中国能建
ENERGY CHINA

CGGC

中国葛洲坝集团国际工程有限公司

CHINA GEZHOUBAGROUP INTERNATIONAL ENGINEERING CO.,LTD.

CONTENTS

CGGC Overview

01

PART ONE

CGGC History

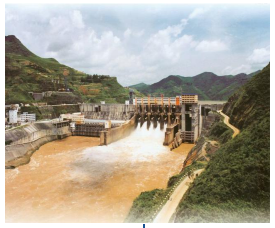
中国葛洲坝集团股份有限公司
CHINA GEZHOUBA GROUP CO.,LTD.

- 330 Engineering Headquarter for Construction of Gezhouba Water Conservancy Project

1970

1974

- Renamed to be 330 Engineering Bureau



1984

- Contracting for the first Hydro-power Project - Guangxi Yanshui Hydropower Project

1994

- Establishment of China Gezhouba water Resources & Hydel Power Group Company

Start construction of Three Gorges Project 22.5GW

1997

- IPO, Became China 1st Hydropower IPOed Company

2001

- Establishment of China Gezhouba Water Resources & Hydel Power Engineering Co. Ltd.

2006

- Establishment of CGGC Intl,

2011

- Establishment of China Energy

2016

- Establishment of China Gezhouba Group Investment.

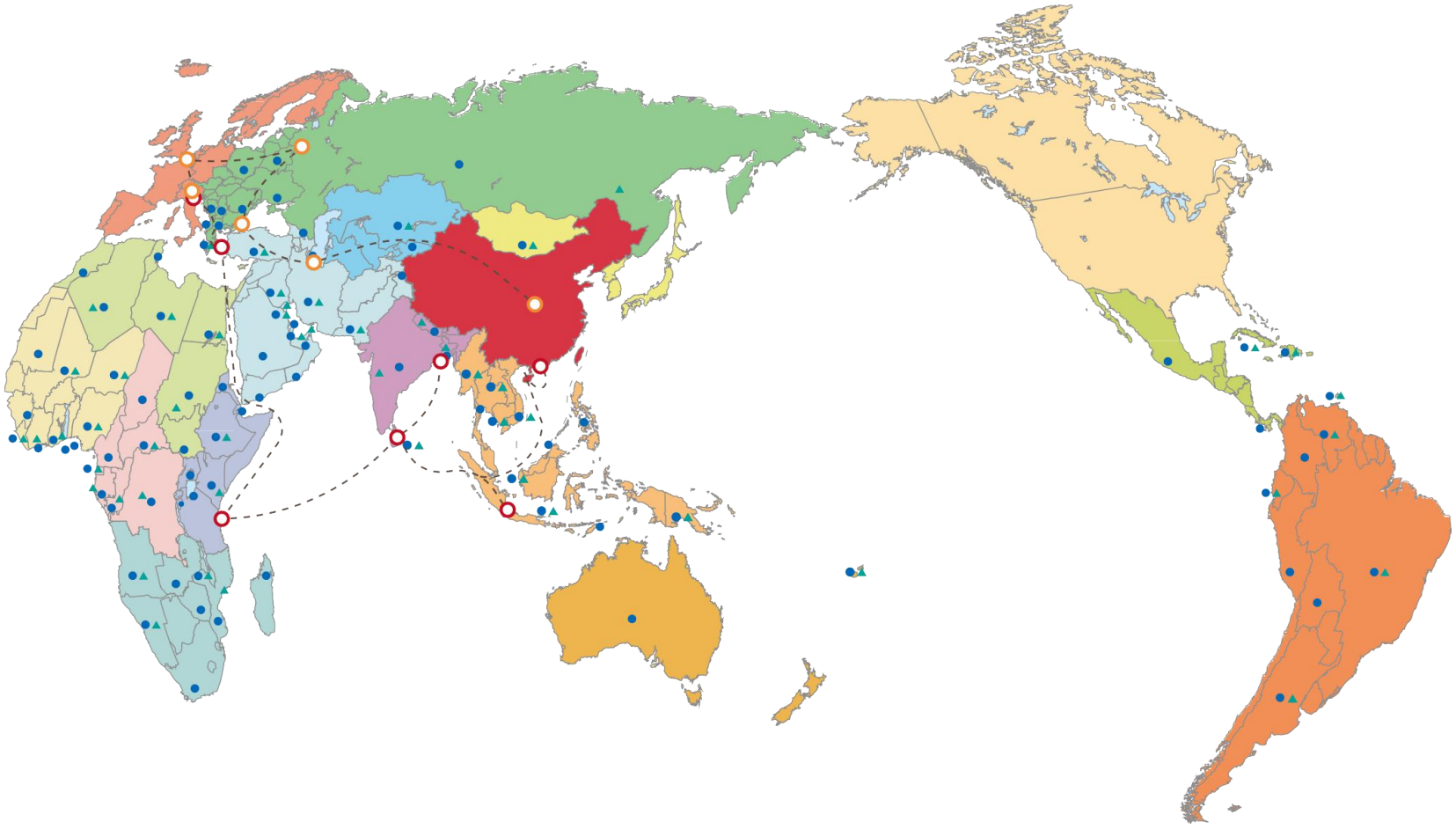
2018

- Establishment of International Investment Alliance of Renewable Energy

中国葛洲坝集团成立50周年
1970-2020

International Footprint

中国能建 ENERGY CHINA | CGGC 中国葛洲坝集团股份有限公司 CHINA GEZHOUBA GROUP CO.,LTD.

