



EVN***PECC4***

PRE-QUALIFICATION DOCUMENT



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01. INTRODUCTION





As one of the four power engineering consulting enterprises of Vietnam Electricity, EVNPECC4 has carried out survey, engineering for hundreds of power plants and power network projects nationwide and in neighboring countries such as Laos, Cambodia; significantly contributing to the construction and development of Vietnam electricity industry; satisfying the power needs for the country's socio-economic development.

KEY MILESTONES

Now

After 45 years of building and developing, EVPECC4 has been growing exponentially in every aspect. PECC4 has carried out survey, engineering for hundreds of power plants and power network projects nationwide and in the neighbouring countries such as Laos, Cambodia.

From 2007 to the present, Power Engineering Consulting Company 4 was converted into Power Engineering Consulting Joint Stock Company 4 (EVNPECC4), with Vietnam Electricity holding the governing shares.

2007

1976

Power Engineering Consulting Joint Stock Company 4 was founded on July 14th 1976, on the foundation of Southern Power Planning and Designing Sub-Institute, which was the first unit to perform the power network's survey and engineering in the Southern region of Vietnam.

1999

On June 03rd 1999, the Ministry of Industry decided to establish Power Engineering Consulting Company 4, a subsidiary of Vietnam Electricity.



EVNPECC4

Trust building

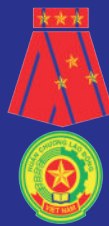
HONORABLE TITLES



**INDEPENDENCE
ORDER**
SECOND CLASS
2010



**INDEPENDENCE
ORDER**
THIRD CLASS
2005



**LABOR
ORDER**
FIRST CLASS
1996

With the achievement of over 45 years building and development, EVNPECC4 has been honorably awarded noble rewards by the State, together with orders, emulation flags, certificate of merits by the Government, the Ministry of Industry and Trade, the People's Committee of Khanh Hoa Province and Vietnam Electricity, particularly:

**Independence Order
SECOND & THIRD**
**Labor Order
FIRST & SECOND**

Certificate of merits for typical projects:

- + Buon Tua Srah Hydropower project: awarded by the Prime Minister (Decision No. 90/QĐ-TTg dated January 15th, 2011);
- + North-South 500kV T/L double circuit (Ha Tinh - Nho Quan section): awarded by the Ministry of Industry (Decision No. 1346/QĐ-BCN dated May 23rd, 2006);
- + National power supply by submarine cable system through the sea to Ly Son island: awarded by the Ministry of Industry and Trade;
- + 500kV Pleiku - My Phuoc - Cau Bong transmission line: awarded by the Ministry of Industry and Trade (Decision No. 4001/QĐ-BCT dated May 8th, 2014);
- + 500kV Dak Nong substation: awarded by Vietnam Electricity
- + 110kV Dong Ha - Lao Bao transmission line and substation: awarded by Vietnam Electricity (Decision No. 1025/QĐ-EVN-TĐTT dated April 23rd, 2003);
- + Upgrading capacity of 500kV Pleiku substation: awarded by Vietnam Electricity (Decision No. 1355/QĐ-EVN dated December 24th, 2009).



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OPERATING FIELDS

- ✓ CONSTRUCTION ENGINEERING SURVEY AND INVESTIGATION
- ✓ PLANNING, PRE-FEASIBILITY STUDY, FEASIBILITY STUDY AND ENGINEERING OF CONSTRUCTION WORKS
- ✓ EPC CONTRACTING SERVICES
- ✓ ENVIRONMENTAL SUPERVISING AND MONITORING CONSULTANCY
- ✓ CONSTRUCTION SUPERVISION OF POWER AND CIVIL WORKS
- ✓ INSPECTION ON QUALITY OF PROJECTS
- ✓ IN-HOUSE AND ON-SITE LABORATORY AND EXPERIMENTS FOR CONSTRUCTION WORKS
- ✓ CONSTRUCTION PROJECTS MANAGEMENT
- ✓ REPAIR, MAINTENANCE AND RENOVATION OF POWER PLANTS
- ✓ INVESTMENT



HEADQUARTERS AND BRANCHES

Headquarters

11 Hoang Hoa Tham Street, Loc Tho Ward, Nha Trang City, Khanh Hoa Province

Telephone: (84-258) 3563 999 - Fax: (84-258) 3563 888

Website: www.pecc4.vn - E-mail: tv4@pecc4.vn

Branch Offices

1. Northern Affiliate:

Block No. 3, TT4, Alley 183, Hoang Van Thai Street, Khuong Trung Ward, Thanh Xuan District, Hanoi

2. Southern Affiliate:

No. 46/9 Tran Quy Khoach Street, Tan Dinh Ward, District 1, Ho Chi Minh City

3. Power Source & New Energy Engineering Centre:

No. 38 Le Thanh Phuong Street, Phuong Sai Ward, Nha Trang City, Khanh Hoa Province

4. General Survey Enterprise:

No. 137 Thong Nhat Street, Van Thang Ward, Nha Trang City, Khanh Hoa Province

5. Civil Engineering Testing Laboratory:

Group 4, Vo Dong Village, Vinh Trung Commune, Nha Trang City, Khanh Hoa Province

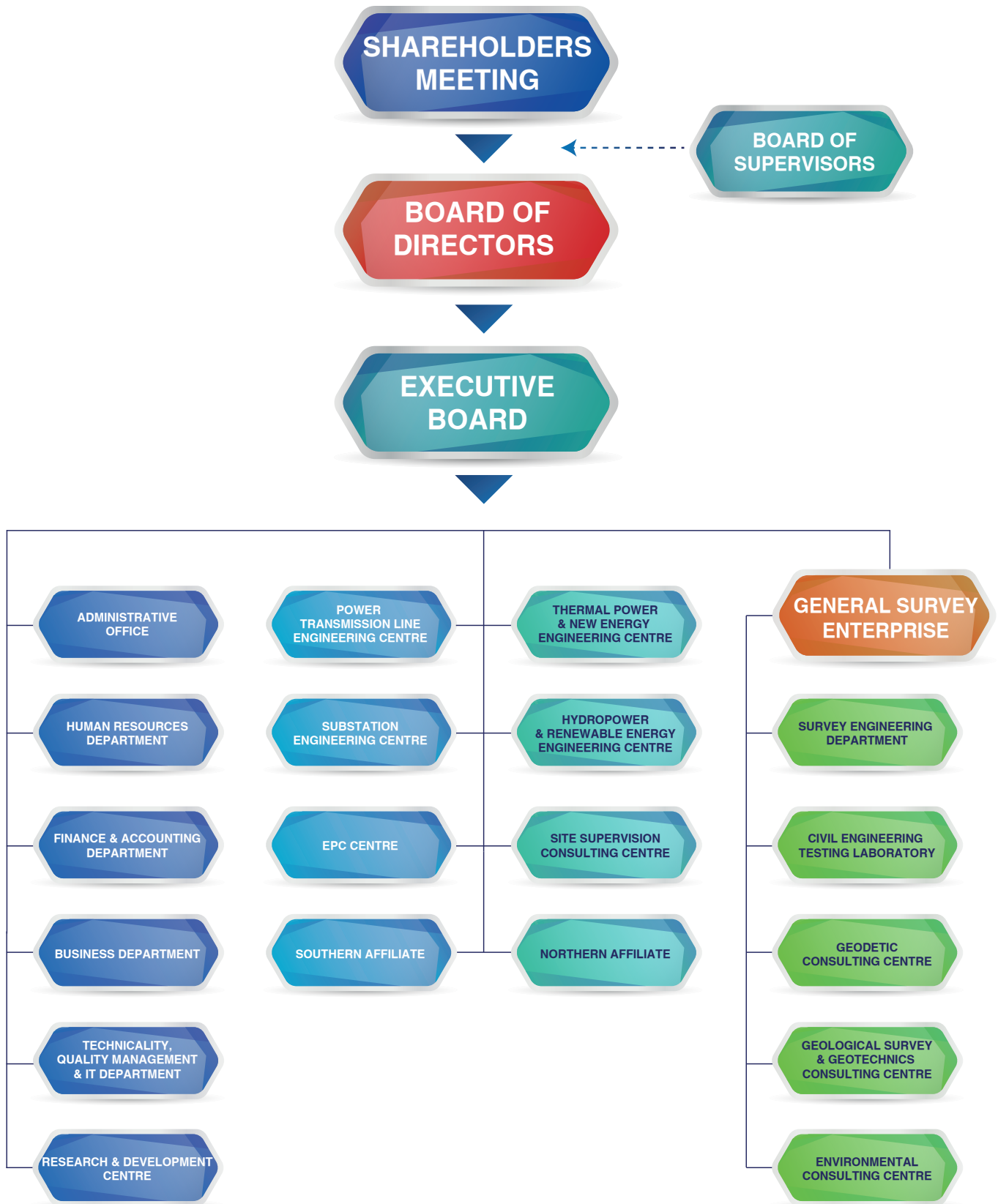
Lab Code: LAS-XD31.001



EVN PECC4

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ORGANIZATIONAL CHART



PLANNING AND INVESTMENT DEPARTMENT
KHANH HOA PROVINCE

SOCIALIST REPUBLIC OF VIETNAM
Independence - Freedom - Happiness

OFFICE FOR BUSINESS REGISTRATION

CERTIFICATE OF BUSINESS REGISTRATION

JOINT-STOCK COMPANY

Nº: 4200 385 474

First registration dated August 01, 2007

Twentieth registration for change: June 26, 2023

BẢN DỊCH

1. Company full name in Vietnamese:

CÔNG TY CỔ PHẦN
TƯ VẤN XÂY DỰNG ĐIỆN 4

Transaction name

POWER ENGINEERING CONSULTING
JOINT-STOCK COMPANY 4

Abbreviation name:

PECC4

2. Head office:

11 Hoang Hoa Tham, Loc Tho ward
Nha Trang city, Khanh Hoa province, Vietnam

Telephone:

02583 563 999

Fax: 02583 563 888

Email:

tv4@pecc4.vn

Website:

pecc4.vn

3. Registered capital:

VND 198,460,160,000

(One hundred ninety-eight billion, four hundred and sixty million, one hundred and sixty thousand dong)

- Issue par: VND 10,000/share

- Number of shares: 19,846,016

4. Representative according to law of company:

Full name:

TRAN CAO HY

Sex:

Male

Position:

General Director

Date of birth:

June 17, 1976

Ethnic group:

Kinh

Nationality:

Vietnamese

Citizen ID card N^o:

052 076 019 616

Date of issue:

December 05, 2021

Place of issue:

General of the Police Department for Administrative
Management of Social Order

Permanent residence:

STH27.36, Road 14A Le Hong Phong II Urban area,
Phuoc Hai ward, Nha Trang City, Khanh Hoa province,
Viet Nam

Current residence:

STH27.36, Road 14A Le Hong Phong II Urban area,
Phuoc Hai ward, Nha Trang City, Khanh Hoa province,
Viet Nam

THE BUSINESS REGISTRATION OFFICE

Chief

(Signed and sealed)

Kieu Lam

LEGAL DOCUMENTS

CERTIFICATION OF POWER OPERATION NO. 08/GP-ĐTĐL DATED JANUARY 19TH, 2024 ISSUED BY THE MINISTRY OF INDUSTRY AND TRADE

MINISTRY OF INDUSTRY AND TRADE
ELECTRICITY REGULATORY AUTHORITY

SOCIALIST REPUBLIC OF VIETNAM
Independence – Freedom – Happiness

Number: 08/GP-DTDL

Hanoi, January 19th 2024

ELECTRICITY LICENSE

BẢN DỊCH

DIRECTOR OF ELECTRICITY REGULATORY AUTHORITY

Pursuant to Decision number 2630/QĐ-BCT dated December 02, 2022 of the Minister of Ministry of Industry and Trade on functions, tasks, powers and organizational structure of electricity regulatory authority;

Pursuant to the Electricity law dated December 03, 2004; Law amending and supplementing a number of articles of the Electricity law dated 20 November, 2012;

Pursuant to Decree number 137/2013/ND-CP dated October 21, 2013 of the Government detailing implementation of a number of articles of the Electricity law and the Law on amending and supplementing a number of articles of the Electricity law;

Pursuant to Decree 08/2018/ND-CP dated January 15, 2018 of the Government on amendments to certain Decrees related to business conditions under state management of the Ministry of Industry and Trade;

Pursuant to Decree 17/2020/ND-CP dated February 05, 2020 of the Government on amendments to certain Decrees related to business conditions under state management of the Ministry of Industry and Trade;

Pursuant to Circular number 21/2020/TT-BTC dated September 09, 2020 of the Minister of Ministry of Industry and Trade on procedures for issuance of electricity licenses;

Pursuant to Circular number 10/2023/TT-BTC dated April 21, 2023 of the Minister of Ministry of Industry and Trade on amendments to some articles of Circular number 21/2020/TT-BTC dated September 09, 2020 of the Minister of Ministry of Industry and Trade on procedures for issuance of electricity licenses;

Review the application for the issuance of an electricity operation license submitted by Power Engineering Consulting Joint Stock Company 4;

Pursuant to the proposal of the Head of Licensing and Public Relations Department.

HEREBY DECIDES

Article 1. Granting an electricity operation license to:

1. Organization's Name: **Power Engineering Consulting Joint Stock Company 4;**
2. Certificate of Business registration of the joint-stock company issued by the Business Registration Office - Khanh Hoa Department of Planning and Investment, enterprise code 4200385474, initially registered on August 1, 2007, with the 20th amendment registered on June 26, 2023.
3. Headquarter: Number 11 Hoang Hoa Tham, Loc Tho Ward, Nha Trang City, Khanh Hoa Province;

Phone number: 0258 3563999; Fax: 0258 3824208; Email: tv4@peccc4.vn

Article 2. Scope of Activities:

1. Consultancy and design for hydroelectric power plant projects without limitations on installed capacity;
2. Consultancy and design for wind power plant projects without limitations on installed capacity;



EVNPECC4

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**CERTIFICATION OF POWER OPERATION NO. 08/GP-ĐTĐL DATED JANUARY 19TH, 2024
ISSUED BY THE MINISTRY OF INDUSTRY AND TRADE**

3. Consultancy and design for solar power plant projects without limitations on installed capacity;
4. Consultancy and design for thermal power plant projects without limitations on installed capacity;
5. Consultancy and design for power lines and substations without limitations on voltage level;
6. Supervision consultancy for the construction of hydroelectric power plants with an installed capacity of up to 300MW;
7. Supervision consultancy for the construction of wind power plants with an installed capacity of up to 100MW;
8. Supervision consultancy for the construction of solar power plants without limitations on installed capacity;
9. Supervision consultancy for the construction of thermal power plants without limitations on installed capacity;
10. Supervision consultancy for the construction of power lines and substations without limitations on voltage level.

Article 3. Scope and Duration of Activities

1. Scope of activities: Nationwide.
2. License duration: Until January 18, 2029.

Article 4. Rights of the electricity unit granted by the license

1. Power Engineering Consulting Joint Stock Company 4 is allowed to operate within the scope and activities specified in the electricity operation license.
2. Power Engineering Consulting Joint Stock Company 4 has rights as stipulated in Article 45 of the Electricity Law, the Law amending and supplementing some articles of the Electricity Law, and other rights as specified by law.

Article 5. Obligations of the electricity unit granted by the license

1. Power Engineering Consulting Joint Stock Company 4 is obligated to commence its electricity operation activities no later than 6 months from the date of being granted the electricity operation license.
2. Power Engineering Consulting Joint Stock Company 4 is obligated to ensure compliance with electricity operation conditions as stipulated by the law throughout its operational period.
3. Power Engineering Consulting Joint Stock Company 4 is not permitted to lease, borrow, or independently modify the electricity operation license.
4. Power Engineering Consulting Joint Stock Company 4 is obligated to adhere to the reporting regime as specified by regulations.
5. Power Engineering Consulting Joint Stock Company 4 is obligated to comply with the provisions of Article 45 of the Electricity Law, the Law amending and supplementing some articles of the Electricity Law, and other rights as specified by law.

Article 6. Enforcement Effectiveness:

This electricity operation license is effective from the date of signing.

**P.P. DIRECTOR
VICE DIRECTOR
(signed and sealed)
Nguyen The Huu**



LEGAL DOCUMENTS

CERTIFICATE OF CONSTRUCTION ACTIVITIES CAPACITY – GRADE I, NO. BXD-00001201 DATED 16TH AUGUST, 2023 ISSUED BY THE MINISTRY OF CONSTRUCTION

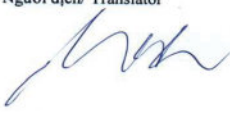
MINISTRY OF CONSTRUCTION CONSTRUCTION ACTIVITIES MANAGEMENT AGENCY	SOCIALIST REPUBLIC OF VIETNAM Independence - Freedom - Happiness
CERTIFICATE "Competence for construction operations"	
No: BXD-00001201	
BẢN DỊCH	
(Issued according to Decision No: 34/QĐ/HĐXD-DN on August 16, 2023 and Decision No: 23/QĐ/HĐXD-DN June 01, 2022 and Decision No: 19/QĐ/HĐXD-DN May 09, 2022)	
Company name	POWER ENGINEERING CONSULTING JOINT-STOCK COMPANY 4 (PECC4)
Certificate of business registration No:	4200 385 474
Issue date:	August 01, 2007
Issue place:	Khanh Hoa Planning and Investment Department
Representative according to law:	Mr. TRAN CAO HY
Position:	General Director
Head office:	11 Hoang Hoa Tham, Loc Tho ward, Nha Trang city, Khanh Hoa province
Tel:	(0258) 3 563 999 Fax:
Email:	Website:
Scope of construction operations:	
1. Construction survey:	Level I
2. Design, appraisal on design of works construction	
Industry (Energy):	Agriculture & Rural development (Irrigation): Level I
Technical infrastructure:	Level I
3. Consulting Supervision on execution of works construction	
Industry (Energy):	Level I
4. Consulting, management on Construction investment project	
Industry, technical infrastructure:	Level I
This certificate is valid until end of: May 09, 2032	
CERTIFIED TRUE COPY OF ORIGINAL FILED NOTARY OFFICE No: 1 - KHANH HOA PROVINCE August 23, 2023- N ^o : 08182 - Book N ^o : /SCT/BS (Signed and sealed) Le Le Hoa - Notary Public	
Ha Noi, August 16, 2023 CONSTRUCTION ACTIVITIES MANAGEMENT AGENCY Director (Signed and sealed) Pham Nhu Huy	

Tôi Phan Đình Kinh, CCCD số: 056 057 000 230, cấp ngày: 05-4-2021 tại Cục Cảnh sát Hành chính về Trật tự xã hội, cam đoan đã dịch chính xác nội dung văn bản này từ tiếng Việt sang tiếng Anh.

I, Phan Đình Kinh - Citizen ID card N^o: 056 057 000 230, issue date: April 05, 2022; issue place: General of the Police Department for Administrative Management of Social Order.

I undertake that: I have translated accurately this document content from Vietnamese into English.

Ngày/ Date: 11-9-2023
 Người dịch/ Translator


 Phan Dinh Kinh

LỜI CHỨNG CỦA CÔNG CHỨNG VIÊN/ CERTIFICATION OF NOTARY PUBLIC

Hôm nay ngày 11 tháng 9 năm 2023
 (Ngày Mười một, tháng Chín, năm hai nghìn hai mươi ba)
 Today, on the Eleventh day of September, two thousand and twenty-three
 Tại Phòng Công chứng số 1 tỉnh Khánh Hòa - 13 Hoàng Hoa Thám, Nha Trang, Khánh Hòa, Việt Nam. (At Notary office N^o: 1 Khanh Hoa - 13 Hoang Hoa Tham, Nha Trang, Khanh Hoa, Vietnam)

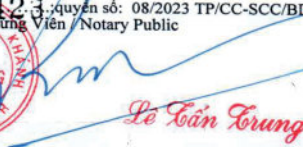
Tôi **Le Xuân Trung**, công chứng viên, trong phạm vi trách nhiệm của mình
 I am, Notary public, in my scale of responsibilities under laws regulations.

CHỨNG NHẬN/ CERTIFICATION

Bản dịch này do Ông Phan Đình Kinh, cộng tác viên phiên dịch của Phòng Công chứng số 1 tỉnh Khánh Hòa dịch từ tiếng Việt sang tiếng Anh.
 Mr. Phan Dinh Kinh - an accredited translator of Notary office N^o: 1 Khanh Hoa has translated the translation from Vietnamese into English
 Chữ ký trong bản dịch đúng là chữ ký của Ông Phan Đình Kinh
 Certified true signature of Mr. Phan Dinh Kinh

Nội dung bản dịch chính xác, không vi phạm pháp luật, không trái đạo đức xã hội.
 Content of translation is accurate, does not violate laws, social morality.
 Văn bản công chứng này được lập thành 03 (ba) bản chính, mỗi bản gồm: 01 tờ, 01 trang, lưu 01 bản tại Phòng Công chứng số 1 tỉnh Khánh Hòa, Việt Nam
 The translation is made into 03 (three) originals, each including: 1 sheet, 1 pages, and one copy is filed at the Notary Office No. 1 of Khanh Hoa province, Vietnam

Số Công chứng: **107423**; quyển số: 08/2023 TP/CC-SCC/BD
 Công Chứng Viên / Notary Public


Le Xuân Trung


EVNPECC4

Trust building

LEGAL DOCUMENTS

CERTIFICATE OF CONSTRUCTION ACTIVITIES CAPACITY GRADE II & III, NO. KHH-00001201 DATED 28TH AUGUST, 2023 ISSUED BY THE DEPARTMENT OF CONSTRUCTION - KHANH HOA PROVINCE

DEPARTMENT OF CONSTRUCTION KHANH HOA PROVINCE	SOCIALIST REPUBLIC OF VIETNAM Independence - Freedom - Happiness
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CERTIFICATE
"Competence for construction operations"
No: KHH -00001201

BẢN DỊCH

(Issued according to Decision No: 114/QĐ/SXD on March 25, 2022). Decision No: 175/QĐ/SXD on April 20, 2022; Decision No: 270/QĐ/SXD on June 03, 2022
Decision No: 420/QĐ/SXD on July 18, 2022 and Decision No: 179/QĐ/SXD on August 28, 2023

Company name: POWER ENGINEERING CONSULTING JOINT-STOCK COMPANY 4 (PECC4)

Certificate of business registration No: 4200 385 474

First registration dated: August 01, 2007.

