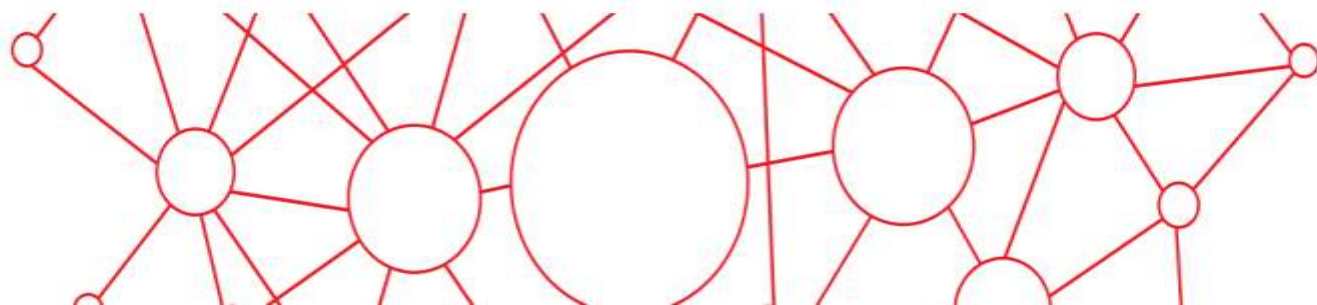


LABORA

and III China-Portugal Energy
R&D Seminar **2017**



中葡新能源技术中心(上海)有限公司

Sino-Portuguese Centre for New Energy Technologies (Shanghai) Co., Ltd.





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LISBON, 2017



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三、合作交流和远景规划
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基本情况 Brief Introduction

成立时间：2015年7月
Established in July, 2015

股东：
Shareholders

上海勘测设计研究院有限公司
Shanghai Investigation, Design & Research Institute Co., Ltd.
(SIDRI)

LABELEC - Estudos, Desenvolvimento e Atividades
Laboratoriais, S.A.,

经营范围 Business Scope

从事新能源、电力科技、环保科技、信息科技、电子科技、计算机科技、机械科技领域内的技术开发、技术转让、技术咨询、技术服务。

The business scope of SCNET covers the research, development, demonstration and application of new energy technologies (including technologies to be applied to energy sources such as wind, hydro, solar, thermal (coal, gas, CCGT, geothermal, cogeneration), wave, tidal, etc. so as to support the distributed generation, energy storage, energy management and distributed power supply operations, as well as any technologies in the related areas), the new energy technology trading, new energy engineering technical services and other related services, and any other complementary, associated or accessory services.



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成立目的 Purpose of Establishing SCNET



在能源领域进行研究、发展、创新并且/或者论证，包括但不限于可再生的并且/或者内源性的新技术、电力传输、分配及储存，能源供应管理及运作,提供工程及项目管理服务，就上述活动提供咨询，同时对公司经营上述业务过程中获取的知识产权、工业产权、专业知识、技术以及秘密或者非披露性的信息进行注册、转让、许可、拓展以及商业化；及发展其他相关业务并提供与上述目的有关的互补的、附属性的服务。

The purpose of establishing SCNET is to carry out the business and activities, such as the research, development, innovation and/or demonstration in the energy sector, namely, but not limited to, in the domains of new technologies focused on renewable and/or endogenous energy sources, electricity transmission, distribution and storage, management and/or operation of distributed power supply, the rendering of engineering services and project management, the rendering of consulting services within the abovementioned activities, as well as the register, transfer, licensing, exploration and commercialization of intellectual and/or industrial property, know-how, technology and secret or non-disclosed information, regarding the results which the Company achieves while performing its activities; and the development of all other associated activities and the provision of complementary, associated or accessory services regarding the abovementioned purpose.