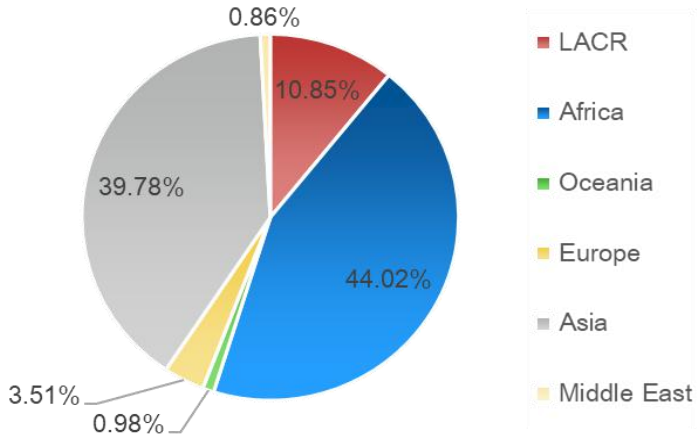


99 branches

142 Countries and regions

~5000 Chinese

~26000 Local Employees



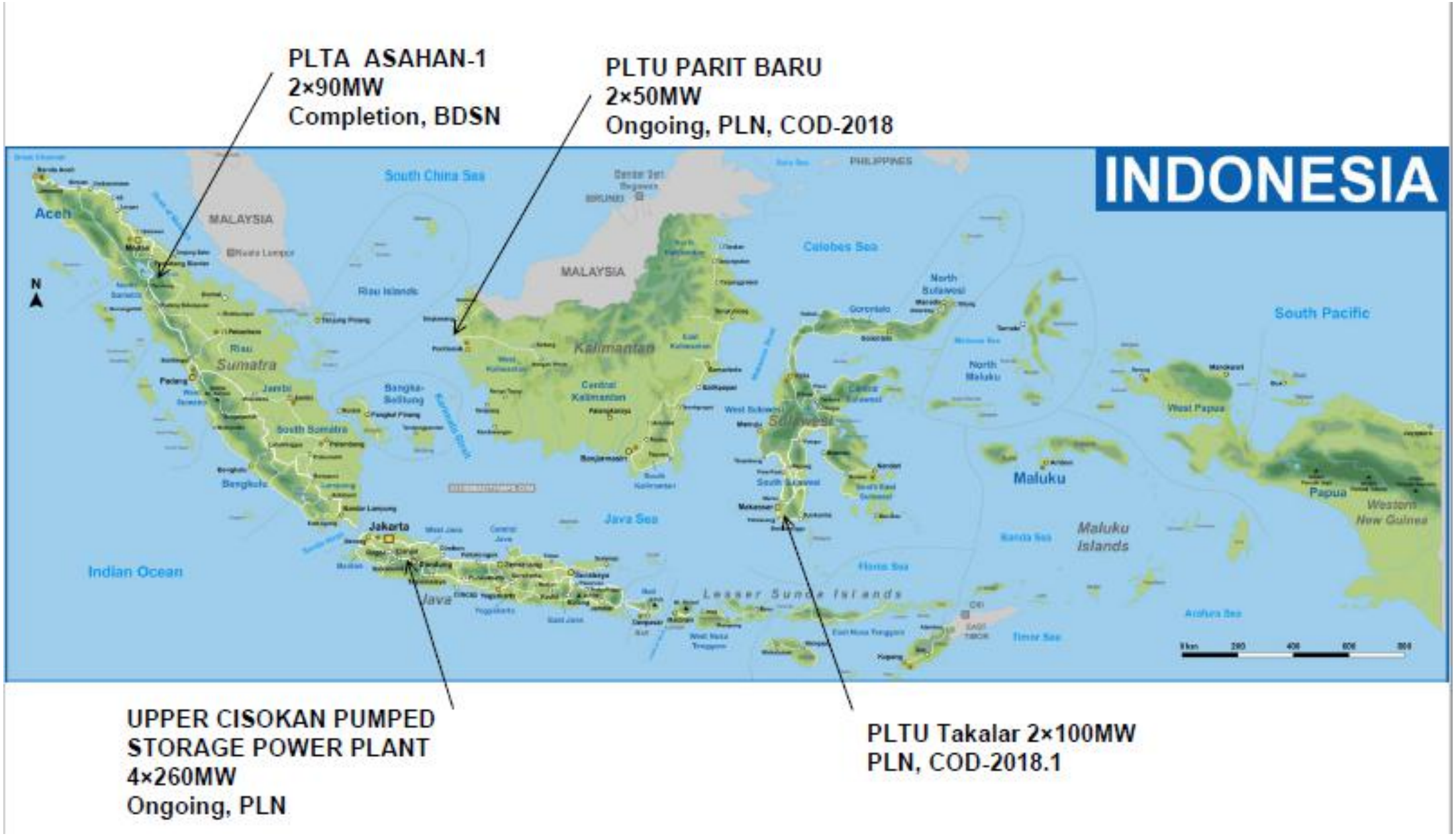
○---- 21st Century Maritime Silk Road

○---- Silk Road Economic Belt

●---- Overseas Branches of CGGC

▲---- Overseas Projects Under Construction

CGGC in Indonesia



Investment & Financing Experience

中国能建 ENERGY CHINA | 中国葛洲坝集团股份有限公司 CHINA GEZHOUBA GROUP CO.,LTD.

43 Projects

4.7B Investment Holding

22.7B Total Financial Closed

250M Share Investment

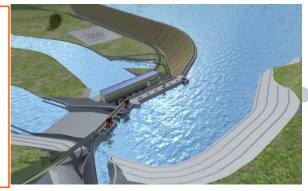
969MW Neelum Jhelum Hydropower Station, Pakistan
Contract Value: 1506 million USD
Contract Type: DB+F
Facility Type: Buyer's Credit
Financing Proportion: 85% DB
Loan term(Years) : 15
Lender: China Eximbank

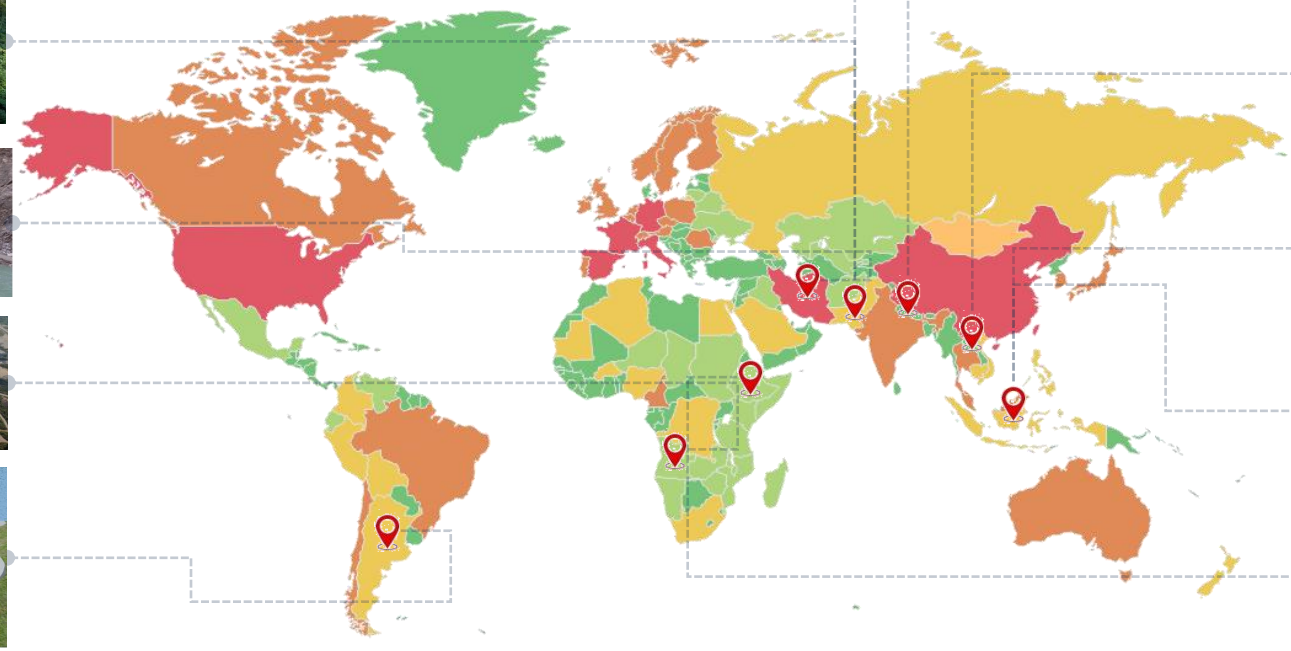
873MW SUKI KINARI HYDROPOWER PROJECT, Pakistan
Contract Value: 1314 million USD
Contract Type: EPC+F
Facility Type: Export Buyer's Credit
Financing Proportion: 75% of Investment
Loan term: (Years) 18
Lender: China Eximbank , Industral and Commerical Bank

