


ENGINEERING THE ENERGY TRANSITION

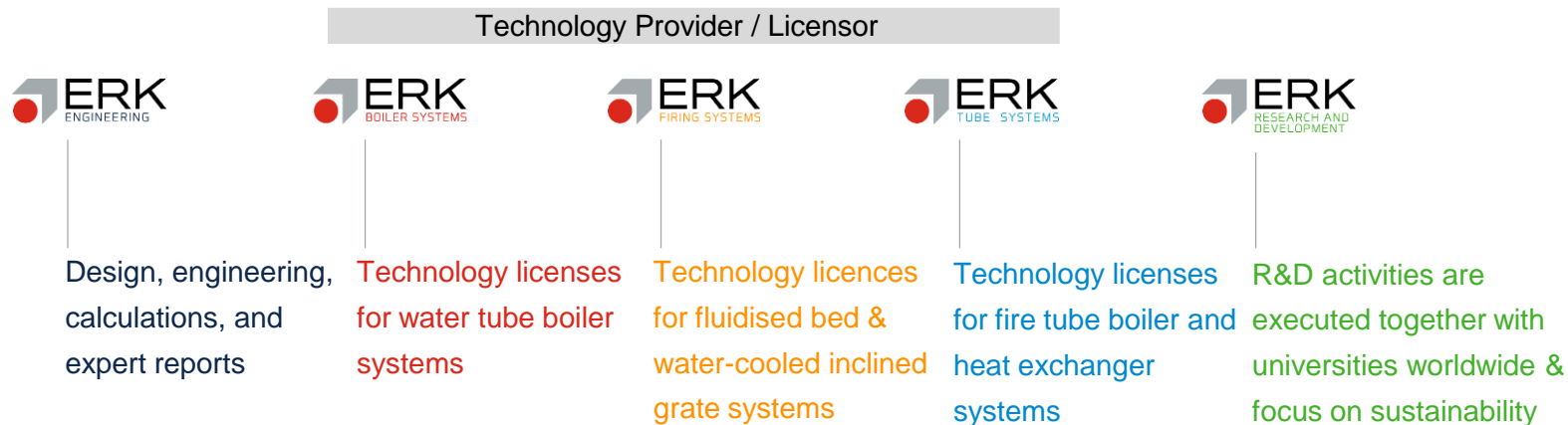


**Policies that support and challenge biomass
and waste to energy power plants**

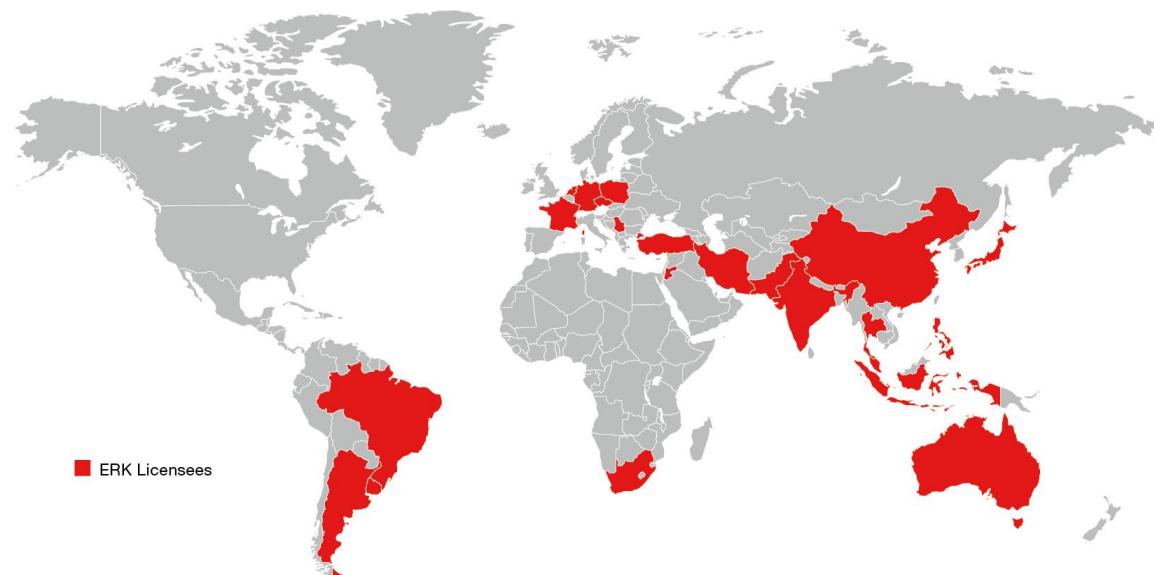
June 2018, Dr. Verena Streitferdt

COMPANY STRUCTURE

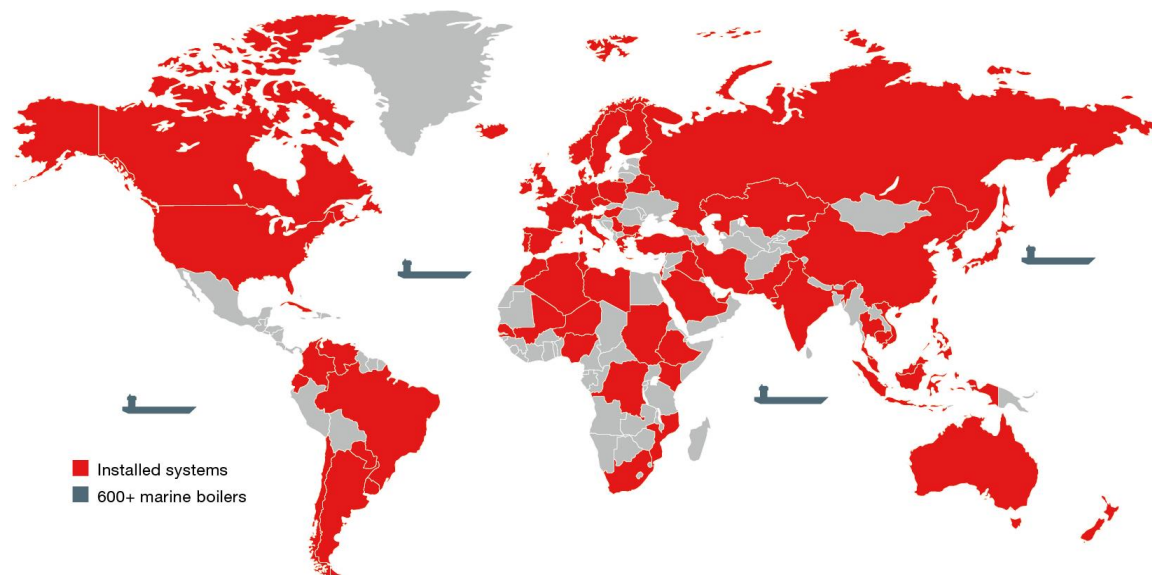
2



ERK LICENSEES WORLDWIDE



6000+ INSTALLED REFERENCES WORLDWIDE





BIOMASS FIRED BOILER SYSTEMS

5

- Decades of experience with biomass fired boilers
- ERK ranks 3th technology provider for biomass fired boilers
- Installations for most biomass materials as well as fuel mixtures
- Multiple design options to maximise boiler availability, such as parallel flow and tailed designs, and efficiency requirements, e.g. combustion air preheating or flue gas condensation
- **About 40 references** of Biomass boilers in the SEA region

more than

380

REFERENCES

REFERENCE PARAMETERS

MAX	160 MW	109 bar	540 °C
MIN	0,4 MW	3 bar	180 °C



WASTE FIRED BOILER SYSTEMS

6

- Decades of experience with waste fired boilers
- ERK ranks 5th technology provider for waste fired boilers
- Installations for most waste materials and fuel mixtures
- Multiple design options to maximize boiler availability, such as parallel flow and tailend designs, and efficiency requirements, e.g. combustion air preheating or flue gas condensation
- Up to 10 references in SEA

more than

650

REFERENCES

REFERENCE PARAMETERS

MAX	90 MW	102 bar	520 °C
MIN	0,6 MW	3 bar	174 °C



WASTE FIRED BOILER INSTALLATIONS



Japan

Steam capacity **2x 98 tph**

Operating pressure **50 bar**

Steam temperature **350°C**

Application **Energy from waste (MSW), Cogeneration**

SPECIAL FEATURE

32 MWe electricity from waste plant + district heating





WASTE FIRED BOILER INSTALLATIONS



Germany

Steam capacity **3x 20 tph**

Operating pressure **40 bar**

Steam temperature **400°C**

Application **Energy from waste plant (MSW), cogeneration**

SPECIAL FEATURE

First waste fired boilers with parallel flow heating surfaces (minimises fouling), first superheaters in operation for >9 years, 97% boiler availability





WASTE FIRED BOILER INSTALLATION

Licencee: **LAWI Engineering GmbH**



Location: **Saraburi/ Thailand**



Thermal capacity	45 MW
Electrical capacity	9,5 MW
Fuel	RDF
Operating pressure	53 bar
Feedwater temperature	130 C