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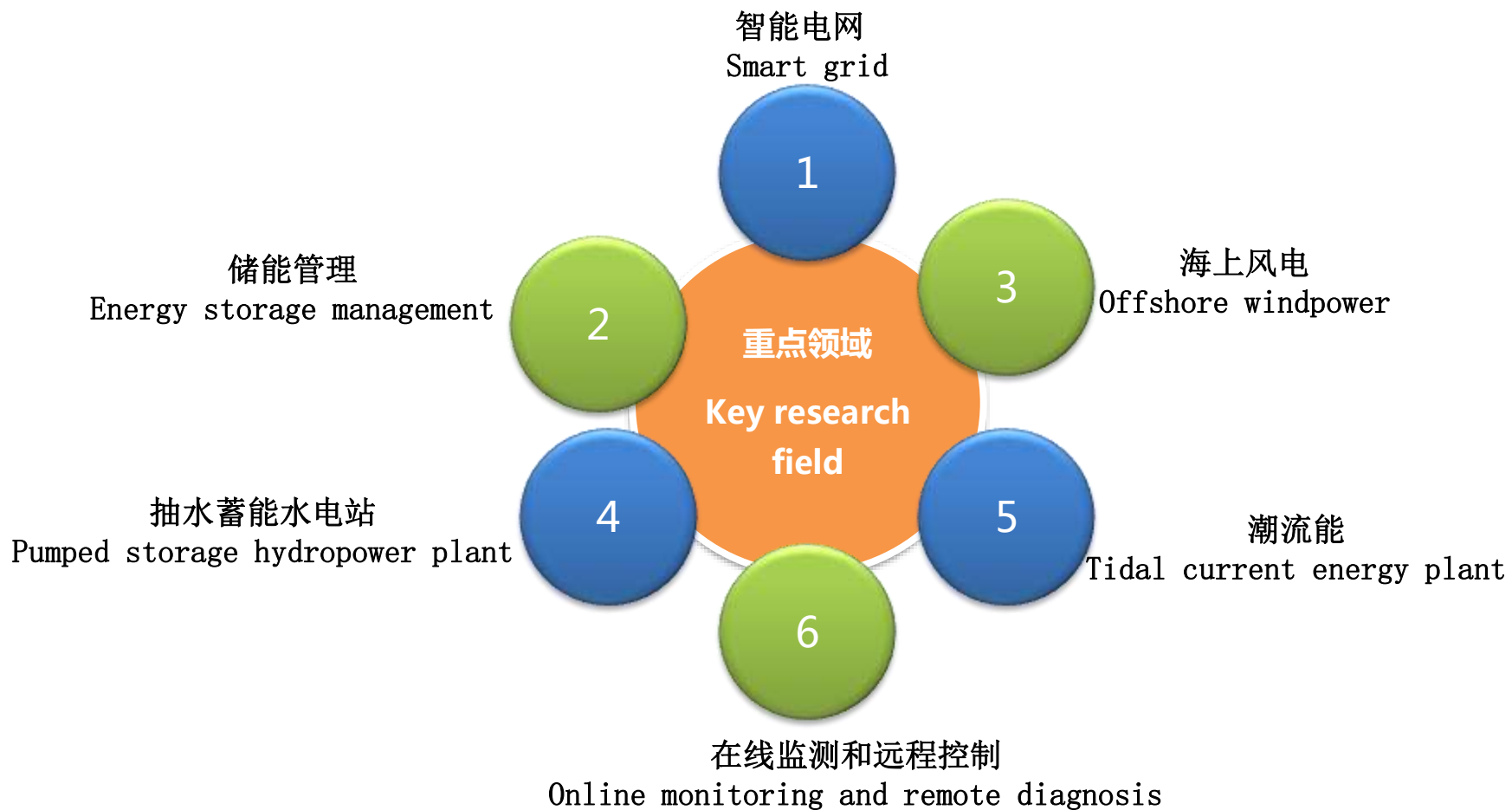
一、基本介绍
Brief introduction



二、重点领域和项目
Key Research Field and Main Project

三、合作交流和远景规划
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重点领域 Key Research Field

