Si Thammarat)	30,000
10	Songkhla Port	20,000
11	Puket Deep Sea Port	20,000
12	Ranong Port	12,000
13	Kantang Port (Trang)	3,000
14	Surat Thani Port	2,600
15	P.K. Port (Surat Thani)	2,000
16	Koh Paluai Surat Thani Jetty (1)-(10)	40,000
17	Krabi Port	1,000
18	The Thong Jetty Surat Thani	1,000/40,000
19	Koh Samui Port Surat Thani Jetty	1,000/40,000
20	Pattani Jetty	1,000/40,000

★ No Monsoon Effect
 * Direct 1,000 Tons
 * Transhipped 40,000 Tons
 There are other ports not mentioned here

LOGISTICS & SERVICES CENTER



Thailand's first shipment of FSC Wood Pellets to Japan completed on Oct 26, 2018



Introduction : History since 1953

Six decades of success with the world's leading partners

Siam Steel International Plc., a company in Siam Steel Group, is the leading company listed on the Stock Exchange of Thailand, established since 1953. The core business of our group includes various industries such as furniture, prefabricated building system, civil engineering product, industrial goods, vehicle business and services in cooperation with leading International partners liked Nippon Steel, Panasonic, Mitsui, Mitsubishi, Okamura and etc.



International Partners

OKAYA FOUNDED 1669

FORMICA

NIPPON STEEL

OKamura

Mitsubishi

HONDA

TOYOTA

ORIENT CORPORATION

Panasonic

FUJIHORO
FUJIHORO, JAPAN (SINCE 1947)

MITSUI

Chitose



Furniture



Construction Material



Industrial Goods



Vehicle



Services



Environment care with Renewable Energy Business since 2015

In 2015, Siam Steel International Public Company Limited decided to diversify its business into long term and sustainable business for renewable energy, such as solar farm and biomass fuels to serve with the growing worldwide demand to replace fossil fuel.

Paris Agreement : COP21 by 196 countries on December 12, 2015 : Enforcement in 2020

- **Replace the Kyoto Protocol** ■ **Main framework on climate change**
 - An ambitious collective goal to hold warming well below 2°C with efforts to limit warming to 1.5°C
 - To limit the amount of greenhouse gases and to achieve net-zero emissions in the second half of this century



• Siam International Energy was established and invested by Siam Steel International Plc. as a new holding company with several subsidiaries to invest in various renewable energy sectors.



Solar Energy



Biomass Fuels



2015



Domestic

• Solar rooftop for factory and warehouse with self-consumption and cost saving concept

Oversea

• Rich Solar Energy Godo Kaisha was set up as an investor for solar farm, Rich Solar Energy Godo Kaisha had invested in first solar farm project 18 MW in Miyaki Prefecture, Sendai in Japan, COD in November 1, 2018 and still looking for more solar farm investment opportunities.

2015



Plantation

• Siam Forest Management Ltd. as an investor for stable feed stock supply and plantation.

2015



Manufacturing

• Saim Biomass Manufacturing Co., Ltd. As a biomass fuel supplier



Framework on CLIMATE CHANGE



Kyoto Protocol (KP)

Under the Kyoto Protocol, Annex I countries have commitment to reduce their GHGs emissions by an average of 5% below their 1990 emission levels by 2008-2012.

Paris Agreement: COP21 by **196 countries** on December 12, 2015 : Enforcement in 2020

- Main framework on climate change
- An ambitious collective goal to hold warming well below 2°C with efforts to limit warming to 1.5°C
- To limit the amount of greenhouse gases and to achieve net-zero emission in the second half of this century



PARIS2015
UN CLIMATE CHANGE CONFERENCE
COP21·CMP11



**AROUND 120 LEADERS
GATHER AT COP26
IN GLASGOW FOR
"LAST, BEST CHANGE"
TO KEEP 1.5 ALIVE**



Solar Farm in Japan : 16 MW, COD on November 1, 2018

COD celebration on **NOV. 7, 2018** to sell electricity to Tohoku Electric Power with FIT 36 yen for 20 years