Steam temperature	450 C
Application	Electric power generation for the public grid



SPECIAL FEATURE

EnviComb® is a Combustion System designed and applied for the reliable & efficient thermal utilization of Municipal Solid Wastes (MSW) and Refuse Derived Fuels (RDF).



WASTE FIRED BOILER INSTALLATIONS

Licencee: LAWI Engineering GmbH



Brasil

Steam capacity **4 tph**

Operating pressure **31 bar**

Steam temperature **370°C**

Application **Decentralised energy
from waste plant**

SPECIAL FEATURE

800 kWe capacity energy from waste plant



Policies that support Waste to energy projects – example from China

- **China** banned imports of plastic waste in January 2018
 - ➔ Increases the demand of WtE plants elsewhere
 - ➔ For example, New South Wales government in Australia is currently rethinking their ban for waste to energy plants



Policy challenges for biomass and waste to energy projects – Thailand

■ Thailand:

- Ministry of Energy cancels competitive bidding procedure for RE projects → disincentive for investors
- Project objections from a private party can stop projects for long periods of time
- Government (EGAT) is challenged by smart-grid requirements and thus opposes further increase of renewable energy



Reported policy challenges for biomass and waste to energy projects – **Indonesia**

- Ministry of Energy and Mineral Resources Regulation No. 50/2017 – drop of foreign investors

Renewable energy	Method of appointment	Regional BPP > national BPP Agency	Regional BPP < National BPP
Biomass	Direct selection, BOOT	Maximum 85% of regional grid BPP	Based on agreement between PLN and iPP
Waste	Reference price +incentives, BOOT	Maximum 100% of local generation	Based on agreement between PLN and iPP



- Biomass:** Import tax reduction for biomass technology imports
- Waste:** Intransparent appointment processes, insecurity of investments

ERK ECKROHRKESSEL GMBH

CONTACT

Dr. Verena Streitferdt

Business Development Southeast Asia

Jakarta, Indonesia

+62 8214 4233 578

vstreitferdt@eckrohrkessel.com

Alexis Hellwig

Commercial Director & Business

Development Asia, Thailand

+66 6159 55754

ahellwig@eckrohrkessel.com

Dr. Juergen Peterseim

Director Strategy & New Products

Berlin, Germany

+49 30 8977 4641

jpeterseim@eckrohrkessel.com

THANK YOU