450 MW RudbarLorestan Dam & Hydropower Station, Iran
Contract Value: 450 million USD
Contract Type: EPC+F
Facility Type: Export Buyer's Credit
Financing Proportion: 85%DB
Loan term: (Years) 9
Lender: China Construction Bank

The Caculo Cabaca Hydroelectric (power) station project , Angola
Contract Value: 4532 million USD
Contract Type: EPC+F
Facility Type: Buyer's credit
Financing Proportion: 85%
Loan term: (Years) 15

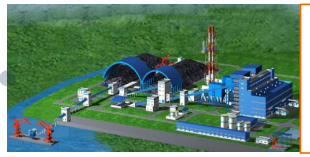
Nestor Kirchner and Jorge Cepernic Hydropower Stations（NK/JC) Project, Argentina
Contract Value: 5550 million USD
Contract Type: EPC
Facility Type: Buyer`s Credit
Financing Proportion: 85% EPC
Loan term: (Years) 15
Lender: China Development Bank, ICBC and Bank of China





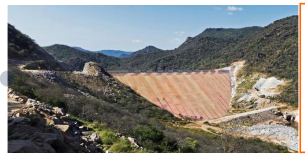
Project Name: Upper Trishuli 3A Hydropower Project, Nepal
Contract Value: 100 million USD
Contract Type: EPC+F
Facility Type: Concessional loan
Financing Proportion: 100% EPC
Loan term: (Years) 20
Lender: China Eximbank

Nam Chian Hydropower Project, Laos
Contract Value: 255.6 million USD
Contract Type: EPC+F
Facility Type: Pref. Exp. Buyer's Credit
Financing Proportion: 85% EPC
Loan term: (Years) 20
Lender: China Eximbank



Parit Baru Coal Fired Steam Power Plant 2*50 MW Project, Indonesia
Contract Value: 172 million USD
Contract Type: EPC+F
Facility Type: Pref. Exp. Buyer's Credit
Financing Proportion: 85%
Loan term: (Years) 20
Lender: China Eximbank

Takarla Coal Fired Steam Power Plant 2x100MW, Indonisia
Contract Value: 312 million USD
Contract Type: EPC+F
Facility Type: Pref. Exp. Buyer's Credit
Financing Proportion: 85% EPC
Loan term: (Years) 20
Lender: China Eximbank



The GD3 Hydroelectric (power) station project in Ethiopia
Contract Value: 451 million USD
Contract Type: EPC+F
Facility Type: Buyer's credit
Financing Proportion: 85%
Loan term: (Years) 15
Lender: China Eximbank

IFC International Finance Corporation WORLD BANK GROUP — Creating Markets, Creating Opportunities
European Investment Bank The EU bank
中国进出口银行 THE EXPORT-IMPORT BANK OF CHINA
丝路基金 Silk Road Fund
中拉产能基金 CLAI FUND
中国银行 BANK OF CHINA
中拉合作基金 China-LAC Cooperation Fund
SINO SURE
中非发展基金 CHINA-AFRICA DEVELOPMENT FUND
ADB
中信银行 CHINA CITIC BANK
IDB
汇丰
Standard Chartered 渣打银行
国家开发银行
中非合作基金 CAFIC
European Bank for Reconstruction and Development
AIIB ASIAN INFRASTRUCTURE INVESTMENT BANK
ICBC

Introduction about IIARE

02

PART TWO

IIARE

中国能建 ENERGY CHINA | 中国葛洲坝集团股份有限公司 CHINA GEZHOUBA GROUP CO.,LTD.

IIARE

4 International Platforms

5 Segments

Market Development
Integrate market development platforms and give full play to respective strengths to form the synergy in developing and coordinating overseas energy market.

Information Sharing
Gather valid overseas energy market information of alliance members, establish a database of renewable energy information, and share it within the IIARE after integration.

Technology Support
Gather technology advantages of all members, and promote and raise the influence overseas of the IIARE.

Investment Cooperation
Establish innovate and effective cooperation mechanisms of joint investment and development to enhance competitiveness

Overall Planning
Target major countries and regions in renewable energy and conduct renewable energy power plans.

Investment driven
Promote project incubation and overall development as planned.

Project Incubation
Promote investment-driven intensive development of renewable energy projects.

Quality Construction
Ensure lifecycle benefit of projects, and optimize design and control quality.

Professional O&M
Professional operation and maintenance team ensures the expected return on investment.

Members of the Alliance

LONGi · HUAWEI · Arctech Solar · Vestas · CATL 宁德时代 · JinKO Solar · SUNGROW · 金风科技 GOLDWIND · SUPCON SOLAR · JA SOLAR · 上能电气 SINENG · MINGYANG WIND POWER 明阳风电 · 双登集团 SHUANGDENG GROUP

Investment & Financing Consultants

SINO SURE · ICBC · 中非发展基金 CHINA-AFRICA DEVELOPMENT FUND · Standard Chartered 渣打銀行

Partnership & Main Events

中国能建 ENERGY CHINA | 中国葛洲坝集团股份有限公司 CHINA GEZHOUBA GROUP CO.,LTD.

ACWA POWER | Masdar A MUBADALA COMPANY | EDF renewables | TOTAL SOLAR | Marubeni | MITSUI & CO.