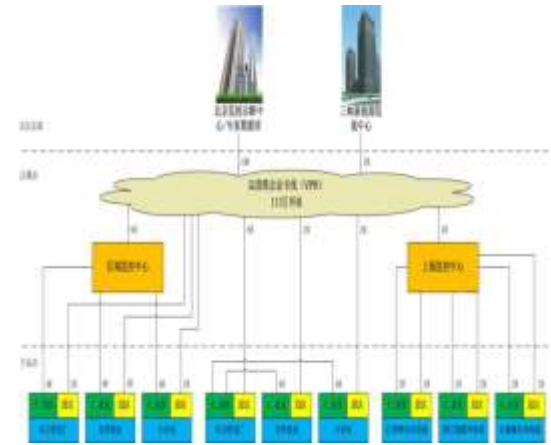


三峡新能源集中监控系统建设咨询

Consulting service to the construction of Three Gorges New Energy Centralized Monitoring System

三峡新能源集中监控系统建设项目，是为了能有效地实现集中调度、控制、监视、诊断及设备管理，提高电力生产运营效益和生产管理水平、降低现场生产人员的劳动强度，降低风电场运营和维护成本，实现电站“无人值班”（少人值守）、区域化集中监控、集团化统一运营管理的运行管理模式。

The purpose of constructing the Three Gorges New Energy Centralized Monitoring System is to effectively realize the centralized dispatching, control, monitoring, diagnosis and equipment management; increase the efficiency of power generation and operation and the management level; decrease the labor intensity of workers on site; lower the operation and maintenance cost of wind farms, realize the operation and management mode, i.e. “no one on watch” (less attended personnel), regionally centralized monitoring, collectively unified operation.



鉴于EDP新能源远程控制中心建设取得的成就和良好的运维经验，三峡新能源就三峡新能源集中监控系统建设项目，委托SCNET与CNET合作，对本项目在可行性研究及实施中的相关内容进行咨询、并提出咨询报告。

In view of the achievement at constructing new energy remote control center and rich experience of the operation and maintenance obtained by EDP, Three Gorges New Energy Corporation commissioned SCNET and CNET to work jointly to provide consulting service and consulting report regarding the construction of the Three Gorges New Energy Centralized Monitoring System during feasibility study stage and implementation stage.



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重庆技术合作与知识共享项目

Technology cooperation and knowledge sharing within Chongqing Project

合作方包括，重庆两江长兴电力有限公司（CLCP），中葡新能源技术中心（上海）有限公司 SCNET, EDP 配电公司, EDP 售电公司。EDPD 和EDPC 提供服务，包括安排1个EDPD 专家和1个EDPC 专家在重庆提供为期3个月的支持和分享具体知识，其领域包括1) 为工业客户提供电力零售业务和增值服务；2) 智能电网的技术和过程；3) 分布式天然气联合发电技术和过程。

Partners include CLCP – Chongqing Liangjiang Changxing Electric Power Co., Ltd , SCNET – Sino-Portuguese Centre for New Energy Technologies (Shanghai) Co., Ltd, EDP Distribuição, S.A. (EDPD), EDP Comercial, S.A (EDPC).

EDPD and EDPC provide the services, which comprise 1 EDPD expert and 1 EDPC expert for a duration of 3 months in Chongqing, China, providing support and sharing specific knowledge in the areas of 1) electricity retail business and added value services for industrial clients, 2) technology and processes for smart electricity networks, 3) technology and processes for distributed gas co-generation

SCNET负责促进协调，协调指导委员会会议的安排和与EDPD 和EDPC 的联系

SCNET should facilitate coordination and articulation between the parties.



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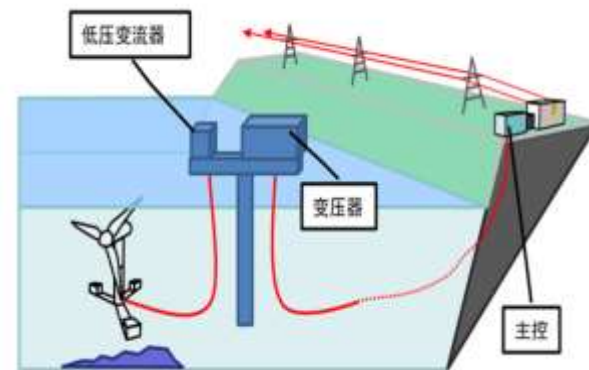