Twentieth registration for change dated: June 26, 2023.

Issue place: Khanh Hoa Planning and Investment Department

Representative according to law: Mr. TRAN CAO HY

Position: General Director

Head office: 11 Hoang Hoa Tham, Loc Tho ward, Nha Trang city, Khanh Hoa province

Tel: (0258) 3 563 999 Fax: 0258. 3563 888

Email: tv4@pecc4.vn Website: http://www.pecc4.vn

Scope of construction operations:

- Make design planning for construction - Level II
- Design, appraisal on design of works construction: Civil level II; industrial building: Level II. Transport (Road and bridge): Level II; Technical infrastructure (water supply and drainage, solid waste treatment: Level II)
- Execution of works construction: Industry (Energy) Level III
- Consulting, supervision on works construction: Civil: Level II, Transport Level II, Technical infrastructure: Level II Serving Agriculture & Rural development (Irrigation): Level II.
- Consulting, management on Construction investment project: Civil Level III, Transport Level III, Serving Agriculture & Rural development: Level II.

This certificate is valid until end of: March 25, 2032

Khanh Hoa, August 28, 2023
KHANH HOA CONSTRUCTION DEPARTMENT
Vice-Director (Signed and sealed)
Tran Van Chau

Tôi Phan Đình Kinh, CCCD số: 056 057 000 230, cấp ngày: 05-4-2021 tại Cục Cảnh sát Hành chính về Trật tự xã hội, cam đoan đã dịch chính xác nội dung văn bản này từ tiếng Việt sang tiếng Anh.

I, Phan Đình Kinh - Citizen ID card N^o: 056 057 000 230, issue date: April 05, 2022; issue place: General of the Police Department for Administrative Management of Social Order.

I undertake that: I have translated accurately this document content from Vietnamese into English.

Ngày/ Date: 22-9-2023
Người dịch/ Translator

Phan Đình Kinh

LỜI CHỨNG CỦA CÔNG CHỨNG VIÊN/ CERTIFICATION OF NOTARY PUBLIC
Hôm nay ngày 22 tháng 9 năm 2023
(Ngày Hai mươi hai, tháng Chín, năm hai ngàn hai mươi ba)
Today, on the Twenty-second day of September, two thousand and twenty-three
Tại Phòng Công chứng số 1 tỉnh Khánh Hòa - 13 Hoàng Hoa Thám, Nha Trang, Khánh Hòa, Việt Nam. (At Notary office N^o: 1 Khanh Hoa - 13 Hoang Hoa Tham, Nha Trang, Khanh Hoa, Vietnam)

Tôi *Lê Tuấn Trung*, công chứng viên, trong phạm vi trách nhiệm của mình theo quy định của pháp luật

I am, Notary public, in my scale of responsibilities under laws regulations.

CHỨNG NHẬN/ CERTIFICATION

Bản dịch này do Ông Phan Đình Kinh, cộng tác viên phiên dịch của Phòng Công chứng số 1 tỉnh Khánh Hòa dịch từ tiếng Việt sang tiếng Anh.

Mr. Phan Đình Kinh - an accredited translator of Notary office N^o: 1 Khanh Hoa has translated the translation from Vietnamese into English

Chữ ký trong bản dịch đúng là chữ ký của Ông Phan Đình Kinh

Certified true signature of Mr. Phan Đình Kinh

Nội dung bản dịch chính xác, không vi phạm pháp luật, không trái đạo đức xã hội.

Content of translation is accurate, does not violate laws, social morality.

Văn bản công chứng này được lập thành 02 (hai) bản chính, mỗi bản gồm: 01 tờ, 01 trang, lưu 01 bản tại Phòng Công chứng số 1 tỉnh Khánh Hòa, Việt Nam

The translation is made into 02 (two) originals, each including: 1 sheet, 1 pages, and one copy is filed at the Notary Office No. 1 of Khanh Hoa province, Vietnam

Số Công chứng: 08/2023 TP/CC-SCC/BD

Cộng Chứng Viên / Notary Public
Lê Tuấn Trung

- Information on construction capacity of EVNPECC4 was successfully uploaded on the website of the Ministry of Construction at <https://nangluchdxd.gov.vn>

- EVNPECC4 was successfully registered in the National Online Procurement Network System (<https://muasamcong.mpi.gov.vn>)



EVNPECC4

Trust building

LEGAL DOCUMENTS

CERTIFICATE OF “MET ALL CONDITIONS ON BUSINESS OF FIRE PREVENTION AND FIRE FIGHTING SERVICES” NO: 38/GXN-PCCC ISSUED BY POLICE DIVISION FOR FIRE PREVENTION & FIRE FIGHTING AND RESCUE & SALVAGE, POLICE OF KHANH HOA PROVINCE

BẢN DỊCH

POLICE OF KHANH HOA PROVINCE
POLICE DIVISION FOR FIRE PREVENTION & FIRE
FIGHTING AND RESCUE & SALVAGE
N^o: 38 /GXN-PCCC

SOCIALIST REPUBLIC OF VIETNAM
Independence - Freedom - Happiness

CERTIFICATE

“Met all conditions on business of Fire Prevention and Fire Fighting services”

Pursuant to Decree N^o: 136/2020/ND-CP dated November 24, 2020 of the Government regulating in details some conditions and measures on implementation of Laws on Fire Prevention and Fire Fighting and law on amended some conditions of Laws on Fire Prevention and Fire Fighting.

Based on check result on proposal dossiers of met all conditions on business of Fire Prevention and Fire Fighting services for the company.

Consider proposal of Power Engineering Consulting Joint-Stock Company 4

POLICE DIVISION FOR FIRE PREVENTION & FIRE FIGHTING AND RESCUE & SALVAGE

IT HEREBY TO CERTIFY

POWER ENGINEERING CONSULTING JOINT-STOCK COMPANY 4

Certificate of Business registration N^o: 4200 385 474 ISSUED by the Department of Planning and Investment - Khanh Hoa province on: August 01, 2007.

Head office: 11 Hoang Hoa Tham, Loc Tho ward
Nha Trang city, Khanh Hoa province, Vietnam

Full name: TRAN CAO HY

Position: General Director

ID card N^o: 052 076 019 616

Place of issue: General of the Police Department for Administrative Management of Social Order.

Permanent residence: STH27.36, Road 14A Le Hong Phong II Urban area,
Phuoc Hai ward, Nha Trang City, Khanh Hoa province,

Has met all conditions on business of Fire Prevention and Fire Fighting services (enclosed items)

Khanh Hoa, June 30, 2023
POLICE DIVISION FOR FIRE PREVENTION & FIRE
FIGHTING AND RESCUE & SALVAGE
Deputy-Chief
(Signed and sealed)
Ho Chi Thanh





EVNPECC4

Trust building

LEGAL DOCUMENTS

CERTIFICATE NO. 434/GCN-SXD OF ELIGIBILITY FOR CONSTRUCTION TESTING ACTIVITIES ISSUED BY DEPARTMENT OF CONSTRUCTION OF KHANH HOA PROVINCE (LAS-XD 31.001)

PEOPLE'S COMMITTEE OF KHANH HOA PROVINCE DEPARTMENT OF CONSTRUCTION Number: 434/GCN-SXD	SOCIALIST REPUBLIC OF VIETNAM Independence – Freedom – Happiness Khanh Hoa, 31st January 2024
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CERTIFICATE OF ELIGIBILITY FOR SPECIALIZED EXPERIMENTAL ACTIVITIES IN THE CONSTRUCTION INDUSTRY

BẢN DỊCH

COPY

Pursuant to Decision number 49/2023/QĐ-UBND dated 29th December 2023 of People's Committee of the province on roles, responsibilities and authorities of Department of Construction;

Pursuant to Decree number 62/2016/ND-CP dated 01/7/2016 of the Government about regulations on requirements of judicial expertise in construction and construction experiments;

Pursuant to Decree number 35/2023/ND-CP dated 20th June 2023 of the Government amending some articles of Decrees in field of state management of the Ministry of Construction;

Pursuant to Circular number 06/2017/TT-BXD dated 25th April 2017 of the Minister of Construction, guide specialized experimental activities in the construction industry;

Reviewing the application for supplementary registration and modification of the Certificate of Eligibility for Specialized Experimental Activities in the Construction Industry of Power Engineering Consulting Joint Stock Company 4; Minutes of assessment dated 21st November 2023, and Report No. 3641/TVD4-P7 dated 26th December 2023 by Power Engineering Consulting Joint Stock Company 4.

HEREBY CERTIFIES:

- Power Engineering Consulting Joint Stock Company 4.
Business registration certificate (Investment certificate) number: 4200385474 dated 01st August 2007; 20th amendment on 26th June 2023 by Business Registration division of Department of Planning and Investment of Khanh Hoa Province.
Address: 11 Hoang Hoa Tham Street, Loc Tho ward, Nha Trang city, Khanh Hoa province.
Phone number: 0258.3563.999 Fax: 0258.3563.888 Email: tv4@pecc4.vn
Laboratory name: **Construction Specialty Laboratory**
Address: Group 4, Vo Dong Hamlet, Vinh Trung commune, Nha Trang city, Khanh Hoa province.
Eligible for specialized experimental activities in the construction industry with the specified testing criteria listed in the accompanying schedule to this Certificate.
- This certificate is valid for 5 years from 19th June 2023, and replaces Certificate No. 224/GCN-BXD dated 19th June 2023.

Recipients:

- Power Engineering Consulting Joint Stock Company 4;
- Ministry of Construction (to report);
- Director and Vice Director(s) of Department of Construction;
- Electronic website of Ministry of Construction (to announce);
- Filed: VT, QLXD S. Ha.