丝路基金 Silk Road Fund | AIIB ASIAN INFRASTRUCTURE INVESTMENT BANK | MIGA

AMEA POWER | EVN | PLN | MAINSTREAM RENEWABLE POWER | ibvogt | Doral Group Renewable Energy Resources | ELECTRICIDADE DE MOÇAMBIQUE, E.P.

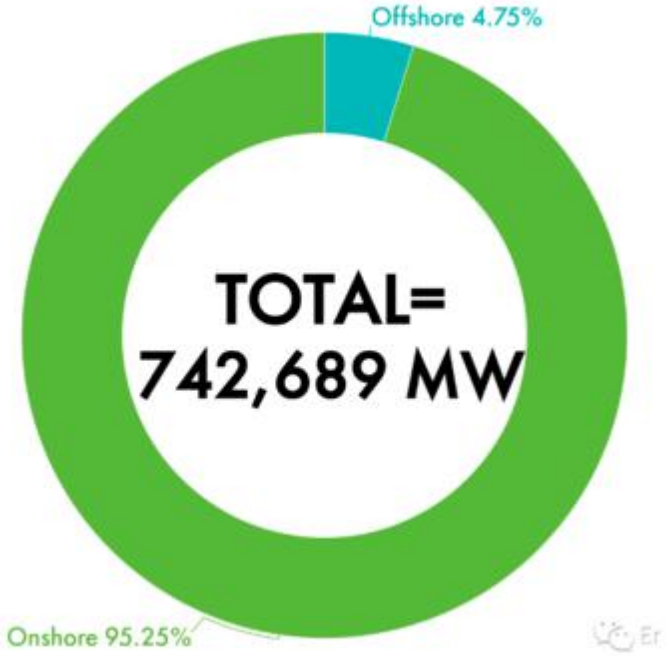
Forum of International Finance and Advanced Technology (Dec. 15, 2020)

Global Wind Power Market Status and Market Outlook

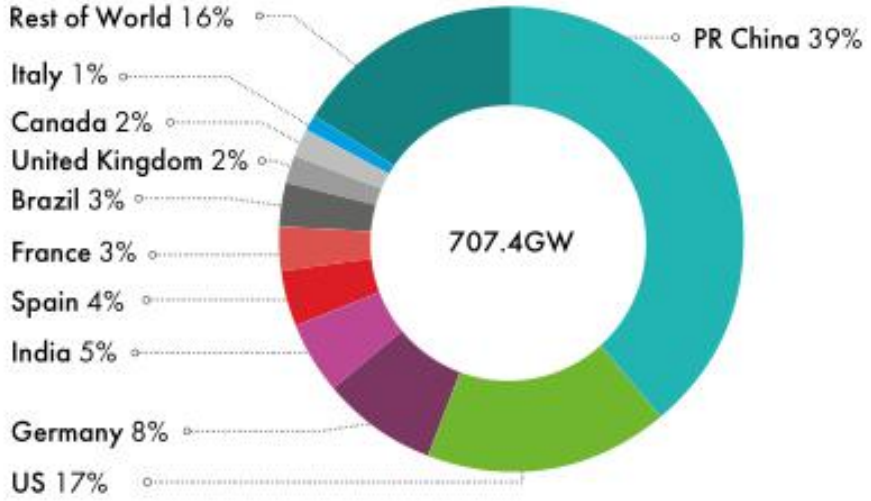
03

PART THREE

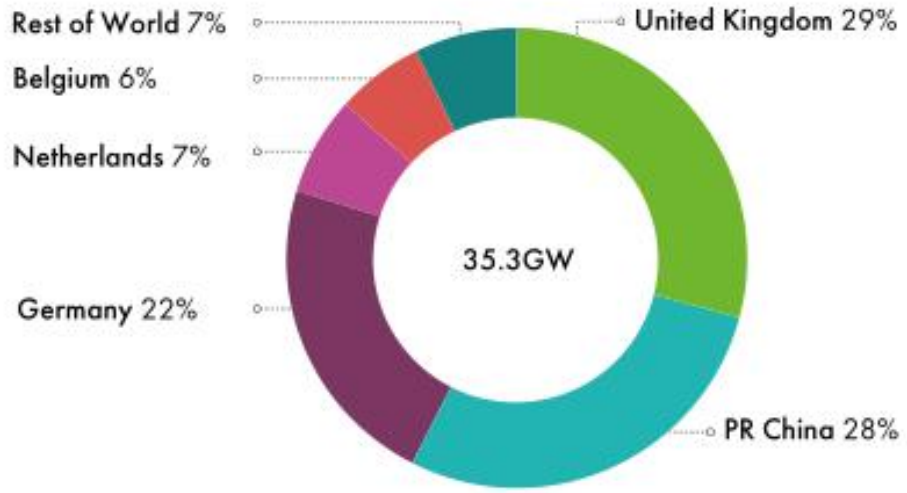
Market Status



Total installations onshore (%)

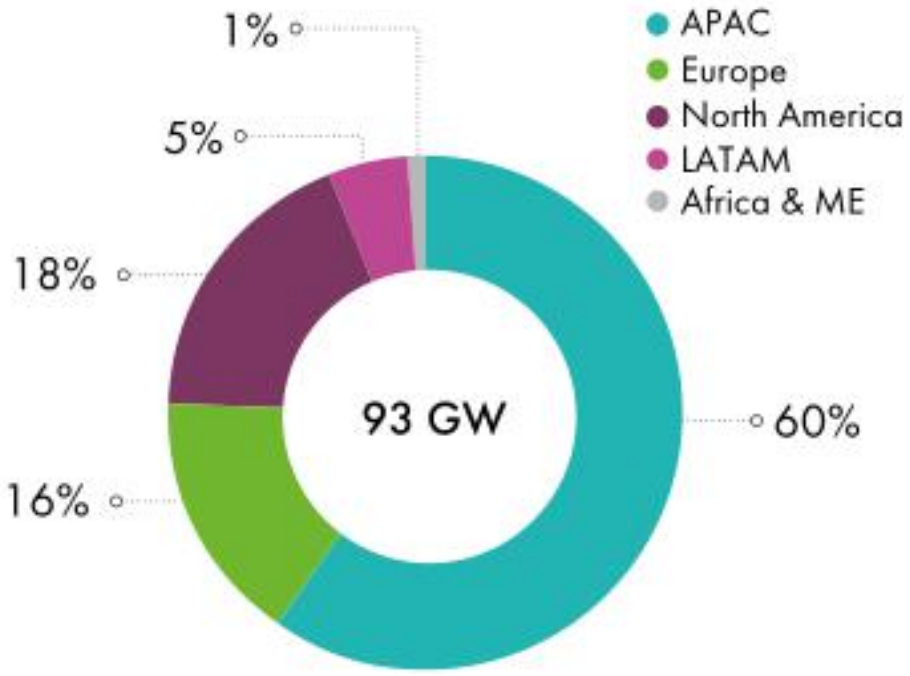


Total installations offshore (%)



