

TÜVNORD

TÜVNORD

95 GW 全球光伏产品及光伏系统评估量
Worldwide PV Product and PV System Performance Evaluation

40+ 全球市场准入
Global Market Access

150+ 全球分支
Global Branches

290+ 全球覆盖区域
Global Regions

1000+ 年度工厂检查
Annual Factory Audit

1000+ 并网认证
Grid-connection

10000+ 项目总数
Project Amounts

8000+ 证书签发
Certificates

PV Power Plant 光伏电站

TÜV NORD Renewable Energy
TÜV NORD 可再生能源

TÜV NORD 可再生能源部

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TÜV®

TÜVNORDGROUP



Company Profile 公司介绍



With over 150 branches in more than 70 countries of Europe, Asia, America and Africa, TÜV NORD is actively devoted to its national and international customers. The core services of TÜV NORD GROUP mainly include testing, inspection, certification, which covers a wide area of expertise in industry, energy, railway, mobility, environmental protection, IT, natural resources and aerospace, etc. As a world-leading technical provider, TÜV NORD dedicates itself to offering manufactures, installers, suppliers and investors a comprehensive range of testing and certification services covering assessing safety, performance and quality of PV products and PV system in the field of solar energy.

TÜV NORD 在全球 70 多个国家设有超过 150 家分支机构，这些分支机构遍布欧洲、亚洲、非洲和美洲。TÜV NORD GROUP 核心服务主要体现在测试、检验、认证、教育及工程，涉及行业包含：工业、能源、铁路、车辆、环境保护、IT、自然资源、航空航天等。作为全球领先技术服务专家，TÜV NORD 在太阳能领域致力于为制造商、安装商、服务供应商及投资商提供从太阳能光伏组件、零部件到光伏发电系统整个产品供应链的全方位测试和认证服务。

TÜV NORD provides customers with professional technical services, inspection and certification services, including but not limited to entire process of technical assessment & risk management, technical due diligence, technical advisory, owner engineer, independent engineer services, etc. Inspection and certification services include but not limited to PV system quality certification, PV systems operation and maintenance certification, PV EPC certification and PV monitoring system certification. By the end of May 2024, TÜV NORD had completed 95GW performance evaluation of PV product and PV system worldwide.

TÜV NORD 为客户提供专业的技术服务和检验认证服务，技术服务包括但不限于全过程技术评估及风险管控，技术尽职调查、技术顾问，业主工程师、独立工程师服务等。检验认证服务包括但不限于光伏系统质量认证、光伏系统运维认证、光伏 EPC 认证和光伏监控系统认证等。截止到 2024 年 5 月，TÜV NORD 在全球累计完成 95GW 的全球光伏产品及光伏系统评估量。

PV Power Plant 光伏电站业务



World-leading Quality Assessment Service for PV Power Plant 世界领先的光伏电站质量评估服务

TÜV NORD Greater China is affiliated with TÜV NORD GROUP, which is an authoritative third party accredited by DAkkS. We have accumulated wide project experience in the area of PV power plant assessment. TÜV NORD provides operators and investors with a chain of quality assessment and certification service covering the whole lifetime of PV power plant. Including project feasibility research, design, purchase, construction, grid-connection, operation & maintenance, selling. Among these stages, TÜV NORD not only offers professional technical service but also assists investors with project financing. We issue a certificate to a qualified PV power plant in compliance with relevant standards.

TÜV 北德大中华区隶属于 TÜV NORD GROUP，是德国认可委员会认可的权威第三方检测认证机构。我们在光伏电站质量评估领域积累了丰富的项目经验。我们为光伏电站运营方和投资方提供的电站质量认证服务贯穿电站整个生命周期：包括项目的可行性研究、设计、采购、施工、并网、运营维护、出售。在各个环节中，TÜV NORD 既提供专业的技术服务，同时也助力项目融资。我们对评估后符合相关标准的电站颁发证书。

- To minimize the risk of investment cycle and optimize the energy yield with the strong support from TÜV NORD.
TÜV NORD 帮助您降低整个电站投资周期内的风险，提高您的发电收益。
- To improve the specialized knowledge and skills of the staff on site by professional training.
通过专业化的培训，提高电站现场工作人员的专业知识技能。
- To assist the owner with setting up or revising the internal standards of enterprise and ensure the quality of equipment purchasing and construction.
帮助业主建立和修改企业内部标准，确保设备采购和施工安装的质量。
- To create customized checklists regarding detailed inspection of PV plants and minimize the risk affecting safety and benefits according to different projects.
根据不同项目情况，TÜV NORD 建立定制化的检查清单，对光伏电站进行详细检查，将影响安全和收益的风险最小化。