舟山潮流能示范工程建设的关键技术研究

Key technology study regarding the Demonstration Project of Tidal Current Energy in Zhoushan

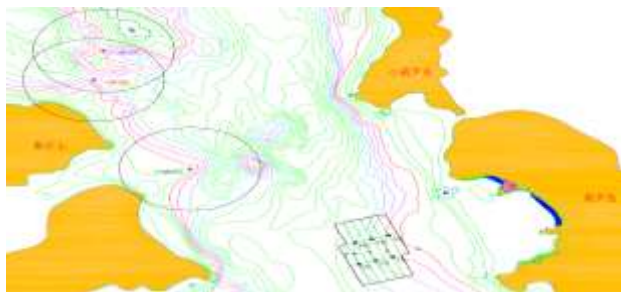
舟山潮流能示范工程，是CTG受国家海洋局委托，为了实现国家大力发展清洁能源战略，结合国家大力推动海洋能开发的大背景，研究并建立潮流能示范工程，并通过潮流能示范工程运行，构建潮流能发电领域涉及制造、组装、测试、评价、安全、准入、健康和环境影响等一系列技术标准体系，从而推动并规范其相关产业的发展。

The demonstration project of tidal current energy in Zhoushan is a task commissioned to CTG by the State Oceanic Administration the People's Republic of China. The purpose of the Project is to implement China's strategy of rapidly developing clean energy, and the methodology is to study and establish the demonstration project of tidal current energy by combining the background of promoting the development of oceanic energy in China. Consequently, following the operation of the demonstration project, create a series of technical standards system in tidal current energy production sector covering the manufacturing, assembly, testing, assessment, safety, entry, health, environment impact, etc. so as to promote and specify the development of related industries.



SCNET作为舟山潮流能示范工程的主要技术研发机构之一，将主要承担潮流能发电机组尾流场分析及其布置研究、发电机组基础结构研究等关键课题。

SCNET, acting as one of the main technical R & D institution of the demonstration project, will undertake the study of the key topics, such as the analysis of wake flow field, the layout of tidal current generators, the foundation structure of generator units, etc.



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海上风电项目前瞻性技术研究

Prospective technology studies for offshore wind farms

SIDRI多年来在海上风电场建设中有成功经验，为了继续推进海上风电场建设中诸多关键技术研究，将进一步针对我国海上风电场建设条件和海上风机的特点，研究海上风机基础关键力学问题，阐明受力机理，提出设计方法，以及针对国内今后建设的海上风电场都需配套建设海上升压平台的情况，研究海上升压平台的设计问题，形成海上升压平台设计的技术标准。

SIDRI has gained successful experiences in the construction of offshore wind farms over the years. In order to promote continuously the study of numerous key technologies in the construction of offshore wind farms, in view of the construction conditions of offshore wind farms in China and the features of offshore wind turbines, SIDRI will study the key mechanical problem of offshore wind turbine foundation, clarify the force-mechanism and put forth design method. Furthermore, study the design of offshore step-up platform and set up the technical standards of design by taking into consideration the facts that the offshore wind farms to be built in China from now on need a supporting offshore step-up platform.

SCNET将积极参与上述海上风电项目前瞻性技术研究。

SCNET will actively participate in the prospective technology studies for abovementioned offshore wind power generation projects.



积极参与技术研究的重点项目

Key Projects Involved for Technology Research

大连市庄河Ⅲ海上风电场项目（300MW，正在施工）

Dalian Zhuanghe III offshore wind farm, 300MW, under construction.

河北建投菩提岛海上风电场（300MW，正在施工）

Hebei Jiantou Putidao offshore wind farm, 300MW, under construction.

上海东海大桥海上风电示范项目（100MW,亚洲首座,2010年建成）

Shanghai Donghai Bridge offshore wind power demonstration project, 100MW, the first one in Asia, completed in 2010.

上海深远海漂浮式海上风电场（拟2019年开工，全国首个漂浮式海上风电）

Shanghai deep and far-reaching float offshore wind farm, to be commenced in 2019, the first one in China.