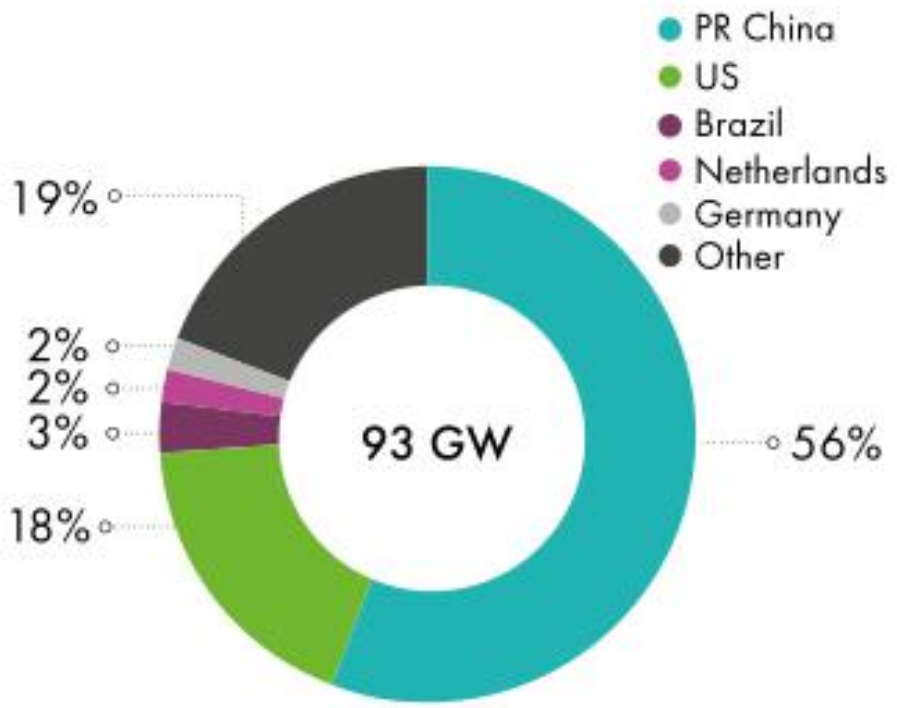
New wind power capacity in 2020 by region