P.P. DIRECTOR
VICE DIRECTOR
(signed and sealed)
Nguyen Ngoc Minh

CERTIFIED TO BE A TRUE COPY OF THE ORIGINAL

No. **001125** Book No., SCT/BS
Date: **06th February, 2024**
Notary Public Office No.1 of Khanh Hoa province
Notary public
Le Tan Trung
(signed and sealed)


EVNPECC4

Trust building

LEGAL DOCUMENTS

CERTIFICATE OF MEASURE AND MAPPING NO. 00838
ISSUED BY THE MEASURE AND MAP BUREAU

SOCIALIST REPUBLIC OF VIETNAM
 Independence - Freedom - Happiness

LICENSE
 "On survey, mapping operations"
 No: **00838**

BẢN DỊCH

Company name: POWER ENGINEERING CONSULTING JOINT-STOCK COMPANY 4
Head office: 11 Hoang Hoa Tham, Loc Tho ward, Nha Trang city, Khanh Hoa province
Telephone: 02583 563 600-3563 601 **Fax:** 02583 563 888-3 824 208
Email: tv4@pecc4.vn **Website:** http://www.pecc4.vn

Decision No. 231/QĐ-BCN dated January 17, 2007 of the Minister of Industry (now the Ministry of Industry and Trade).

Scope of survey, mapping operations:

1. Making plans, projects, technical designs-estimates of specialized surveying and cartographic tasks.
2. Check the quality of specialized survey and mapping products.
3. Establishing a network of specialized coordinates and elevations.
4. Measuring and establishing specialized topographic maps at scale 1:500, 1:1,000, 1:2,000, 1:5,000.
5. Measuring and mapping the seabed topography in estuaries and seaports at scale 1:500, 1:1,000, 1:2,000, 1:5,000.
6. Measuring and establishing in cadastral maps.
7. Measuring and mapping works.

Term of License: Valid until April 28, 2026.
Scope of License: Nationwide.

Ha Noi, April 28, 2021
 DEPARTMENT OF SURVEY, MAPPING AND
 GEOGRAPHIC INFORMATION VIETNAM
 Director (Signed and sealed)
 Hoang Ngoc Lam

LỜI CHỨNG CỦA CÔNG CHỨNG VIÊN/ CERTIFICATION OF NOTARY PUBLIC

Hôm nay ngày 27 tháng 6 năm 2022
 (Ngày Hai mươi bảy, tháng Sáu, năm hai ngàn hai mươi hai)
 Today, on the Twenty-seventh day of June, two thousand and twenty-two
 Tại Phòng Công chứng số 1 tỉnh Khánh Hòa - 13 Hoàng Hoa Thám, Nha Trang, Khánh Hòa
 (at Notary office No. 1 Khanh Hoa - 13 Hoang Hoa Tham, Nha Trang, Khanh Hoa)

Tôi **Lê Lệ Hoa**, công chứng viên, trong phạm vi trách nhiệm của mình
 I am, Notary public, in my scale of responsibilities under laws regulations.

CHỨNG NHẬN/ IT HEREBY TO CERTIFY THAT

Bản dịch này do Ông Phan Đình Kinh, cộng tác viên phiên dịch của Phòng Công chứng số 1 tỉnh Khánh Hòa dịch từ tiếng Việt sang tiếng Anh.
 Mr. Phan Dinh Kinh - an accredited translator of Notary office No. 1 Khanh Hoa has translated the translation from Vietnamese into English
 Chữ ký trong bản dịch đúng là chữ ký của Ông Phan Đình Kinh
 Certified true signature of Mr. Phan Dinh Kinh
 Nội dung bản dịch chính xác, không vi phạm pháp luật, không trái đạo đức xã hội.
 Content of translation is accurate, does not violate laws, social morality
 Văn bản công chứng này gồm ... tờ,trang, lưu 01 bản tại Phòng Công chứng số 1 tỉnh Khánh Hòa
 The translation includes ... sheet, page, and one copy is filed at the Notary Office No. 1 of Khanh Hoa province.

Số Công chứng: ... quyền số: 05/2022 TP/CC-SCC/BD
 Công chứng viên / Notary Public

Tôi Phan Đình Kinh, CMND số: 225 022 438, cấp ngày: 15-08-2009 tại Công an Khánh Hòa, cam đoan đã dịch chính xác nội dung văn bản này từ tiếng Việt sang tiếng Anh.
 I, Phan Dinh Kinh - ID card No: 225 022 438, issue date: August 15, 2009; issue place: Khanh Hoa police. I undertake that: I have translated accurately this document content from Vietnamese into English.
 Ngày/ Date: 27-6-2022
 Người dịch/ Translator

Lê Lệ Hoa



EVNPECC4

Trust building

**CERTIFICATE OF QUALITY MANAGEMENT SYSTEM ISO 9001:2015
ISSUED BY NQA ON 18TH SEPTEMBER, 2019**

Certificate of Registration



This is to certify that the Quality Management System of

POWER ENGINEERING CONSULTING JOINT STOCK COMPANY 4 (PECC4)

Head office: 11 Hoang Hoa Tham St., Loc Tho ward, Nha Trang City, Khanh Hoa Province, Vietnam

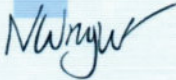
applicable to

Providing Design Consulting and Design services, Construction Supervision, Survey Consultancy, Environmental Consultancy for Power projects including Thermal power, Hydropower, New and Renewable Energy and Power Grid projects up to 500KV and Provide service for testing constructional materials, In-Lab and In-Situ testing on physical – mechanical properties of soils, rocks and concretes

has been assessed and registered by NQA against the provisions of

BS EN ISO 9001 : 2015

This registration is subject to the company maintaining a quality management system, to the above standard, which will be monitored by NQA.



Managing Director

Certificate No: 118876
 Issue Date: 18 September 2019
 Reissued: 18 September 2022
 Valid Until: 18 September 2025
 EAC Code: 34







The use of the UKAS Accreditation Mark indicates accreditation in respect of those activities covered by the accreditation certificate number 015 held by NQA.
 NQA is a trading name of NQA Certification Limited, Registration No. 09351756. Registered Office: Warwick House, Houghton Hall Park, Houghton Regis, Dunstable, LU5 5ZX, UK.
 This certificate is the property of NQA and must be returned on request.



EVNPECC4

Trust building

02. RESOURCES



HUMAN RESOURCES

EVNPECC4's employees in front of the Company's yard

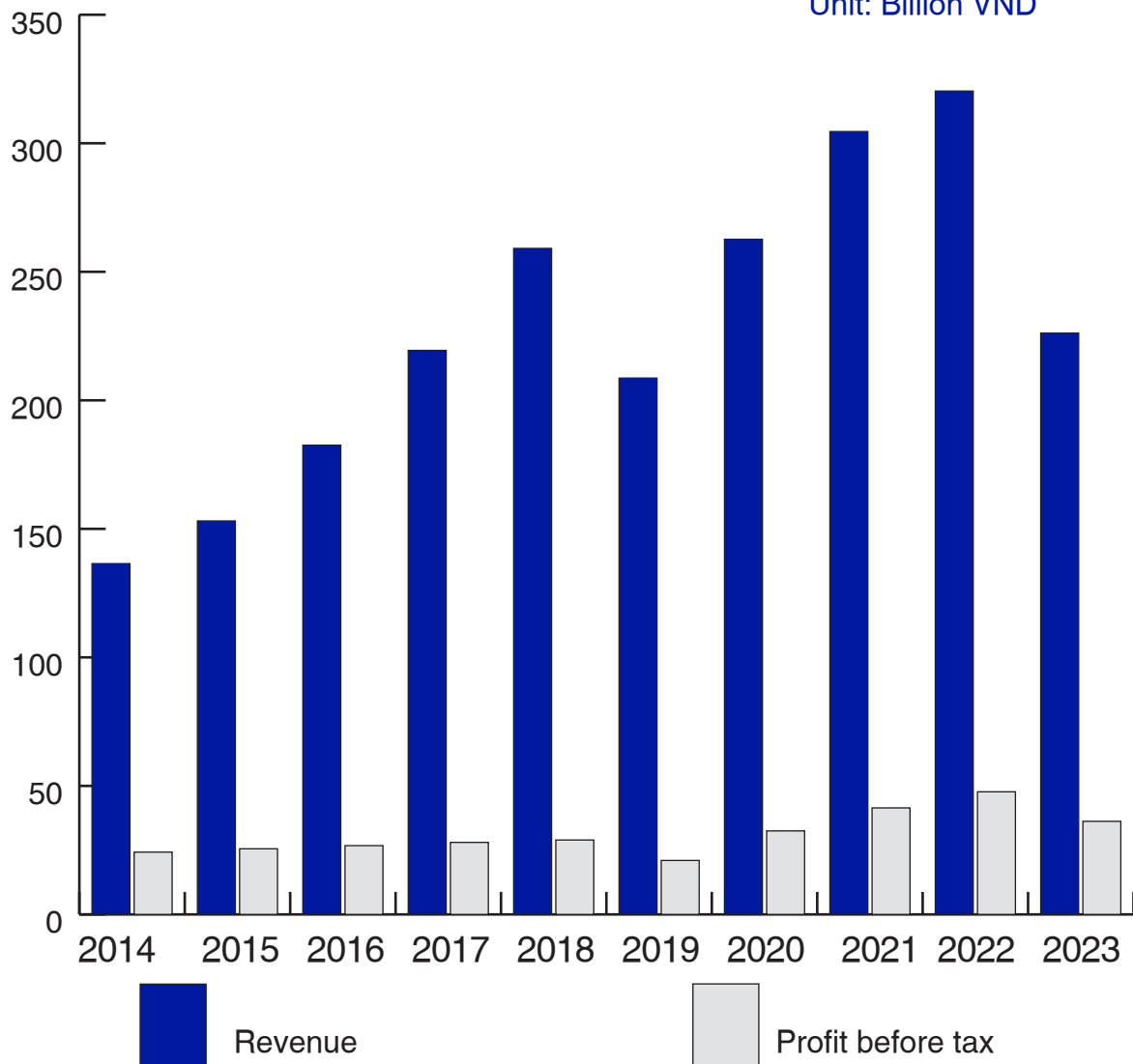
Over 45 years building and development, EVNPECC4's human resources have been continuously growing in both quantity and quality with more than 400 employees. Up to date, EVNPECC4 has built up a strong team of highly professional, rich experienced, enthusiastic, responsible engineers and experts.

In recent years, EVNPECC4 has focused on research and science, technology applications in all business fields, enhancing quality and skill of human resources, satisfying construction investment with advanced technology, bringing high quality and effectiveness of consulting services provided to Clients.

Together with the enhancement of recruitment quality and training courses, EVNPECC4 has been cooperating with a team of leading technical experts in the energy sector in order to fully satisfy clients' requirements and to ensure the economic and technical aspects of the consulting products and services.