Rich Solar Energy GK; Mega Solar Project in Japan -18.7 MW

Nishi-Sendai Golf Club; 18.7 MW

Project Information	
Plant Capacity	: 18.7 MW
FIT	: 36 Yen/KWH
Period	: 20 Years
Location	: Sendai City, Japan
Land Condition	: Golf Course
Land Area (Lease hold)	: 300,597 M ²
PV Module	: Canadian Solar Feji Electric
EPC	: Mitsubishi Chemical Engineering Corporation
Opening ceremony	: November 7, 2018
Development Service	: Mitsui Power Plant Co., Ltd.
Legal Advisor Service	: Nishimura & Asahi
Project Finance Bank	: MUFG Bank, Ltd. & Nippon Life Insurance Company

MOU Signing with Government Agency To Secure Sustainable Feedstock & FSC Certification; **Total 30 Million Tons**

Rubber Tree : Secured 15 Million Tons/Year under Rubber Authority of Thailand



To cooperate on **sustainable management of rubber plantations**
 in accordance with **international standards ; FSC or PEFC**
 to create **value-added to the rubber woods for all farmers**
 for domestic and export sales
Total Rubber woods : 49.5 Million Tons/Year
 among • **Rubber Authority of Thailand**
 Rubber Farmer Institute
 Siam Forest Management Ltd.



2nd Phase Implementation
 on FSC Sustainable Management of Rubber Plantation under MOU with
 The Rubber Authority of Thailand
 August 8, 2017

Fast Growing Tree : Secured 15 Million Tons/Year under Agricultural Land Reform Office



Fast Growing Tree under
Agricultural Land Reform Office
45 Million Tons/Year



- **250 Plants** to produce **Biomass Fuel 15 million tons/year**
- Each plant within **100km** from woods and within **300km** from ports



Surat Thani Factory 1



Surat Thani Factory 2



Uthai Thani Factory



- 250 Plants
- 100 km from wood
- 300 km from port

Our Products

Our wood chips, wood pellets and torrefied pellets are FSC- FM, FSC-COC Certified and comply with International standards such as ISO 17225-4, Japan Wood Pellet Association Standard, ISO 17225-8 and EN Plus I2 or according to client's requirement



Siam had already got FSC-FM and FSC-COC certificate



Logistic & Service Center

Central port = 6 Ports Southern port = 12 Ports

	Item	Port	Capacity to Support Vessel (dwt)
Central & Eastern	1	Bangkok Port	12,000
	2	Sriracha Port	120,000
	3	Map Ta Phut Port	120,000
	4	Laem Chabang Port	100,000
	5	Sattahip Port	40,000
	6	Prachuap Port	100,000
	7	Koh Sichang - Ayutthaya Jetty - Bangpakong Jetty	100,000
	8	Kerry Siam Sea Port (Sriracha)	100,000
Southern	9	Khanom Port (Nakhon Si Thammarat)	30,000
	10	Songkhla Port	20,000
	11	Puket Deep Sea Port	20,000
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	18	Tha Thong Jetty Surat Thani	1,000*/40,000**
	19	Koh Samul Port (Nathan Jetty) Surat Thani Jetty	1,000*/40,000**
	20	Pattani Jetty	1,000*/40,000**

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1	Bangkok Port	12,000
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11	Puket Deep Sea Port	20,000
12	Ranong Port	12,000
13	Kantang Port (Trang)	3,000
14	Surat Thani Port (P. Mahasarakham)	2,600
15	P.K. Port (Surat Thani)	2,000
16	Koh Paluai	40,000
17	Krabi Port	1,000
18	Tha Thong Jetty	1,000*/40,000**
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★ No Monsoon Effect
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 ** Transhipped 40,000 Tons
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LOGISTICS & SERVICES CENTER