Per cent

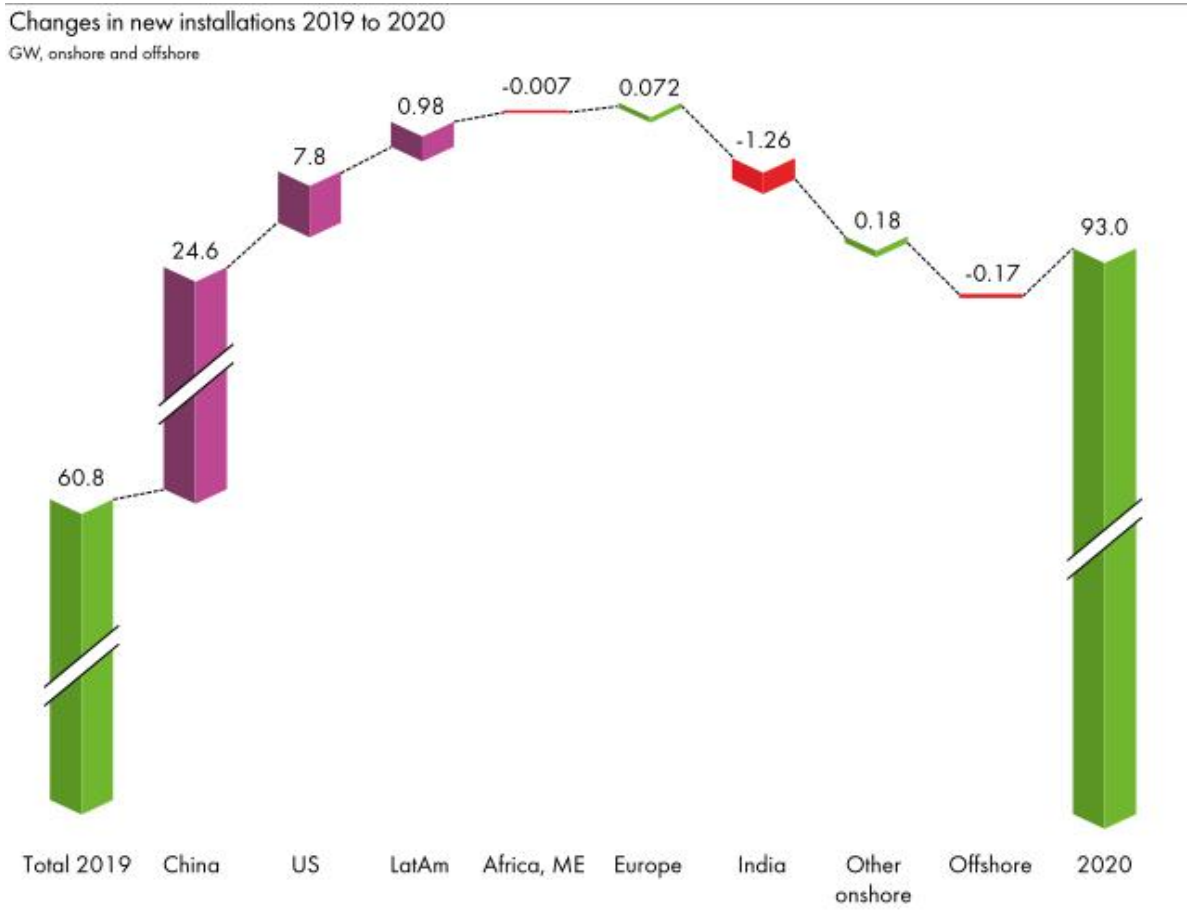


New wind power capacity in 2020 and share of top five markets

Per cent

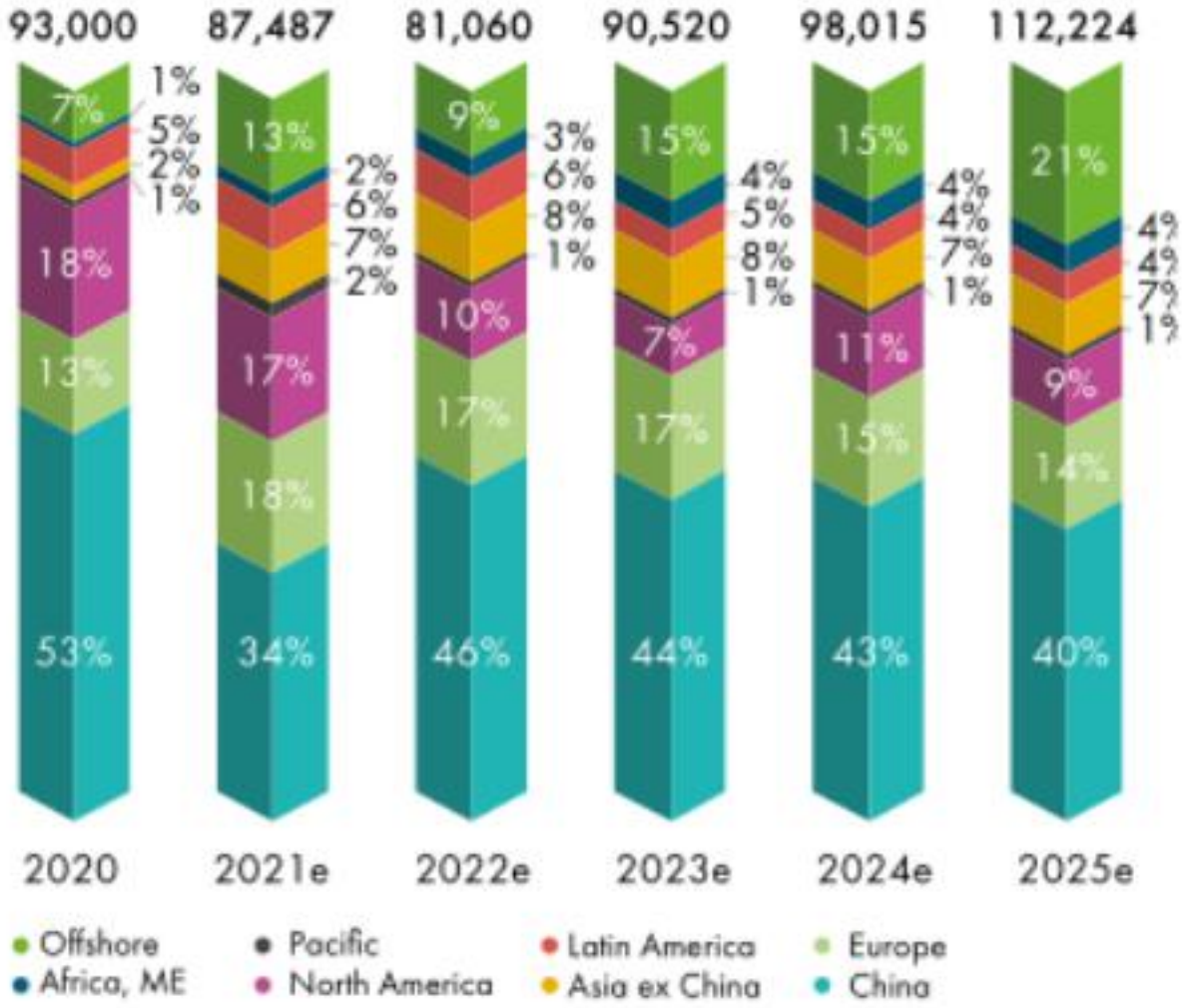


Market Status



New wind power installations outlook 2020-2025 by region

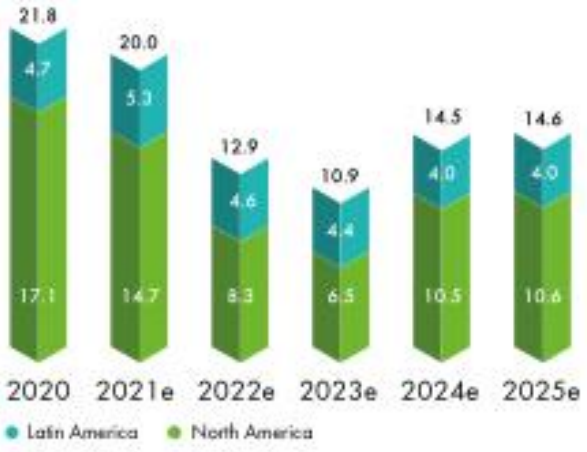
MW and per cent, onshore and offshore

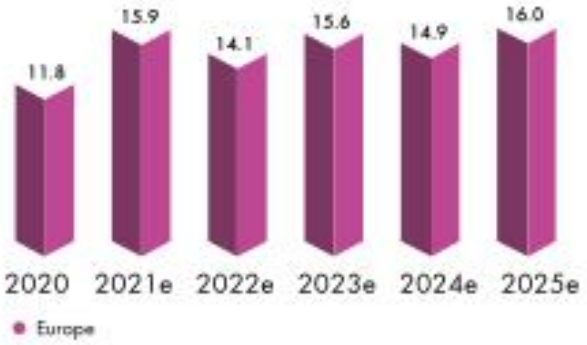


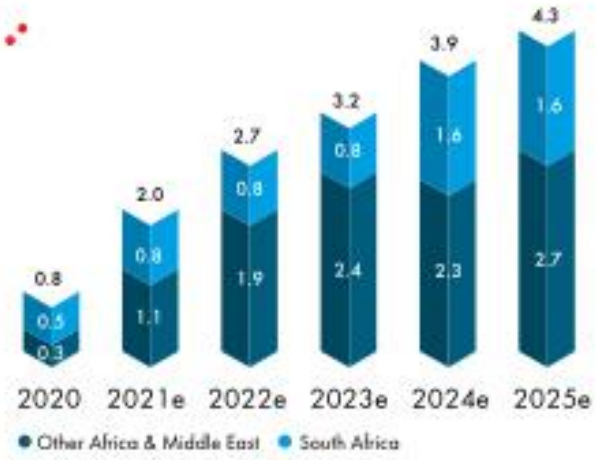
Market Outlook

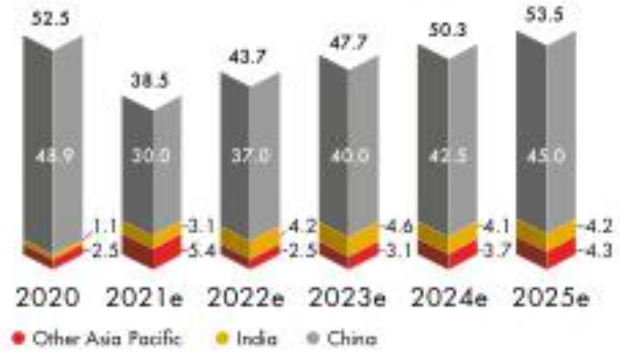
Regional onshore wind and offshore wind outlook