Financial performance in period 2014 - 2023

Unit: Billion VND



Financial statements in the last 5 years

Unit: Million VND

Items	2019	2020	2021	2022	2023
1 Total assets	291.637	335.679	354.132	405.960	373.910
2 Revenue	208.665	262.654	304.564	320.311	226.153
3 Profit before tax	21.001	32.494	41.442	47.705	36.216
4 Profit after tax	16.886	27.678	35.271	41.519	32.758



EQUIPMENT

The Company has adequately equipped modern vehicles, machines, equipment satisfying the best conditions to perform the tasks of survey and engineering consulting services. Table of typical equipment:

NO.	TYPE	UNIT	DESCRIPTION	QUANTITY
I. TOPOGRAPHICAL SURVEY EQUIPMENT				
1	GPS Leica 1200 (1-frequency)	pcs	Building coordinate, elevation control grids (Triangular grid class IV, cadastral grids, traverse class 1, class 2).	1
2	GPS Leica 500 (1-frequency)	pcs		2
3	GPS Trimble R8S (2-frequency)	pcs	Building coordinate, elevation control grids (Triangular grid class IV, cadastral grids, traverse class 1, class 2). Mapping topographical maps with various scales. Mapping land parcels.	3
4	Electronic water levelling Leica DNA 03	pcs	Building leveling grids of class I, II, III, IV, technical.	2
5	Garmin GPSmap 78 handheld GPS locator	pcs	Relatively positioning the works coordinate for site selection.	21
6	Electronic Total Station Leica TC 2003	pcs	Building coordinate grids required high accuracy (Detailed elevation-coordinate grid for construction, triangular grids,...).	1
7	Electronic Total Station Leica TM 50	pcs	Mapping topographical maps with various scales.	1
8	Electronic Total Station Leica TC 305	pcs		1
9	Electronic Total Station TC 405	pcs	Mapping topographical maps with various scales. Mapping land parcels.	4
10	Electronic Total Station Leica TC 705	pcs	Mapping longitudinal and horizontal profiles.	1
11	Electronic Total Station Leica TS 02	pcs	Measuring, surveying works.	3
12	Water leveling Leica NA 724	pcs	Building leveling grid class IV, technical leveling grid.	1
13	Water leveling Leica Wild NA2	pcs		1
14	GPS Stonex S850A GNSS	pcs	Building elevation, coordinate control grids (Triangular grid class IV, cadastral grids, traverse class 1, class 2). Mapping topographical maps with various scales. Mapping land parcels. Mapping longitudinal and horizontal profiles. Measuring, surveying works.	4

EQUIPMENT

NO.	TYPE	UNIT	DESCRIPTION	QUANTITY
15	Drone/unmanned aerial vehicle (UAV) Phantom 4RTK	set	Flying aeronautical photography, create digital elevation models and build topographic maps	1
16	Echo Sounder CHCAV D230	set	Using 2-frequency GPS for topography survey and underwater mapping	1
II. GEOLOGICAL SURVEY EQUIPMENT				
1	Core Drilling Rig XY-44A	set	Capable drilling depth 1000m	1
2	Core Drilling Rig XY-3	set	Capable drilling depth 500m	1
3	Geological Drilling Machine XY-1A	set	Capable drilling depth 120m	6
4	Geological Drilling Machine JX50-1	set	Capable drilling depth 50m	2
5	Geological Drilling Machine QZ-2C	set	Capable drilling depth 20m	8
6	Boring machine YKB 12/25	set	Capable drilling depth 15m	3
7	Geological Drilling Machine SZ-2	set	Capable drilling depth 15m	1
8	Geological Drilling Machine ZY15	set	Capable drilling depth 15m	5
9	Drilling Machine T-Tech 2015	set	Capable drilling depth 15m	1
10	Float set for underwater drilling survey	set	5 tons	1
III. HYDRO-METEOROLOGICAL SURVEY EQUIPMENT				
1	Digital flow velocity gauge	set	Measuring flow velocity	1
2	Water level gauge	pcs	Measuring water level	1
3	Sediment sampler	set	Sampling sediment mud, sand	1
IV. GEOTECHNIQUE SURVEY EQUIPMENT				
1	Earth and resistivity tester Chauvin Amoux 6462	pcs	Measuring resistivity	1
2	Earth and resistivity tester CA 6470N	pcs	Measuring resistivity	9
V. TESTING EQUIPMENT				
1	Uniaxial compression machine	pcs		33
2	Drier	pcs	LAB testing of specimens: soil, rock, sand, gravel, triaxial, consolidated samples...	4
3	Coarse sieve machine	pcs		1
4	Los Angeles abrasion test machine	pcs		1

EQUIPMENT

NO.	TYPE	UNIT	DESCRIPTION	QUANTITY
5	Infrared rays moisture testing machine	pcs		1
6	1-seat direct shearing machine	pcs		1
7	4-seat direct shearing machine	pcs		1
8	Triaxial compression machine	pcs		2
9	PH measurement equipment	pcs		1
10	Standard soil sieve set	set	LAB testing of specimens: soil, rock, sand, gravel, triaxial, consolidated samples...	4
11	Standard sand sieve set	set		2
12	Nam Kinh permeability equipment	pcs		3
13	Expansion swelling tools	pcs		3
14	Tool for defining angle sand repose in dry and wet condition	pcs		1
15	Rock drilling machine	pcs		2
16	Electronic weight	pcs		10
17	Shaking crusher	pcs		1
18	Jaw crusher	pcs		1
19	Cement mortar mixing machine	pcs		1
20	Cement concrete sample molding	pcs		1
21	Vacuum pump	pcs		1
22	Concrete ultrasonic machine	pcs	Testing of construction material specimens	1
23	Concrete anti-seepage testing machine	pcs		1
24	Petrology thin slide cutter	pcs		1
25	Horizontal disc-mounted grinder	pcs		1
26	Compression machine ELE 25 tons	pcs		1
27	Compression machine ELE 150 tons + flexure device E172-01	pcs		1
28	Static Penetrometer Geomil 100KN-TW	pcs		1
29	Load capacity determination kit	pcs		1
30	CBR value test apparatus	set	Field testing: Cone penetration test (CPT), static compression test, CBR, elastic modulus determination...	1
31	Bekelman apparatus	set		1
32	Vibration table ZT-1x1	pcs		1
33	Air bubble bottle C195+Cylinder	pcs		1

EQUIPMENT

NO.	TYPE	UNIT	DESCRIPTION	QUANTITY
34	Microscope	pcs		1
35	Experimental set for elastic modulus determination	pcs		1
36	Instrument to measure concrete penetration C213	pcs	Field testing: Cone penetration test (CPT), static compression test, CBR, elastic modulus determination...	1
37	Hydraulic universal testing machine 60 tons model D5	pcs		1
38	Forced concrete mixer	pcs		1
39	Concrete split-compress test jig	pcs		1
40	Demolition hammer GSH 16-30	pcs		3
41	Angle grinder GW 8-125C	pcs		2
42	GSH 5X portable demolition hammer	pcs		1
43	Makita EK 7651H portable concrete cutting machine	pcs		3
44	Strain gauge 1/1000	pcs		8
45	Strain gauge 1/100	pcs	Testing soil-rock physical mechanical properties in tunnel.	6
46	Electronic pressure gauge	pcs		3
47	Hydraulic pump HHB- 630M	pcs		2
48	HHYG 200150 hydraulic jack (300 tons, 150 mm)	pcs		2
49	HHYG 200150 hydraulic jack (200 tons, 150 mm)	pcs		3
50	2000KN concrete compression machine	pcs		1
51	Hydraulic puller and pressure gauge (100 kN)	set	Pile pull-out test.	2
52	Hydraulic puller and pressure gauge (300 kN)	set		1

VI. OFFICE EQUIPMENT

1	Desktop computer	pcs	Calculating, designing	350
2	Printer	pcs	A4...A0	60
3	Photocopier	pcs	A4...A0	6

VII. MEANS OF TRANSPORT

1	8-seat Toyota Landcruiser car	pcs		5
2	5 to 7-seat car	pcs		9
3	Pick-up truck	pcs	Serving for field surveys	9
4	16-seat Toyota car	pcs		1
5	Crane truck	pcs		1

SOFTWARE

In order to ensure accuracy and to optimize technical, engineering solutions selected in projects performance, EVNPECC4 has concentrated on investing sufficient advance software for application in the survey and design works. Table of typical software:

NO.	SOFTWARE	DESCRIPTION
I. ADMINISTRATION		
1	D-Office	Document and work management
2	FMIS	Accounting software
3	HRMS	HR administrative software
II. SURVEY AND INVESTIGATION		
1	Agisoft Metashape Professional	Aerial photos processing
2	HEC HMS	Hydrological calculation
3	HEC RAS	River hydraulic formulation
III. ENGINEERING		
1	PSSE	Power system calculation & analysis
2	Bentley Substation V8i	3D engineering design of substation
3	PLS CAAD, PLS POLE, PLS TOWER	3D engineering design of power grid
4	FENAS, SAP	Work structural calculation
5	GEO-SLOPE	Work foundation stability calculation
6	Transient	Calculation of hydropower plant transient modes
7	GT Pro, Steam Pro	Engineering design of steam, gas turbine thermal power plants
8	Wasp	Wind energy calculation
9	WindPro	Engineering design of wind power
10	Meteonorm 7.1.8	Irradiance intensity calculation
11	PVSyst	Engineering design of solar power
12	Promis	Engineering of secondary part
13	Autodesk software system	BIM design drawing software
14	Autodesk Autocad Revit	3D design drawing software
15	CIC	Cost estimate software
16	DigSilent 2022	Power system calculation & analysis
17	CYMCAP	Calculation of ampacity and temperature rise for power cable installations
18	ETAP	Electrical Transient Analyzer Program
19	EMTP-RV	Electromagnetic transient calculations for selecting primary equipment

03. CAPABILITIES & EXPERIENCE



CAPABILITIES AND EXPERIENCE IN POWER ENGINEERING

With over 45 years of experience in the field of power engineering consulting, EVNPECC4 has successfully designed for more than 1,000 power grid projects with voltage up to 500kV; more than 500 hydropower, thermal power and renewable projects stretched along the country; including technical infrastructure, civil and road-bridge projects.

1

Engineering

- Survey and investigation
- Laboratory and experiment for construction works
- Engineering design and appraisal
- Projects construction supervision

Others

- Planning
- Optimization of power system calculation
- Consultancy of repair, maintenance and refurbishing of power plants
- Environmental monitoring
- Energy audit

2

3

Projects investment management

EPC contracting of energy projects

4

5

Investment and cooperation in the field of energy



EVNPECC4

Trust building

SURVEY & INVESTIGATION CONSULTING CAPABILITY



SURVEY & INVESTIGATION CONSULTING CAPABILITY

After over 45 years investigating in power projects, EVNPECC4 has built up a qualified workforce. EVNPECC4 has equipped with modern and specialized facilities for the works of geological and topography survey, unmanned aerial vehicle with high accuracy and specialised software; national recognized laboratory (LAS) and other facilities to meet investigation requirement from clients.