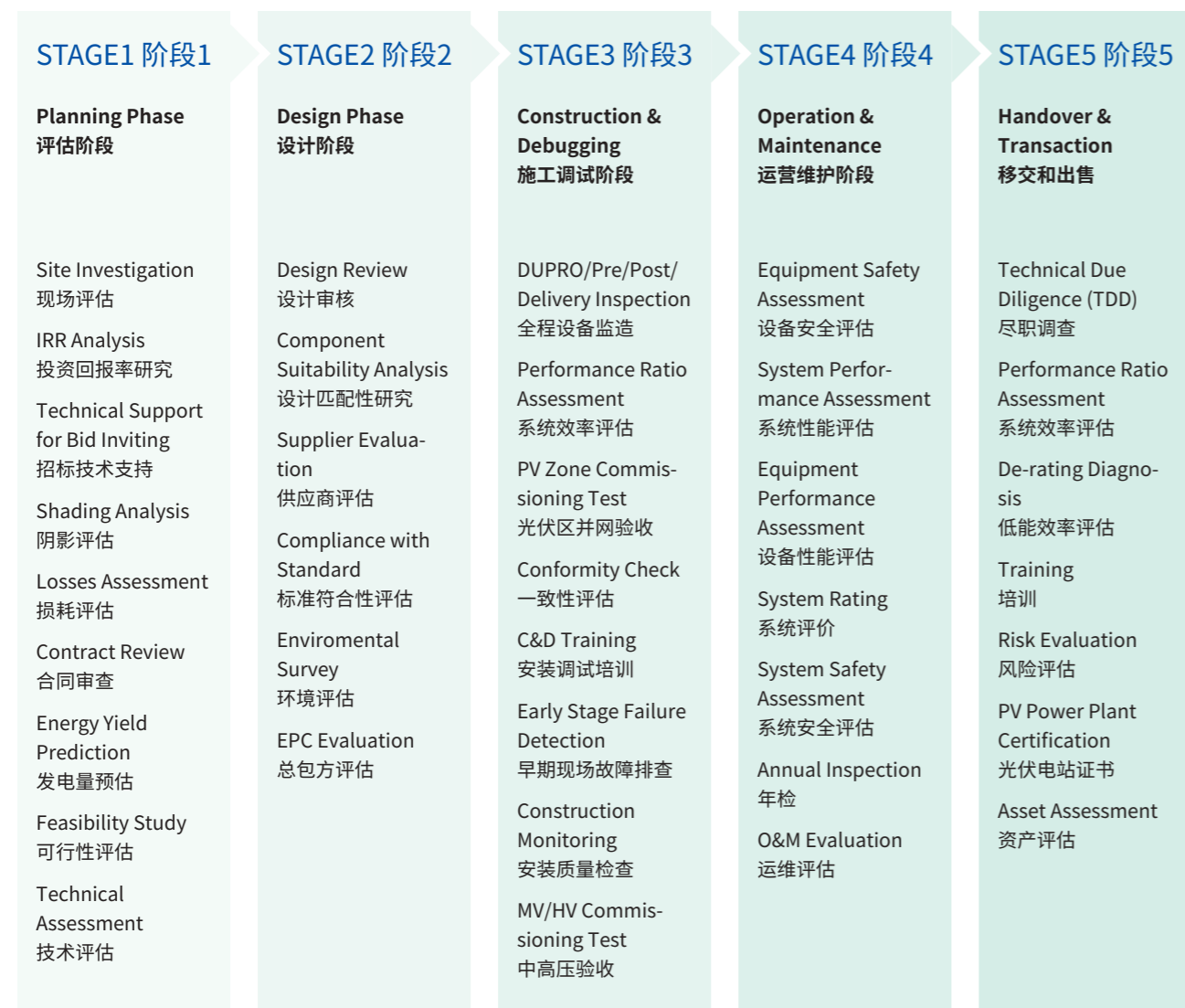


Dakks and CNAS accreditation makes TÜV NORD certificates have the highest level of recognition and influence in the global PV market.

Dakks 与 CNAS 认可加持使得 TÜV NORD 证书在国内外光伏领域具备了高等级的识别度与影响力。

Entire Process Technical Solution and Risk Management

全过程技术服务及风险管控



Technical Due Diligence

技术尽职调查



Based on rich evaluation experience in solar projects, TÜV NORD provides an integrated technical due diligence service for PV plants at hand-over acceptance or trading stage.

TÜV NORD 基于丰富的项目评估经验，针对验收及交易中的光伏电站提供完整的技术尽职调查方案。

- Compliance risks
合规性风险
- Equipment related risks
设备相关风险
- O&M risks
运营风险
- Construction quality
施工质量
- System performance
发电性能

Find out potential risks from the technical documents of various stages of PV project.