1 STORAGE TANKS (50,000 TONS)
 2 STORAGE TANKS (50,000 TONS)
 3 STORAGE TANKS (50,000 TONS)
 4 WAREHOUSE (50,000 TONS)
 5 WAREHOUSE (50,000 TONS)
 6 WAREHOUSE (50,000 TONS)
 7 LOADING INTO VESSEL
 8 UNLOADING FROM TRUCK
 9 TRANSPORT TO USUALLY 1-2 WORKSITES
 10 UNLOADING FROM VESSEL





Thailand's first shipment of FSC Wood Pellets to Japan

completed on Oct 26, 2018



First Torrefied Pellets Plant in Thailand supplied to large Power Plant in Japan



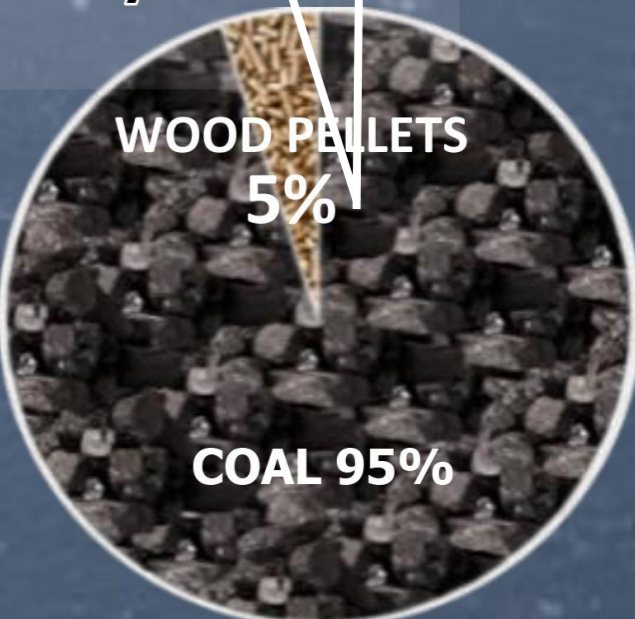
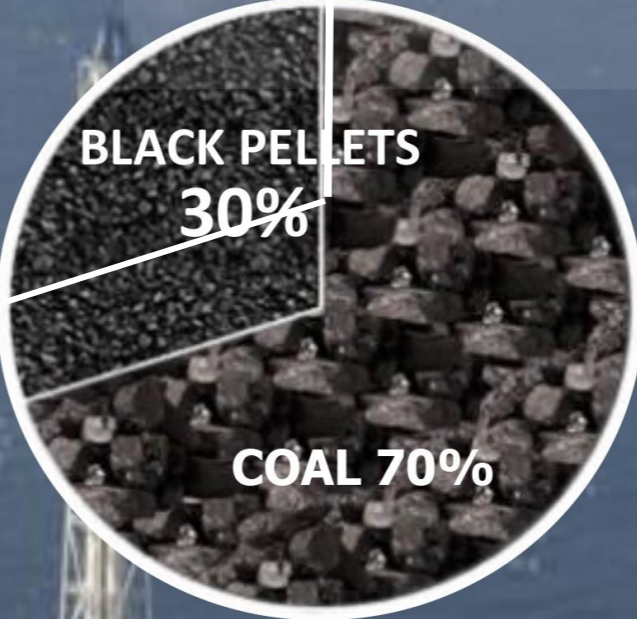
BIOMASS Replacement & FOSSIL Reduction