SCOPE OF WORKS

Survey and investigation

- Survey, mapping of topographical profiles, establishing of terrestrial, underwater terrain maps in various scales; Measuring and establishing of cadastral maps, setting out boundary landmarks, preparing of compensation, resettlement and site clearance plans;
- Aerial photograph drone, bathymetry;
- Geological exploratory drilling with capable depth up to 700 metres. Hydrogeological, geophysical surveys;
- Consulting to survey and calculate of hydrology and oceanography conditions for construction projects.
- Wind observation and wind energy potential assessment;
- Geological description of work foundation pits;
- Monitoring deformation, dislocation and sediment of irrigation, hydropower, thermal power projects;

Laboratory and experiment for construction works

- Checking of mechanical durability of concrete, roller compacted concrete (RCC), structure, construction materials;
- Carrying out of field tests (SPT, CPT and other tests in boreholes) and LAB tests for ground bases, foundations, construction materials, and RCC testing;
- Testing of water analysis, soil-rock properties, work foundations and construction materials;
- Inspection on project's quality;
- Testing, analyzing, assessing of environmental criteria.

EXPERIENCE

- Topographical and geological investigation over 100 power source projects with capacity from 30MW to 1,200MW.
- Topographical and geological investigation over 3,000 km transmission lines of 500kV, over 20,000 km transmission lines from 22kV to 220kV with many 110kV, 220kV and 500kV substations.
- Planimetric survey about 50,000 ha with scale from 1/5,000 to 1/100.
- Measuring over 20,000 km topographical sections.
- Drilling for geological investigation over 200,000 m.

SURVEY & INVESTIGATION CONSULTING CAPABILITY

TYPICAL PROJECTS

Bac Ai Pumped Storage Hydropower (1,200MW)

Investigation for preparing of FS, Technical design, in which geological exploration drilling up to 10,000m, the deepest borehole is 550m.



Offshore Marshal Ben Tre Wind power project (100MW)

Drilling for geological exploration, planimetric measuring by echo sounding

SURVEY & INVESTIGATION CONSULTING CAPABILITY

TYPICAL PROJECTS

Savannakhet WPP (Laos)



Design, supply, construction and installation of wind measuring towers; Operating, collecting data and preparing installation report.

500kV Northern Chau Duc Substation



Flying aeronautical photography by unmanned aerial vehicle (UAV)

Trung Nam – Thuan Bac WPP



CPT Static penetration test



Soil testing by 3-axis compressor

SURVEY & INVESTIGATION CONSULTING CAPABILITY

TYPICAL PROJECTS

PROJECT	LOCATION	PERIOD	SCALE (MW)	CLIENT
SURVEY FOR POWER PLANTS' ENGINEERING				
Krong H'nang	Dak Lak + Phu Yen	2001-2007	65	Song Ba Power Investment & Development JSC
Buon Tua Srah	Dak Lak + Dak Nong	2001-2008	86	EVN
Ea Krong Rou	Khanh Hoa	2002-2003	28	Central Power Development JSC
Srepok 4	Dak Lak	2004-2005	70	Dai Hai Investment and Development JSC
Trung Son	Thanh Hoa	2004-2015	260	EVN
Nho Que 2	Ha Giang	2006-2007	42	Nho Que Power Investment & Development JSC
Nho Que 1	Ha Giang	2006-2009	32	Northern Power Investment & Development JSC
Nam Muc	Dien Bien	2006-2009	44	Nam Muc Hydropower JSC
Nam Na	Lai Chau	2006-2010	200	EVN
Bac Ai PSPP	Ninh Thuan	2006-2020	1,200	EVN
Song Tranh 3	Quang Nam	2007-2008	49	Central Region JSC
Srepok 4A	Dak Lak	2009-2013	64	EVNPECC4
SURVEY FOR RENEWABLE ENERGY PROJECTS				
BIM	Ninh Thuan	2019-2020	320	BIM Windpower JSC
Trung Nam - Thuan Nam Solar farm	Ninh Thuan	2019-2020	450	Trung Nam Thuan Nam Solar Power Co., Ltd.
Ea Nam WPP	Dak Lak	2020-2021	400	Trung Nam Dak Lak Wind Power JSC
Cho Long WPP	Gia Lai	2020-2021	155	Cho Long Wind Power JSC
Yang Trung WPP	Gia Lai	2020-2021	145	Yang Trung Wind Power JSC
Marshall Ben Tre Offshore WPP	Ben Tre	2021	5,000	Marshall Global Ben Tre Renewable Power Private Limited
KN Srepok 3 Solar farm	Dak Lak	2022	380	Srepok 3 Solar Power JSC
Truong Son WPP	Laos	2023-2024	250	Viet Lao Energy Investment And Development JSC



SURVEY & INVESTIGATION CONSULTING CAPABILITY

TYPICAL PROJECTS

PROJECT	LOCATION	PERIOD	SCALE (MW)	CLIENT		
SURVEY FOR THERMAL POWER - BIOMASS PROJECTS						
Cong Thanh TPP	Thanh Hoa	2010-2019	600	Cong Thanh Thermal Power JSC		
Van Phong LNG	Khanh Hoa	2020	2,600	Electric Power Development Co.,Ltd.		
Ca Na LNG	Ninh Thuan	2020	1,500	Gulf Energy Development Public Co., Ltd.		
Khanh An Biomass	Ca Mau	2021	24	Intracom		
PROJECT				PERIOD	SCALE (KM)	CLIENT
SURVEY FOR TRANSMISSION LINE (T/L) PROJECTS						
500kV North - South T/L - Circuit 1 (Segment of Da Nang - Buon Ma Thuot)				1992-1995	436 km	EVN
500kV Pleiku - Phu Lam T/L (Segment of Dong Nai - Phu Lam)				1992-1995	100 km	EVN
500kV Pleiku - Dung Quat - Da Nang T/L (Segment from Pleiku - Dung Quat)				1992-1995	202 km	EVN
500kV North - South T/L - Circuit 2 (Segment of Ha Tinh - Nho Quan)				2003-2005	277 km	EVN
500kV Quang Ninh - Thuong Tin T/L				2003-2010	148.9 km	EVN
500kV Ban Sok - Pleiku T/L				2009-2013	110 km	EVN
500kV Pleiku - My Phuoc - Cau Bong T/L				2011-2016	442 km	EVN
500kV Nam Dinh TPP 1 - Pho Noi T/L				2016-2024	126.9 km	EVN
500kV Nam Dinh TPP 1 - Thanh Hoa T/L				2016-2024	74.4 km	EVN
500kV Quang Trach - Doc Soi T/L				2018-2021	500 km	EVN
220kV Hoa Khanh - Hue T/L				2000-2002	82 km	EVN
220kV Da Nhim - Nha Trang T/L				2002-2003	113 km	EVN
220kV Pleiku - KrongBuk T/L				2002-2008	170 km	EVN
220kV Quy Nhon - Tuy Hoa T/L				2002-2010	92.5 km	EVN
220kV Tuy Hoa - Nha Trang T/L				2002-2010	135 km	EVN
220kV Ban La - Vinh T/L				2002-2012	167 km	EVN
220kV Dong Hoi - Hue T/L				2003-2011	173 km	EVN
220kV Da Nang - Doc Soi T/L				2004-2013	106 km	EVN
220kV Tuyen Quang - Thai Nguyen T/L				2006-2007	77 km	EVN
220kV XeKaMan 3 - Thanh My T/L				2007-2011	92.3 km	EVN
220kV Upper Kon Tum - Quang Ngai T/L				2007-2020	76 km	EVN

SURVEY & INVESTIGATION CONSULTING CAPABILITY

TYPICAL PROJECTS

PROJECT	PERIOD	SCALE (KM)	CLIENT
220kV KrongBuk - Nha Trang T/L	2008-2018	148 km	EVN
220kV T/L connecting DakMi 4 HPP	2008-2021	60 km	IDICO
220kV Quang Ngai - Quy Nhon T/L	2009-2015	147 km	EVN
220kV Phan Thiet - Phu My 2 T/L	2009-2015	144 km	EVN
220kV Vinh Tan - Phan Thiet T/L	2009-2016	92 km	EVN
220kV A Vuong 1 - Hoa Khanh T/L	2012-2013	79 km	EVN

PROJECT	PERIOD	SCALE (MVA)	CLIENT
SURVEY FOR SUBSTATION PROJECTS			
500kV Quang Ninh substation	2003-2010	2x450MVA	EVN
500kV DakNong substation	2004-2012	2x450MVA	EVN
500kV Pho Noi substation	2008-2016	2x600MVA	EVN
500kV Thanh My substation	2009-2011	2x450MVA	EVN
500kV Thuan Nam substation	2020	2x900MVA	TNG
220kV Nha Trang substation	1997-1999	2x125MVA	EVN
220kV Hoa Khanh substation	2000-2002	2x125MVA	EVN
220kV Do Luong substation	2005-2007	2x125MVA	EVN
220kV Son Ha substation	2011-2017	2x125MVA	EVN
220kV Song Tranh 2 substation	2011-2020	2x125MVA	EVN

HYDROPOWER CONSULTING CAPABILITY



HYDROPOWER CONSULTING CAPABILITY

For over 20 years of experience in the field of hydropower engineering consulting, EVNPECC4 has implemented over 20 medium to large hydropower projects and many small hydropower projects with total installed capacity up to 3,000MW, contributed to ensuring the national power security.

SCOPE OF WORKS

- Planning for hydropower development by basin, planning for hydropower ladder by river;
- Investigating and preparing environmental impact assessment reports, compensation and resettlement support alternatives of hydropower projects;
- Consultancy on project formulation and construction design of hydropower projects of different scales including the stages of Basic Design, Technical Design & Total Estimation, Detailed Design;
- Preparing bidding documents and evaluate bids for construction and installation bidding packages and provide advanced equipment for Hydropower projects;
- Safety inspection of irrigation dams, hydroelectricity, stability assessment of work items;
- Preparing emergency action plans, developing flood maps downstream of irrigation and hydropower projects;
- Establishing inter-reservoir operating procedure;
- Engineering and budget appraisal in different stages.