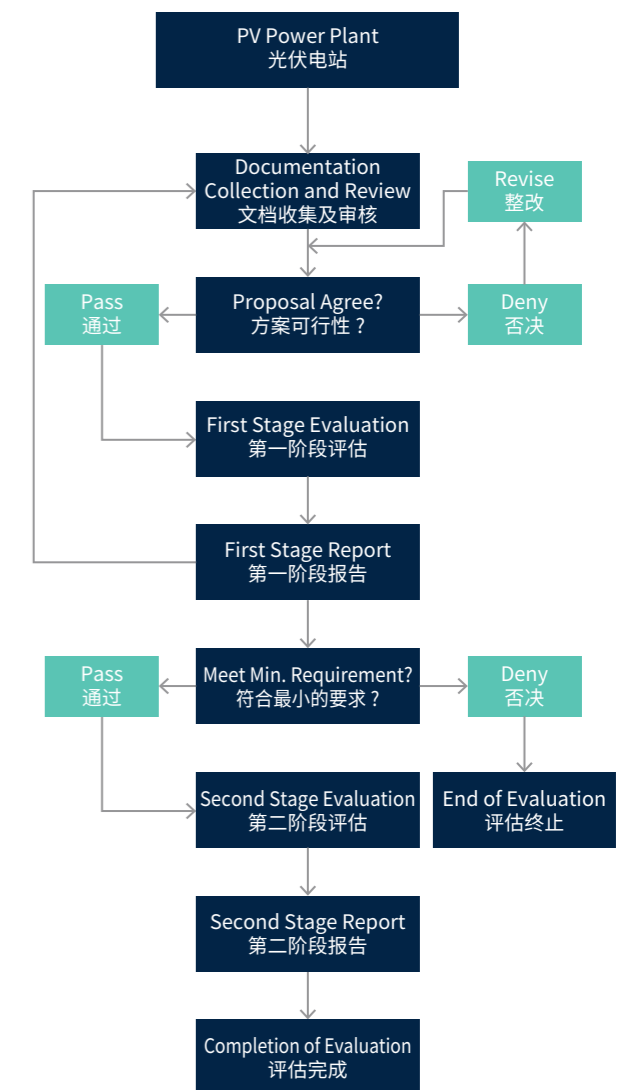
从光伏电站各个环节的技术资料中发现潜在风险。

Conduct the interviews with the person in charge of key aspects such as development, construction, operation and maintenance.

针对电站开发、建设及运维等关键环节负责人的面谈交流。

Check out quality defects through detailed on-site inspection and testing.

通过现场的详细检查测试排查各种质量缺陷。



Technical Advisory 技术顾问服务



For a long time, TÜV NORD has been active in the PV plant transaction market with the role of professional technical adviser. Provide a series of technical assessment services for financial institutions, insurance companies, power plant owners, investors and securities companies.

TÜV NORD 长期以第三方专业技术顾问的角色活跃在光伏电站资产交易市场上。为金融机构、保险公司、电站业主、投资者、证券公司等提供一系列技术评估服务。

In addition, at the aim of activating assets, TÜV NORD combines finance and guarantee corporation to issue long-term corporate bonds for listed companies. As technical advisory, TÜV NORD provides quality and risk endorsement which makes a strong guarantee for financial institutions.

另外,为帮助企业盘活旗下资产,TÜV NORD 可协助金融和担保公司为上市企业发行长期企业债券。TÜV NORD 以第三方技术顾问的角色为抵押的光伏电站资产进行质量与风险背书,为金融机构的资金安全提供强有力的保障。

For large equity investment and portfolio acquisition, TÜV NORD provides reliable performance evaluation of PV power plants and identify technical risks, qualitative and quantitative analysis for investors in a limited decision time.

针对大型的股权投资以及资产包并购项目,TÜV NORD 为投资者在有限的决策时间内做出可靠的电站性能评估,以及技术风险的识别、定性和定量分析。



International Independent Engineer 国际独立工程师



Acting as a representative of lender, financier or owner, provide an independent technical assessment of PV project including both engineering and financing. In addition to regular technical review and risks analysis, TÜV NORD will evaluate the technical assumptions to the financial model used by the stakeholder.

作为贷方,金融机构或业主的代表工程师,提供光伏项目中的独立技术评估服务,同时包含技术工程与融资方面。除了定期的技术审查和风险分析以外,TÜV NORD 还为利益相关方评估财务模型中的技术假设。

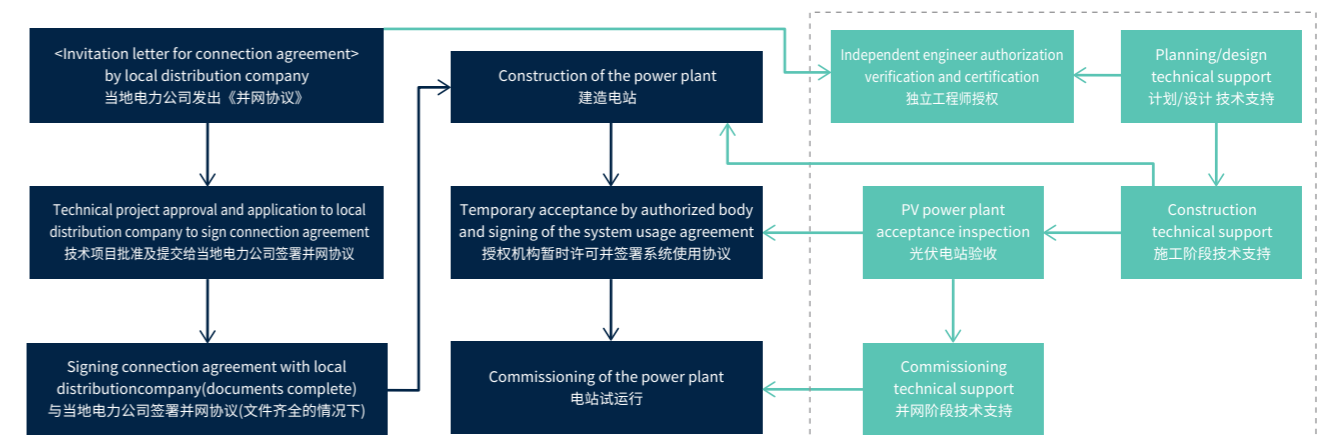
During the implementation of the project, TÜV NORD provides quality management of whole process, including the confirmation of technical indicators of supply chain, acceptance and certification of milestones, and ensures the construction schedule and performance requirements.