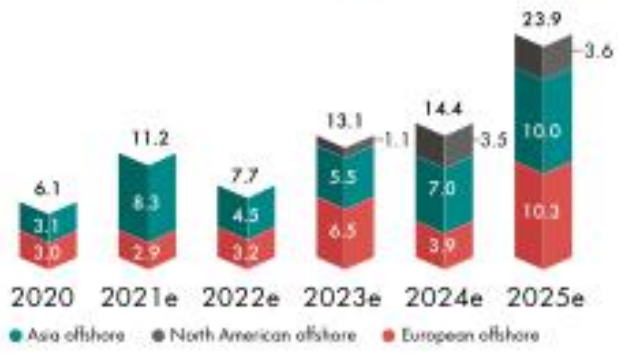
New installations (GW)











Wind Energy in Indonesia: Opportunities and Challenges

04

PART FOUR

Opportunities

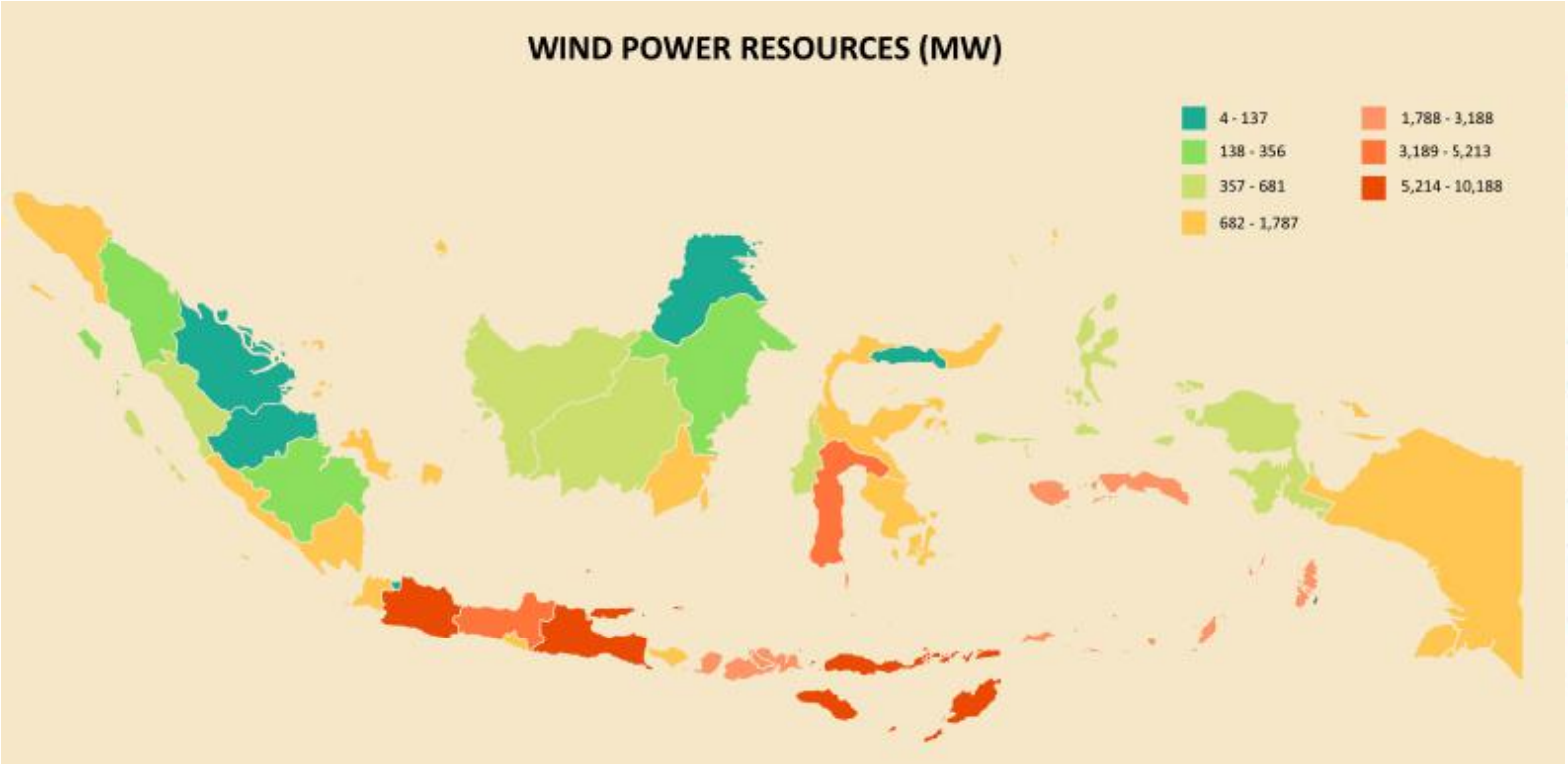
01 Demand

03 Resources

02 Policy

04 Target

Opportunities



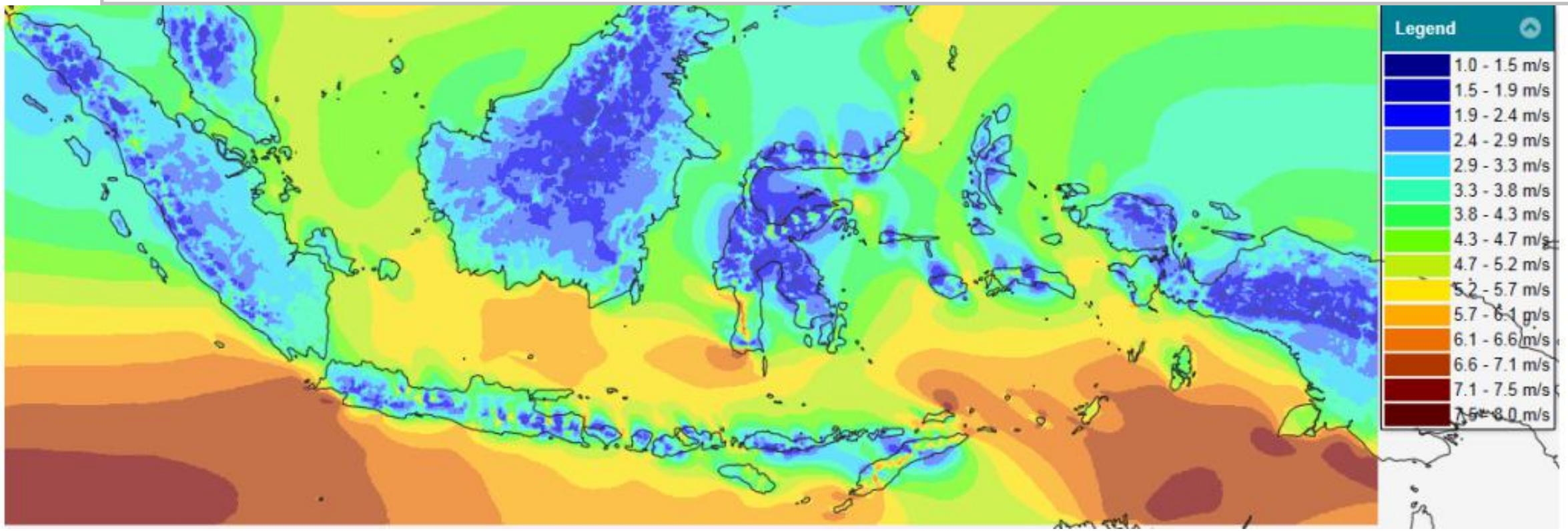
Locations	Potential Energy
Sumatera	7,397 MW
Banten and West Java	8,793 MW
Central, East Java and Bali	15,218 MW
Kalimantan	2,526 MW
Sulawesi	8,380 MW
East Nusa Tenggara	12,793 MW
Maluku and Papua	5,540 MW
Total	60,647 MW