福建福清兴化湾海上样机试验风场（80MW，正在施工）

Fujian Fuqing Xinghuawan offshore prototype testing wind power plant, 80MW, under construction

三峡南澳洋东海上风电项目（300MW，拟2018年开工）

CTG Nanao Yangdong offshore wind farm, 300MW, to be commenced in 2018.



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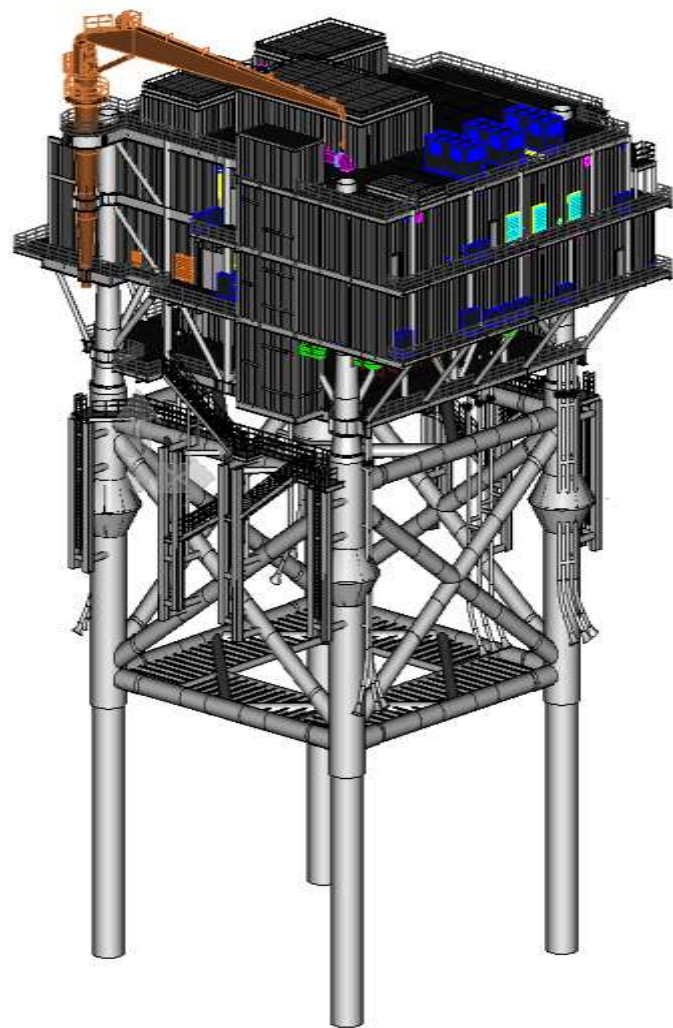
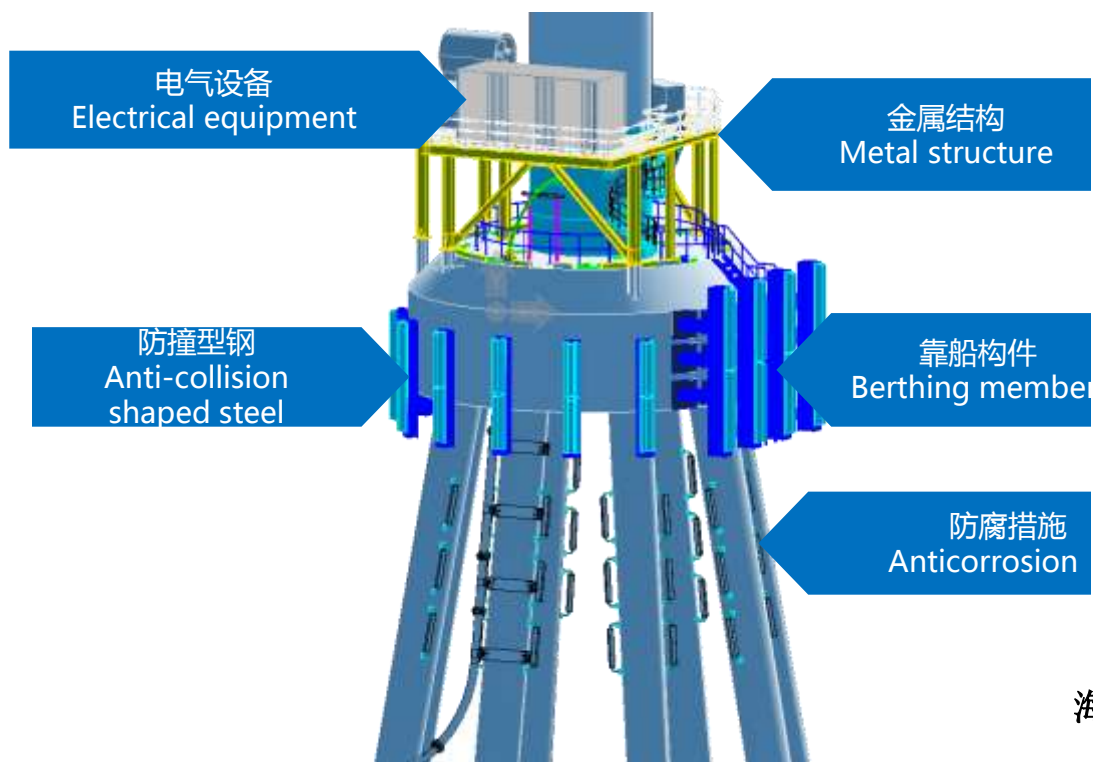
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基于BIM模型设计技术 Design Technology Based on BIM Model