在项目执行过程中,TÜV NORD 提供全过程的质量管控,包括确认供应链的技术指标、关键节点的验收及证书发放、以及保障项目的建设进度和性能要求。

TÜV NORD has been qualified by some countries on grid-connection acceptance of local PV power plant. For example, TÜV NORD is the first to be accredited by BDEW of Germany and get grid-connection permission from Pakistan official bodies.

我们已经得到一些国家的并网验收认可,比如率先获得德国中压入网和巴基斯坦并网许可。

- Top-class Professional Technique Service
一流专业的技术服务
- Technical Support from International Team
国际化团队的支持
- Quicken Grid-connection
并网等待时间缩短
- Rapid Response of Local Agency/Institution
快速响应的本地窗口
- None Communication Obstacle
无语言沟通障碍



International Owner Engineer 国际业主工程师

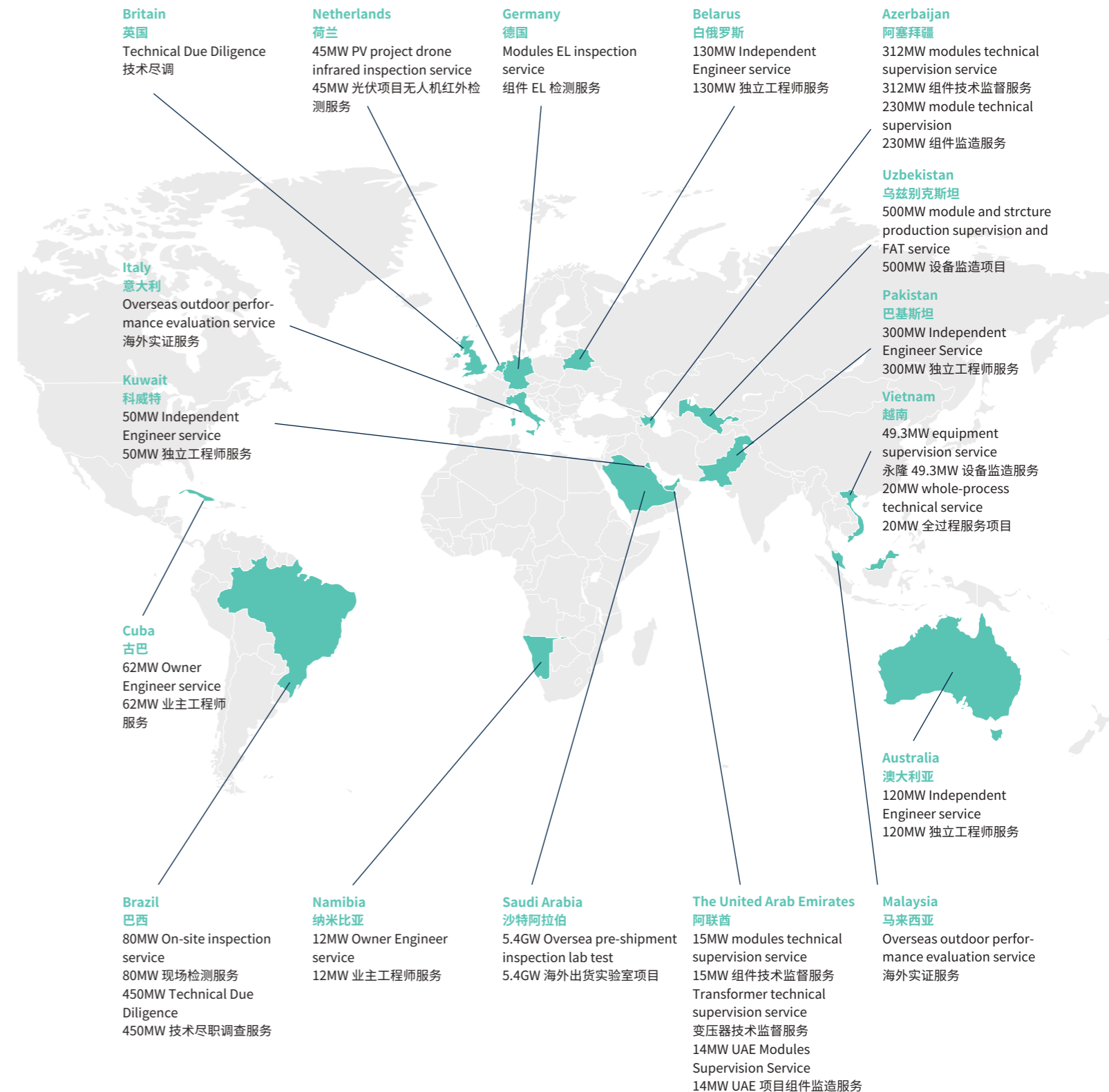


As an Owner Engineer ("OE"), on behalf of the owner, TÜV NORD will support the client on the project management and engineering assessment services to facilitate successful commercial operation of the Project. The OE will provide technical input in relation to any project commercial agreements, documents and services, to protect the owner's interest by overseeing the technical and commercial due diligence aspects of the works throughout the project life. The service scope is summarized as follows:

作为业主工程师 ("OE"), TÜV NORD 代表电站投资者及业主, 将支持客户进行项目管理和工程评估服务, 以促进项目的成功商业运营。OE 也将提供与任何项目商业协议、文档和服务相关的技术投入, 以在整个项目周期中监督工程的技术和商业尽职调查等方面, 以保护所有者的利益。服务范围如图:

Project Management 项目管理	Construction Monitoring 施工监控
Technical Assessment on Tendering 招标技术评估	Final Acceptance Test 最终验收测试
Design and Engineering Management 设计与工程管理	<ul style="list-style-type: none"> • Mechanical completion certificate 机械完工证书 • Commissioning test certificate 试运行测试证书 • Reliability run test certificate 可靠性运行测试证书 • Performance certificate 系统效率证书
Supply Chain Quality Management 供应链质量管理	HSE 健康, 安全与环境
<ul style="list-style-type: none"> • Design review 设计审查 • Energy yield simulation 发电量模拟 • Technical assumptions on financial model 财务模型中的技术假设 	<ul style="list-style-type: none"> • DUPRO inspection 设备监造检查 • Factory acceptance test witnessing 工厂验收测试见证 • PV module testing at third party laboratory 第三方实验室的光伏组件测试 • Post-shipment inspection 到货检验

International Case Study 国际项目案例



Domestic Case Study

国内项目案例

1	河北省 Hebei province	<ul style="list-style-type: none"> 河北承德平泉小寺沟 100MW 光伏项目 Hebei Chengde Pingquan Xiaosigou 100MW PV project 河北威县 88MW 光伏项目 Hebei Weixian 88MW PV project 	12	河南省 Henan province	<ul style="list-style-type: none"> 南召县小店 20MWp1#+20MWp2# 光伏电站项目 Nanzhao County xiaodian 20MWp1#+20MWp2# PV power plant project 安阳润泰 5.86MW 分布式光伏发电项目 Anyang Runtai 5.86MW distributed PV power project
2	山西省 Shanxi province	<ul style="list-style-type: none"> 武乡县 100MW 光伏储能一体化综合能源项目 Wuxiang County 100MW PV & energy storage integrated comprehensive energy project 山西屯留 100MW 农光互补光伏发电项目 Shanxi Tunliu 100MW agriculture and PV complementary PV power project 山西长治 250MW 领跑者项目 Shanxi Changzhi 250MW leader project 	13	湖北省 Hubei province	<ul style="list-style-type: none"> 天门市佛子山镇 100MW 农光互补项目 Tianmen Fozishan Town 100MW agriculture and PV complementary project 老河口三涧山光伏发电有限公司 60MW 项目 Laohekou Sanjianshan PV power generation Co., LTD. 60MW project
3	辽宁省 Liaoning province	<ul style="list-style-type: none"> 辽宁喀左一期 10MW 光伏电站项目 Liaoning Kazuo phase 1 10MW PV power project 锦州中康 20MW 光伏电站项目 Jinzhou Zhongkang 20MW PV power plant project 	14	湖南省 Hunan province	<ul style="list-style-type: none"> 湖南常德汉寿中晖 80MW 光伏电站项目 Hunan Changde Hanshou Zhonghui 80MW PV power project 国电电力湖南武冈整市 203.89MW 屋顶分布式项目 Hunan Wugang State Electricity 203.89MW roof distributed project
4	吉林省 Jilin province	<ul style="list-style-type: none"> 汪清县 100MW 光伏扶贫项目 Wangqing County 100MW PV poverty alleviation project 汪清县 30MW 光伏扶贫项目 Wangqing County 30MW PV poverty alleviation project 	15	广东省 Guangdong province	<ul style="list-style-type: none"> 大埔峡能 100MW 农光互补项目 Dabu Xianeng 100MW agriculture and PV complementary project 阳江 20+30MW 项目 Yangjiang 20+30MW project
5	黑龙江省 Heilongjiang province	<ul style="list-style-type: none"> 黑龙江省黑河市 15MW 光伏发电项目 Heilongjiang Heihe 15MW PV power project 大庆肇源 100MW 项目 Daqing Zhaoyuan 100MW project 	16	海南省 Henan province	<ul style="list-style-type: none"> 西点(文昌) 渔光互补 20MWp 项目 Xidian(Wenchang) 20MWp fishery and PV complementary project 东方市大田镇戈枕村 30MWp 光伏发电项目 Dongfang Datian Town Gezhen Village 30MWp PV power project
6	江苏省 Jiangsu province	<ul style="list-style-type: none"> 金湖 130MWp 渔光互补光伏项目 Golden Lake 130MWp fishery and PV complementary PV project 南京长安汽车 21MW 分布式光伏项目 Nanjing Changan Automobile 21MW distributed PV project 	17	四川省 Sichuan province	<ul style="list-style-type: none"> 攀枝花仁和区大宝鼎烂泥菁 30MWp 光伏项目 Panzhihua Renhe District Dabaoding Lanniqing 30MWp PV project
7	浙江省 Zhejiang province	<ul style="list-style-type: none"> 宁波三星智能 12 兆瓦分布式光伏电站项目 Ningbo Samsung smart 12 MW distributed PV power plant project 嵊州懿晖 19.8MW 光伏发电项目 Shengzhou Yihui 19.8MW PV project 	18	贵州省 Guizhou province	<ul style="list-style-type: none"> 罗甸爱康电力 100MW 项目 Luodian Akang Power 100MW project 华能关岭 80MW 项目 Huaneng Guanling 80MW project
8	安徽省 Anhui province	<ul style="list-style-type: none"> 安徽天长 40MW 渔光互补项目 Anhui Tianchang 40MW fishery and PV complementary project 铜陵市铜山镇 90MW 光伏发电项目 Tongling Tongshan Town 90MW PV power project 	19	云南省 Yunnan province	<ul style="list-style-type: none"> 三峡云南会泽火红马路 150MW 电站项目 Three Gorges Yunnan Huize fire red Road 150MW power plant project 云南省楚雄州李家庄 100MW 光伏发电项目 Yunnan Chuxiong Lijiazhuang 100MW PV power project
9	福建省 Fujian province	<ul style="list-style-type: none"> 福建清源 77MWp 光伏发电项目 Fujian Qingyuan 77MWp PV power project 厦门金龙客车分布式光伏项目 Xiamen Jinlong bus distributed PV project 	20	陕西省 Shanxi province	<ul style="list-style-type: none"> 陕西榆林羊老大 50MW 项目 Shaanxi Yulin Yanglaoda 50MW project 陕西榆林 50MW 项目 Shaanxi Yulin 50MW project
10	江西省 Jiangxi province	<ul style="list-style-type: none"> 江西协鑫 60MW 项目 Jiangxi GCL 60MW project 江西上饶 50MW 项目 Jiangxi Shangrao 50MW project 	21	甘肃省 Gansu province	<ul style="list-style-type: none"> 甘肃金塔 300MW 光伏发电项目及 60MW 储能电站项目 Gansu Jinta 300MW PV power project and 60MW energy storage plant project 玉门油田玉门东镇 200MW 光伏并网发电示范项目 Yumen Oilfield Yumen East Town 200MW grid-connection PV power demonstration project
11	山东省 Shandong province	<ul style="list-style-type: none"> 烟台南山 50MW 分布式项目 Yantai Nanshan 50MW distributed project 山东滨州无棣爱康 80MW 电站项目 Shandong Binzhou Wudi Aikang 80MW power plant project 	22	青海省 Qinghai province	<ul style="list-style-type: none"> 国能青豫(共和) 新能源 770MW 项目 State energy Qingyu (Republic) New energy 770MW project 熊猫绿能德令哈一期 30MWp 电站项目 Panda Green Energy Delingha Phase I 30MWp plant project