EXPERIENCE

Domestic projects

- Planning: 3,000MW
- Pre-PS/FS: Over 20 projects, total capacity of 3,000MW
- Technical design, Detailed design: Over 10 projects, total capacity of 2,000MW
- Appraisal: Over 15 projects, total capacity of 1,500MW

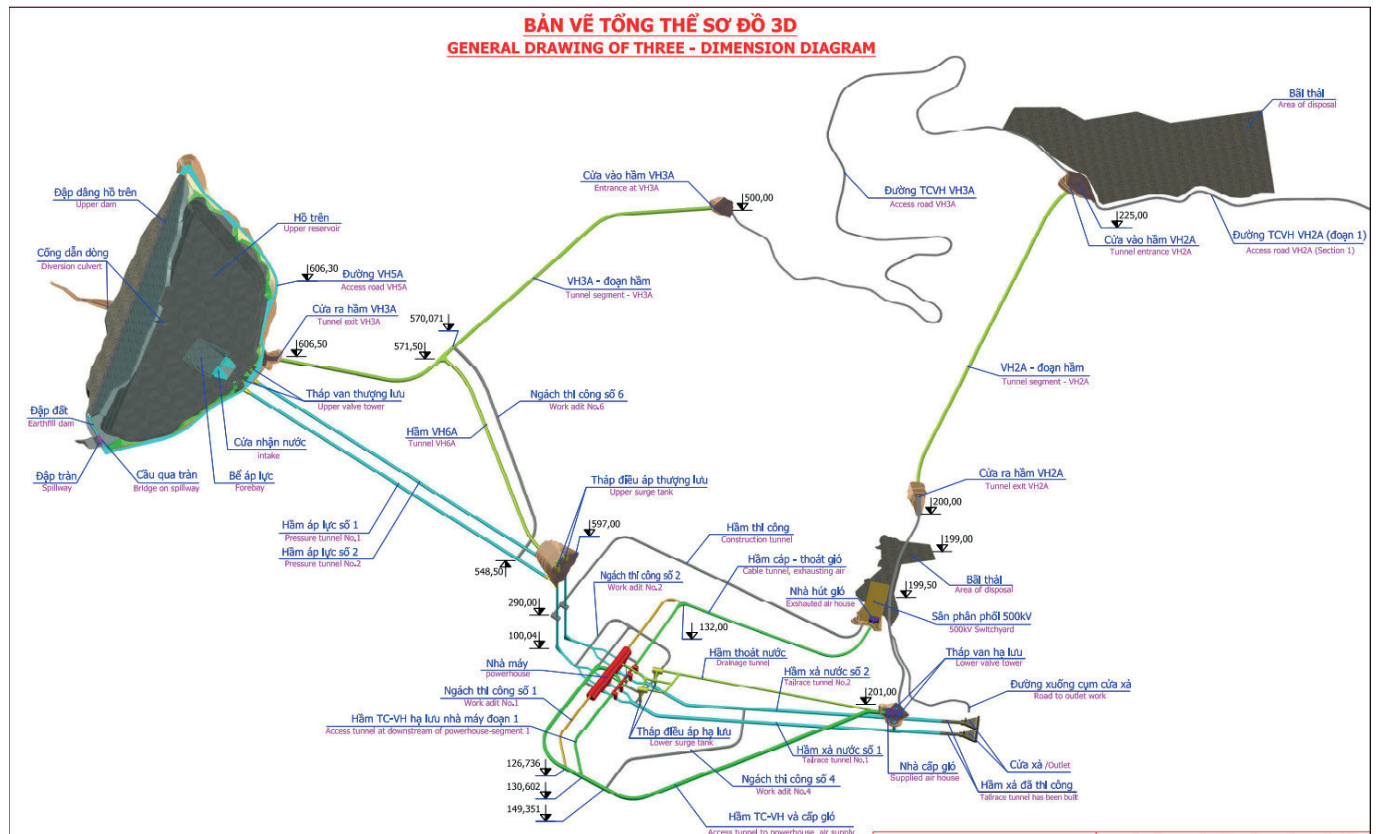
Oversea projects

- Planning report for potential of Laos hydropower projects with total capacity 13,100MW
- FS report for Se Kong hydropower project in Cambodia with capacity of 190MW



TYPICAL PROJECTS

Bac Ai Pumped Storage Hydropower



General Drawing of 3D Diagram

Location: Ninh Thuan
Installed capacity: 1,200 MW
Main dam height: 52.3 m
Project classification: Special class
Scope of works:

- Survey, Investment Report
- Survey, Feasibility Study (FS)
- Environmental impacts assessment
- Survey, technical design, bidding document
- Construction drawing design



Outlet works completed in March, 2021

HYDROPOWER CONSULTING CAPABILITY

TYPICAL PROJECTS

Song Bung 4 Hydropower

Location: Dak Lak

Installed capacity: 156 MW

Main dam height: 114 m

Project classification: Class I

Scope of works:

- Review of Technical design
- Bidding process assistance
- Project construction supervision



Buon Tua Srah Hydropower

Location: Quang Nam

Installed capacity: 86 MW

Main dam height: 83 m

Project classification: Class I

Scope of works:

- Survey, FS
- Technical and detailed design
- Bidding document
- Environmental impacts assessment
- Geological description of foundation pits
- Survey, assessment of downstream landslide
- Dam safety evaluation and sediment monitoring



Trung Son Hydropower

Location: Thanh Hoa

Installed capacity: 260 MW

Main dam height: 83 m

Project classification: Class



Trung Son Hydropower's dam spillway

Scope of works:

- Survey, pre-feasibility study (Pre-FS)
- Survey, feasibility study (FS), environmental impacts assessment (EIA)
- Survey, technical design, bidding document and bids evaluation
- Experiment and designing of roller compacted concrete (RCC) aggregate
- Geological description of foundation pits
- Setting out reservoir boundary landmarks
- Survey, calculation of dam failure scenarios and preparation of EPP, flood mapping and flood control downstream
- Monitoring of dam displacement
- Work safety assessment via monitored data



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HYDROPOWER CONSULTING CAPABILITY

TYPICAL PROJECTS

A: Pre-feasibility study (Pre-FS)

B: Feasibility study (FS)

C: Technical design (TD)

D: Detailed design (DD)

PROJECT	LOCATION	PERIOD	SCALE (MW)	CLIENT	STAGES			
					A	B	C	D
ENGINEERING								
Krong H'hang	Dak Lak + Phu Yen	2001-2007	65	Song Ba Power Investment and Development JSC		✓	✓	✓
Buon Tua Srah	Dak Lak + Dak Nong	2001-2008	86	EVN	✓	✓	✓	✓
Ea Krong Rou	Khanh Hoa	2002-2003	28	Central Power Development JSC		✓		
Srepok 4	Dak Lak	2004-2005	70	Dai Hai Investment and Development JSC		✓	✓	✓
Khanh Thuong	Khanh Hoa	2004-2006	12	Central Power Development JSC		✓		
Da Krong 1	Quang Tri	2004-2006	12	Central Power Development JSC		✓		
Nam Mo	Nghe An	2004-2006	17	Ban Ve Hydropower JSC		✓		
Trung Son	Thanh Hoa	2004-2015	260	EVN	✓	✓	✓	✓
Song Giang	Khanh Hoa	2005	30	Song Giang Hydropower JSC		✓		
Po E	Quang Ngai	2006-2007	12	Po E Hydropower JSC		✓		
Tra Xom	Binh Dinh	2006-2007	18	Tra Xom Hydropower JSC		✓		
Nho Que 2	Ha Giang	2006-2007	42	Nho Que Power Investment and Development JSC		✓	✓	✓
Phu Tan 2	Dong Nai	2006-2007	81	Nhan Luat Energy JSC		✓		
Nho Que 1	Ha Giang	2006-2009	32	Northern Power Investment and Development JSC		✓	✓	
Nam Muc	Dien Bien	2006-2009	44	Nam Muc Hydropower JSC		✓		
Nam Na	Lai Chau	2006-2010	200	EVN	✓			
Hoi Xuan	Thanh Hoa	2006-2012	90	Vietnam Power Construction Corporation		✓		
Bac Ai PSPP	Ninh Thuan	2006-2020	1,200	EVN	✓	✓	✓	
Tr' Hy	Quang Nam	2007-2008	30	Enterprise Finance & Development JSC		✓		
Song Tranh 3	Quang Nam	2007-2008	49	Central Region JSC		✓		
La Ngau	Binh Thuan	2007-2009	46	La Ngau Hydropower JSC		✓	✓	✓
Srepok 4A	Dak Lak	2009-2013	64	EVNPECC4		✓	✓	✓
Se Kong	Cambodia	2010-2015	190	EVN		✓		

HYDROPOWER CONSULTING CAPABILITY

TYPICAL PROJECTS

PROJECT	LOCATION	PERIOD	SCALE (MW)	CLIENT	STAGES			
					A	B	C	D
APPRAISAL								
An Khe	Gia Lai + Binh Dinh	2005-2006	173	EVN		✓		
Da Dang 2	Lam Dong	2006	34	Southern Hydropower JSC				✓
Nho Que 3	Ha Giang	2006-2007	110	Nho Que 3 Hydropower JSC		✓		
A Luoi	Thua Thien - Hue	2006-2007	170	Central Power Development JSC				✓
Dak Mi	Quang Nam	2006-2007	190	Srok Phu Mieng Management Board				✓
Van Chan	Yen Bai	2007	57	Van Chan Hydropower JSC				✓
Da M'bri	Lam Dong	2007	75	Southern Hydropower JSC				✓
Ngoi Hut 2	Yen Bai	2008	49	Truong Thanh Co., Ltd		✓		
Lower Se San 1 /Se San 5	Cambodia	2008	96	EVN International JSC	✓	✓		
Song Bung 4	Quang Nam	2008	164	Song Bung 4 Hydropower JSC				✓
Lower Se San 2	Cambodia	2008	400	EVN	✓	✓		
Hoa Phu	Dak Nong + Dak Lak	2010	29	Tam Long Hydropower JSC				✓
Moc Chau PSPP	Son La	2011	1,200	Hydropower Projects Management Board 1		✓		

PROJECT	LOCATION	PERIOD	SCALE (MW)	CLIENT
PLANNING				
Srepok downstream cascade hydropower planning	Cambodia	2005	480	EVN
Quang Tri provincial small-scale hydropower planning	Quang Tri	2005-2012	74	Quang Tri DOIT
Laos hydropower potential exploitation planning and Vietnam-Laos-Cambodia inter-connection grid planning	Vietnam - Laos - Cambodia	2014	13,022	EVN

HYDROPOWER CONSULTING CAPABILITY

TYPICAL PROJECTS

PROJECT	LOCATION	PERIOD	SCALE (MW)	CLIENT	
PLANNING					
Khanh Vinh PSPP	Khanh Hoa	2022	1,000	Bitexco Power Corporation	
Kosy PSPP	Bao Loc	2022	1,200	Kosy JSC	
Ninh Son PSPP	Ninh Thuan	2022	1,200 - 2,400	Trung Nam Group	
Kon Plong PSPP	Kon Tum	2022	1,200 - 3,600	Bitexco Power Corporation	
Quang Tri PSPP	Quang Tri	2022	350 - 500	EVNGENCO2	
PROJECT	LOCATION	PERIOD	SCALE (MW)	CLIENT	SCOPE OF WORKS
OPERATION CONSULTING					
Srepok 4 HPP	Dak Lak	2010-2012	70	Dai Hai Investment and Development JSC	Monitoring works dislocation.
An Khe - Ka Nak HPP	Gia Lai, Binh Dinh	2016, 2019	173	EVN	Monitoring works dislocation. Dam safety inspection.
Trung Son HPP	Thanh Hoa	2017	260	EVN	Preparation of emergency preparedness plan (EPP), flood mapping. Monitoring works dislocation.
Huoi Quang HPP	Lai Chau	2019	540	EVN	Monitoring works dislocation.
Buon Tua Srah HPP	Dak Lak + Dak Nong	2020	86	EVN	Dam safety inspection. Evaluation, sediment monitoring.
Se San 4 HPP	Gia Lai	2021	360	EVN	Monitoring works dislocation. Erosion and sediment monitoring.
Tri An HPP	Dong Nai	2021	400	EVN	Dam and reservoir safety plan. Vertical and horizontal dislocation monitoring.
Ialy HPP	Gia Lai	2021	720	EVN	Monitoring displacement of waterway.
Se San 3 HPP	Gia Lai		260		
Plei Krong HPP	Kon Tum		100		

RENEWABLE ENERGY CONSULTING CAPABILITY



RENEWABLE ENERGY CONSULTING CAPABILITY

Grasping Vietnam's renewable power development strategy, EVNPECC4 soon focuses resources and has built plans to develop renewable energy consultancy. Currently, EVNPECC4 has been one of leading renewable energy consulting firms and affirmed the reputation with various projects of wind power, solar power plants have been commercially operated.