POWER PLANT: BIOMASS REPLACEMENT & FOSSIL REDUCTION

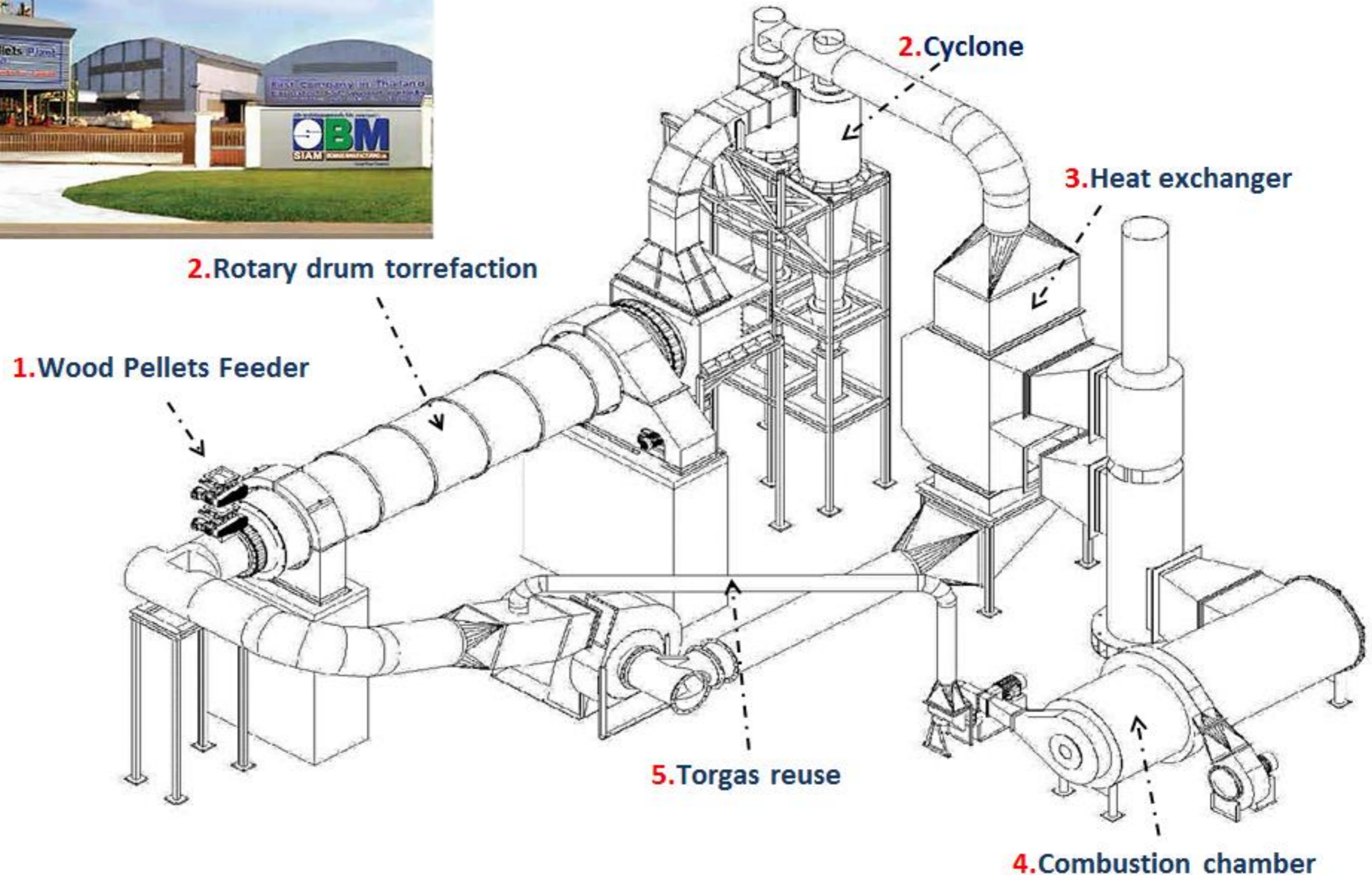
**NEW PLANT
REPLACEMENT**