- 技术尽调
Technical Due Diligence
- 设备监造
DUPRO inspection
- 性能检测
Performance testing
- 电站验收
PV power plant acceptance inspection
- 组件检测
Module inspection
- 电站检测
PV power plant inspection
- LAT

23	台湾省 Taiwan province	<ul style="list-style-type: none"> 向阳优能 262MW 渔电共生项目 Xiangyang Youneng 262MW fish-electricity symbiosis project 新胜專案 120MW 太陽光電系統项目 Xinsheng Project 120MW solar PV system project 	26	天津 Tianjin	<ul style="list-style-type: none"> 天津 25.77MWp 分布式光伏发电项目 Tianjin 25.77MWp distributed PV power project 海诚欣天津海尔工业园区 9.5MWp 分布式光伏项目 Haichengxin Tianjin Haier Industrial Park 9.5MWp distributed PV project 	29	新疆维吾尔自治区 the Xinjiang Uygur Autonomous Region	<ul style="list-style-type: none"> 新疆木垒 100MW 项目 Xinjiang Mulei county 100MW project 采田丝路 100MW 项目 Caitian Silk Road 100MW project 	32	内蒙古自治区 the Nei Monggol Autonomous Region	<ul style="list-style-type: none"> 鄂尔多斯 150MW 项目 Ordos 150MW project 深能鄂托克前旗上海庙经济开发区 300MW 光伏制氢项目 Shenneng Etoke front Banner Shanghai Temple Economic Development Zone 300MW PV hydrogen production project
24	北京 Beijing	<ul style="list-style-type: none"> 北汽海纳川汽车部件股份有限公司奔驰配套零部件产业园 3.25 兆瓦屋顶用户侧光伏发电示范项目 Beijing Hainachuan Automotive Parts Stock Co.,Ltd. Mercedes-Benz supporting parts Industrial Park 3.25 MW roof user side PV power demonstration project 上海临港中船三井 6MW 分布式光伏发电项目 Shanghai harbor CSSC Mitsui 6MW distributed PV power project 	27	重庆 Chongqing	<ul style="list-style-type: none"> 重庆长安汽车 41.091MW 分布式光伏电站项目 Chongqing Changan Automobile 41.091MW distributed PV plant project 重庆巫山成光 195MW 项目 Chongqing Wushan Chengguang 195MW project 	30	广西壮族自治区 the Guangxi Zhuang Autonomous Region	<ul style="list-style-type: none"> 广西玉柴农光电力有限公司 200MW 农光互补电站项目 Guangxi Yuchai Agriculture-PV 200MW agriculture and PV complementary plant project 广西龙州 60MW 项目 Guangxi Longzhou 60MW project 			
25	上海 Shanghai	<ul style="list-style-type: none"> 国能青豫(共和) 新能源 770MW 项目 State energy Qingyu (Republic) New energy 770MW project 上海临港现代物流 C0601 园区 5.5MW 分布式光伏发电项目 Shanghai Lingang Modern Logistics C0601 Park 5.5MW distributed PV power project 	28	西藏自治区 the Tibet Autonomous Region	<ul style="list-style-type: none"> 紫金龙净拉果措“零碳提”源网荷储示范项目 Zijin Longjing Lagoso "zero carbon removal" source network load storage project 西藏拉萨尼木 20MWp 光伏项目 Lhasa Tibet 20MWp PV project 	31	宁夏回族自治区 the Ningxia Hui Autonomous Region	<ul style="list-style-type: none"> 宁夏中自同心 150MW 项目 Ningxia Zhongzi concentric 150MW project 宁夏中民投盐池 200MW 光伏项目 Ningxia CMIG Yanchi 200MW PV project 			