高桩承台基础BIM模型

BIM Model of High-rise Platform Foundation



海上升压站BIM模型

BIM model of offshore step-up substation

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合作与交流 Cooperation and Exchange

工程师们的交流合作

Engineers exchange between SCNET/CTG and CNET/EDP

来自SCNET的闫泽洋工程师在CNET工作15个月，参与DG3项目。

Mr. Lv Zeyang, an engineer of SCNET, worked for CNET by participating in DG3 project for 15 months in Lisbon.

来自EDP的两位工程师Botelho, André Soares, Augusto Miguel Monteiro Pedroso Faria在上海院/SCNET交流学习6个星期。

Mr. André Soares and Mr. Faria, 2 engineers of EDP, worked in SIDRI/SCNET for 6 weeks



举办国际交流会议

Holding international conferences

2015.11, 上海, 中葡海上风电研讨会
Nov. 2015, Shanghai,
China-Portugal Seminar of Offshore Wind
Power Technology

2016.10, 上海, 中葡能源研发研讨会
Dec. 2016, Shanghai,
China-Portugal Energy R&D Seminar



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远景规划 Long-range Planning

SCNET和CNET一起，将发展成为CTG和EDP的中葡能源合作领域技术研发中心。依托CTG、EDP雄厚实力和在国际能源领域的优势，通过互联网+、组织中葡能源研发研讨年会等契机、以及中葡两个技术中心之间的项目合作，汇聚中葡能源领域主要能源机构、高等院校、制造厂商、学术精英、合作伙伴等高层次资源，成为中葡间能源及相关领域合作交流的主要技术平台，并坚持产学研结合，尊重市场规律，推动科技应用和成果产业化，在一些重点领域实施示范工程项目，推进能源领域先进技术的持续创新发展。



SCNET, together with CNET, will become the Research and Development Center of CTG and EDP in the energy cooperative fields between China and Portugal. Relying on the tremendous strength and the advantages in the international energy field of CTG and EDP, by using the Internet+, organizing seminars of energy R&D, cooperating between the two centers, emerging the high-level resources as main energy institutions, colleges and universities, academic elites, partners, etc, SCNET will become the main technical cooperation platform in these fields between China and Portugal. In the meantime, SCNET will focus on the R&D of technologies and scientific innovation, adhere to the combination of production, studying and research, follow the market rules, promote the application of scientific technologies and industrialization of the achievements, and implement demonstration projects in some key fields.



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Thank you !



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