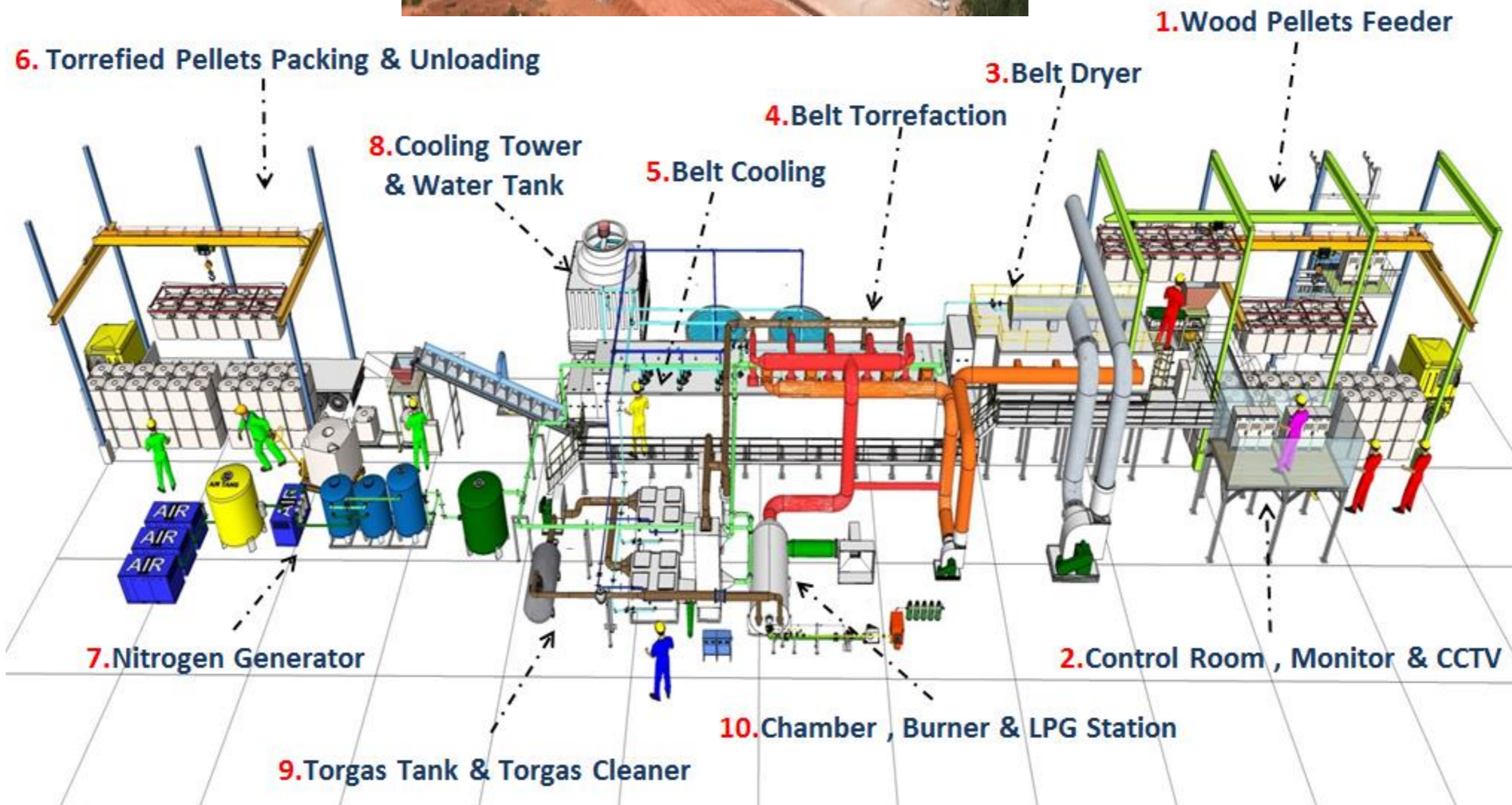
EXISTING PLANT by DILUTE



BIOMASS Torrefaction Rotary-Drum System



BIOMASS Torrefaction - Belt System



Our Location