Certification 认证

01 | PV System Quality Certification 光伏系统质量认证

IEC 62446 is the basic requirements of documentation, inspection and commissioning of PV grid connected system. TÜV NORD through detailed document review and on-site inspection, certifies the PV system which meets the standard requirements.

IEC 62446 是光伏并网系统的最基础质量要求。TÜV NORD 通过详细的文档审核以及现场检查，为满足标准要求的光伏系统颁发认证证书。

Document Review 文档审核

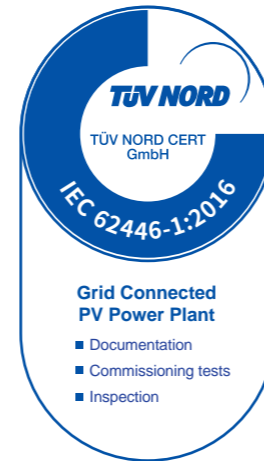
- Minimum requirements
最低要求

On-site Inspection 现场检查

- AC system
交流系统
- DC system
直流系统

Certification 认证

- Compliance with standard
符合标准



02 | K Series Certification K 系列认证

K series certification is the grade certification of PV power plant quality. TÜV NORD subdivides the certification into three levels with different categories of tests, sample rate and coverage.

K 系列认证是对光伏电站质量的等级认证。通过不同类别的测试、样本数量与覆盖范围，TÜV NORD 将该认证细分为三个等级。

K-1 certificate is the highest level, to represent the system qualified by full-scope and strict quality assessment.

K-1 认证为优秀质量等级，代表系统通过全方面、严格的质量考核及检查。

K-2 certificate is the medium level, to represent the system qualified by routine technical testing and inspection.

K-2 认证为中等质量等级，代表系统通过常规性的技术检测。

K-3 certificate is the basic level, to represent the system qualified by basic safety and performance testing.

K-3 认证为基础质量等级，代表系统通过最基础的安规和性能检测。

03 | PV Systems Operation and Maintenance (O&M) Certification 光伏系统运维认证

TÜV NORD is one of the first batch of third-party organizations to carry out photovoltaic O&M certification in China. By now, a number of domestic and foreign enterprises have passed the TÜV NORD O&M Certification requirements. These enterprises have improved their core competitiveness and are active in O&M and capital markets.

TÜV NORD 是国内首批开展光伏运维认证的知名第三方机构。迄今，境内外多家运维企业已通过 TÜV NORD 运维认证，这些企业具备了核心竞争力并活跃于运维与资本市场。

What is PV Systems O&M Certification 什么是光伏系统运维认证

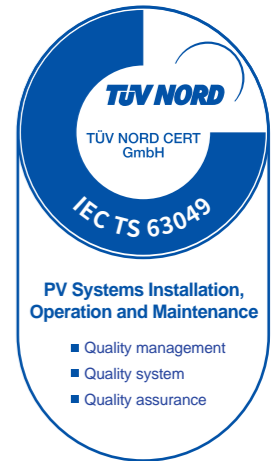
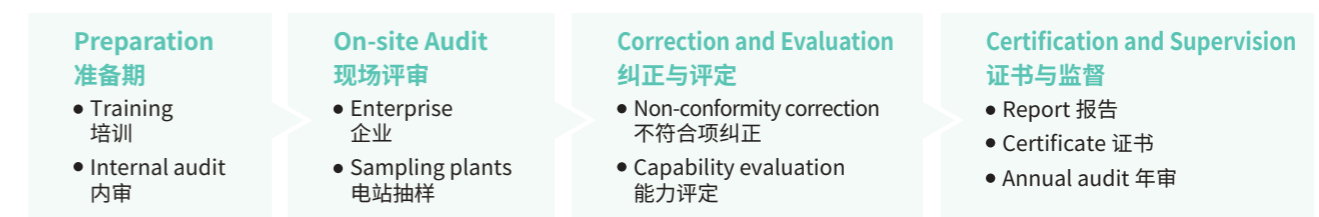
The object of O&M certification is an enterprise which is engaged in photovoltaic operation and maintenance activities. The certification aims at setting the entry threshold for the O&M market so as to ensure the healthy and orderly development to the photovoltaic market. Based on the assessment of O&M system and implementation quality of PV power plant, the evaluation and rating of O&M capability will be achieved. The certificate will be issued for a qualified enterprise.