Source: 2016 EBTKE Statistics, p. 17

Challenges

Wind speed

The average wind speed is relatively low



Wind speed

The average wind speed is relatively low

Resource Potential	Wind Speed at 50 m, (m/s)	Wind Power Density, at 50 m, (W/m2)	Number of Sites	Provinces
Lowest	< 3.0	< 45	66	West Sumatera, Bengkulu, Jambi, Central Java, South Kalimantan, West Nusa Tenggara, East Nusa Tenggara, South-East Sulawesi, North Sulawesi and Maluku.
Low (Small-Scale)	3.0 – 4.0	< 75	34	Lampung, Yogyakarta, Bali, East Java, Central Java, West Nusa Tenggara, South Kalimantan, East Nusa Tenggara, South-East Sulawesi, Central Sulawesi, North Sumatera and West Sulawesi.
Medium (Medium-Scale)	4.1 – 5.0	75 – 150	34	Bengkulu, Banten, DKI, Central Java, East Java, East and West Nusa Tenggara, South-east, South and Central Sulawesi and Gorontalo.
High (Large-Scale)	> 5.0	> 150	19	Central Java, Jogyakarta, East and West Nusa Tenggara, South and North Sulawesi.

Source: RENSTRA EBTKE 2015 – 2019

Challenges

Resource &Market

Policy and Procedure

Grid

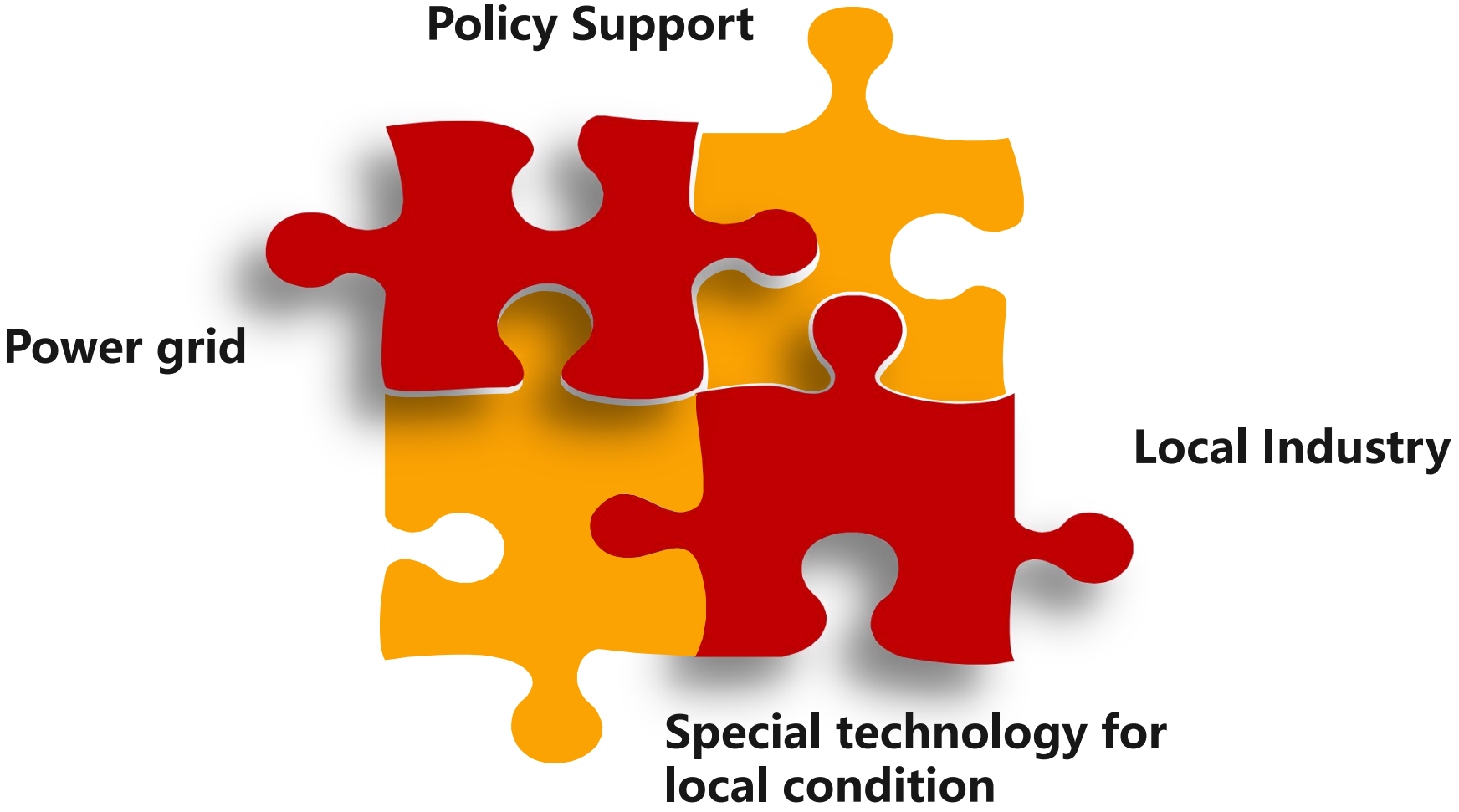
Plan

Several Suggestions

05

PART FIVE

Suggestions



Thank You for Attention !

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