光伏系统运维认证是面向从事光伏运维活动的企业。该认证旨在为光伏运维市场设立准入门槛，从而保障光伏市场健康有序地发展。该认证通过对运维体系与电站运维质量的评估，实现对企业运维能力的评定与评级，并颁发认证证书。

Why do the O&M Certification 为什么要做运维认证

- Market orientation (the demand from the owners, invertors, finance and insurance)
市场导向 (电站持有方、投资方、金融与保险方需求)
- Industry system and normative constraints
行业制度与规范约束
- The value evaluation and industry positioning of O&M enterprises
运维企业价值评价与行业定位
- Market recognition
市场认知度与认可度
- Leading brand
领先品牌

Certification Process 认证流程



Certification 认证

04 | EPC Certification Services 光伏 EPC 认证

TÜV NORD is one of the first batch of third-party organizations to carry out photovoltaic EPC certification in China. By now, a number of domestic and foreign enterprises have passed the TÜV NORD EPC Certification requirements. These enterprises have improved their core competitiveness and are active in photovoltaic project development and construction market.

TÜV NORD 是国内首批开展光伏 EPC 认证的知名第三方机构。迄今，境内外多家光伏 EPC 企业已通过 TÜV NORD 认证，这些企业具备了核心竞争力并活跃于光伏项目开发建设市场。

What is Photovoltaic EPC Certification? 什么是光伏 EPC 认证

Photovoltaic EPC certification is for enterprises engaged in general contracting business of photovoltaic projects. The certification aims to establish an entry threshold for the PV EPC market, thereby guaranteeing optimal design, high-quality construction, and long-term reliable operation of PV power plant projects. The certification improves the construction of EPC enterprises from the company's system construction, human resources, project management, design capabilities, safety management, procurement management, process monitoring and control, prevention and improvement management, project transfer, agent operation and maintenance and other aspects, which can achieve the assessment and rating of EPC enterprise capabilities and issued certification.

光伏 EPC 认证是面向从事光伏项目总承包业务的企业。该认证旨在为光伏 EPC 市场设立准入门槛，从而保障光伏电站项目达到最优的设计、高质量的建设和长期的可靠运行。该认证通过对 EPC 企业从公司体系建设、人力资源、项目管理、设计能力、安全管理、采购管理、过程监测和控制、预防改善管理、项目移交和代运维等方面实现对 EPC 企业能力的评定与评级，并颁发认证证书。

Why should Companies Obtain EPC Certification? 为什么要做 EPC 认证

- Market orientation (demand of power plant investors, financial and insurance)
市场导向 (电站投资方、金融与保险方需求)
- EPC enterprise value evaluation and industry positioning
EPC 企业价值评价与行业定位
- Industry regulations and rules limitations
行业制度与规范约束
- Leading brands
领先品牌

Certification Process 认证流程



05 | PV Monitoring System Certification 光伏监控系统认证

What is PV Monitoring System Certification 什么是光伏监控系统认证

The PV monitoring system certification follows the IEC 61724-1 standard. It is a comprehensive evaluation of the sensors, sampling and storage units and data quality in the PV power plant. The ratings are Class A, Class B and Class C in descending order. Certificate will be issued to the monitoring system which meets the certification requirements.

光伏监控系统认证遵循 IEC 61724-1 标准，是对光伏电站内传感器、采集存储单元与数据质量的综合评价。评定等级由高至低依次为 Class A, Class B, Class C。TÜV NORD 将为符合认证要求的监控系统颁发等级证书。



06 | PV System Design Certification 光伏系统设计认证

The PV system design certification follows the IEC 62548 / IEC 62738 standard. It is a comprehensive evaluation of PV components, system design, safety, system acceptance and O&M in the PV power plant. The certification is conducive to the realization of the type design and application of PV system. Certificate will be issued to the PV systems which meet the certification requirements.

光伏系统设计认证遵循 IEC 62548 / IEC 62738，是对电站内的光伏部件、系统设计、安全性能、系统验收与运行维护的多方面的综合评估，该认证有助于实现光伏系统的型式化设计与应用。TÜV NORD 将为符合认证要求的光伏系统颁发证书。

Application 申请	Apply for certificate 提出申请	Submit relevant documents as requirements 按要求提交相关资料
Audit 审核	Document review 文件审核	On-site audit 现场审核
Correction & Certificate 整改与证书	Non-conformity correction 不符合项整改	Report and certificate 报告与证书
Validity 时效	Annual audit 年度审核	The certificate is valid for 3 years 证书有效期三年
Re-audit 重新审核	The certificate will be reaudited if the certificate expires 若证书到期需要重新审核	