SCOPE OF WORKS

- Planning for renewable energy projects.
- Report on potentials assessment, investment recommendation, Pre-FS for wind power and solar power plants.
- FS report, Technical design, Detailed design, Tender documents, Construction supervision for wind power and solar power plants.
- Project appraisal in all engineering phases.

EXPERIENCE

- Implemented additional planning for over 50 wind power and solar power projects with installed capacity from 30MW to 500MW into the national and provincial power development planning. Total installed capacity of all these projects is about 10,000MW.
- Completed consultancy in all phases from FS report, Technical design, Detail design; Project management and construction supervision for over 30 projects with total capacity over 5,000MW which have been commercially operated.

Typical solar power projects:

- Trung Nam – Thuan Nam in Ninh Thuan province – 450MW.
- Phuoc Thai – EVN in Ninh Thuan province – 200MWp.
- Ea Sup – Xuan Thien in Dak Lak – 780MWp.
- Floating solar plant in Da Mi reservoir – 47,5MWp.
- Floating solar plant in Tra O Lagoon in Binh Dinh – 50MWp.

Typical wind power projects:

- Ea Nam – Trung Nam in Dak Lak – 400MW.
- Ia Pet Dak Doa in Gia Lai 200MW.
- Binh Dai nearshore in Ben Tre – 128MW.
- Dong Hai 1 nearshore in Bac Lieu – 50MW.
- Planning for Phuoc Dinh offshore – Ninh Thuan – 1,130MW.
- Planning for Ben Tre offshore - 5,000 MW.
- Planning for Tra Vinh offshore - 5,000 MW.
- Planning for Nam Dinh offshore - 12,000 MW.
- Planning for Ninh Binh offshore - 2,000 MW.
- Planning for Thai Binh offshore - 5,000 MW.
- Planning for Hai Phong offshore - 3,000 MW.

RENEWABLE ENERGY CONSULTING CAPABILITY

TYPICAL WIND POWER PROJECTS



Ea Nam windfarm

Location: Dak Lak

Installed capacity: 400 MW

Project classification: Class I

Scope of works:

- Survey for engineering
- Technical design, detailed design



Lien Lap windfarm

Location: Quang Tri

Installed capacity: 48 MW

Project classification: Class I

Scope of works:

- Technical design, detailed design
- Bidding document of main equipment package



Binh Dai windfarm 1, 2, 3 (offshore)

Location: Ben Tre

Total installed capacity: 128 MW

Project classification: Class II

Scope of works:

- Master plan supplementation report
- Feasibility Study (FS)
- Technical design, detailed design



Trung Nam windfarm

Location: Ninh Thuan

Installed capacity: 151.95 MW

Project classification: Class I

Scope of works:

- Review of basic design
- Survey for engineering design
- Technical design, detailed design



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RENEWABLE ENERGY CONSULTING CAPABILITY

TYPICAL SOLAR POWER PROJECTS



Da Mi solar farm (floating)

Location: Binh Thuan

Installed capacity: 47.5 MWp

Project classification: Class I

Scope of works:

- Master plan supplementation report
- Investment proposal report
- Survey for Feasibility study (FS)
- Feasibility study (FS)
- Bidding document of equipment
- Technical design

Phuoc Thai solar farm

Location: Ninh Thuan

Installed capacity: 200 MWp

Project classification: Class I

Scope of works:

- Survey, project proposal report
- Pre-Feasibility study (Pre-FS)
- Survey for FS
- FS, EPC bidding document
- Support Project management board during construction stage



Trung Nam – Thuan Nam solar farm

Location: Ninh Thuan

Installed capacity: 450 MWp

Project classification: Class I

Constructing a 500kV step-up substation and 500kV connecting branch

Scope of works:

- Master plan supplementation report
- Survey, feasibility study (FS)
- Survey, technical design, detailed design
- Construction supervision of 500kV substation and 500kV, 220kV transmission lines

RENEWABLE ENERGY CONSULTING CAPABILITY

LIST OF TYPICAL RENEWABLE ENERGY PROJECTS

A: Planning

B: Feasibility study (FS)

C: Technical design (TD)

D: Detailed design (DD)

PROJECT	LOCATION	PERIOD	SCALE (MW)	CLIENT	STAGES			
					A	B	C	D
WIND POWER PROJECTS								
EVN - Phuong Mai	Binh Dinh	2010	19.8	Phuong Mai Wind Power JSC		✓		
Lien Nghia - Tran De	Soc Trang	2010	30	Lien Nghia Investment JSC	✓			
An Phong - Ninh Thuan	Ninh Thuan	2010	180	Thuan Phong Energy Development JSC		✓		
IMPSA Ninh Thuan	Ninh Thuan	2012	90	Wind Power Energia S/A (WPE)	✓			
Trung Nam	Ninh Thuan	2017-2020	151.94	Trung Nam Windpower JSC	✓	✓	✓	✓
Lien Lap	Quang Tri	2019-2020	48	Phong Lieu Windpower JSC			✓	✓
Binh Dai 4-8	Ben Tre	2019-2020	182	Ben Tre Renewable Energy JSC	✓			
Ia Pet - Dak Doa	Gia Lai	2019-2020	200	Technology Resource Energy JSC-Gia Lai			✓	✓
BIM	Ninh Thuan	2019-2020	320	BIM Windpower JSC		✓	✓	
Phuoc Dinh (Offshore)	Ninh Thuan	2019-2020	1,130	Phuoc Minh Renewable JSC		✓		
Nhon Hoi 1	Binh Dinh	2019-2021	30	Fico Investment JSC		✓	✓	✓
Nhon Hoi 2	Binh Dinh	2019-2021	30	Fico Investment JSC		✓	✓	✓
Binh Dai 1 (Offshore)	Ben Tre	2019-2021	30	Ben Tre Renewable Energy JSC		✓	✓	✓
Binh Dai 2 (Offshore)	Ben Tre	2019-2021	49	Ben Tre Renewable Energy JSC	✓	✓	✓	✓
Binh Dai 3 (Offshore)	Ben Tre	2019-2021	49	Ben Tre Renewable Energy JSC	✓	✓	✓	✓
Phong Nguyen	Quang Tri	2020	48	Power Construction JSC 1 (PCC1)			✓	
Phong Huy	Quang Tri	2020	48	Power Construction JSC 1 (PCC1)			✓	
Phong Lieu	Quang Tri	2020	48	Power Construction JSC 1 (PCC1)			✓	✓
Windfarm No.5	Ninh Thuan	2020	48	Trung Nam Group	✓	✓	✓	✓
Ea Nam	Dak Lak	2020-2021	400	Trung Nam Windpower JSC-Dak Lak			✓	✓
Offshore Ben Tre	Ben Tre	2021	5,000	Trung Nam Group	✓			
Offshore Tra Vinh	Tra Vinh	2021	5,000	Trung Nam Group	✓			
Offshore Binh Thuan	Binh Thuan	2021	5,000	Xuan Thien Group	✓			

RENEWABLE ENERGY CONSULTING CAPABILITY

LIST OF TYPICAL RENEWABLE ENERGY PROJECTS

PROJECT	LOCATION	PERIOD	SCALE (MW)	CLIENT	STAGES			
					A	B	C	D
Central coastal provinces windpower planning	Central	2009	EVN		✓			
Soc Trang provincial windpower planning	Soc Trang	2014	Soc Trang DOIT		✓			
Tra Vinh provincial windpower planning	Tra Vinh	2014	Tra Vinh DOIT		✓			
Ben Tre provincial windpower planning	Ben Tre	2015	Ben Tre DOIT		✓			
SOLAR POWER PROJECTS								
Song Binh	Ninh Thuan	2016-2018	50	Hydropower Projects MB 5 - EVN	✓	✓		
Da Mi	Binh Thuan	2016-2019	47.5	Da Nhim - Ham Thuan - Da Mi Hydropower JSC	✓	✓	✓	
Phuoc Thai	Ninh Thuan	2016-2020	200	Hydropower Projects MB 5 - EVN	✓	✓		
AMI Khanh Hoa	Khanh Hoa	2017	50	AMI Khanh Hoa Energy JSC	✓	✓		✓
Nhon Hai	Ninh Thuan	2017-2019	35	Licogi 16	✓	✓		
Se San 4	Kon Tum	2017-2019	49	Hydropower Projects MB 1 - EVN	✓	✓		
Thac Mo	Binh Phuoc	2017-2019	49	Thac Mo Hydropower JSC	✓	✓		
Van Ninh	Khanh Hoa	2018	200	Hanwha, KN Cam Ranh Co., Ltd	✓			
My Son - Hoan Loc Viet	Ninh Thuan	2018-2019	49	My Son - Hoan Loc Viet Solar JSC	✓	✓	✓	
Chu Ngoc	Gia Lai	2019	40	Licogi 16	✓	✓		✓
Phong Phu	Binh Thuan	2019	42	Trina Solar Co. Ltd			✓	✓
Song Luy 1	Binh Thuan	2019	47.5	Binh Thuan PV Solar JSC	✓	✓	✓	
Vinh Hao 6	Binh Thuan	2019	49	FECON JSC		✓	✓	
Phuoc Huu	Ninh Thuan	2019	50	Nha Trang Bay Investment JSC	✓	✓		
Ninh Phuoc 6.1, 6.2	Ninh Thuan	2019	7+50	Ninh Thuan Renewable & Agriculture JSC	✓	✓		
BIM 2, 3	Ninh Thuan	2019	250+50	Bim Group	✓			
Solar Park 1,2	Long An	2019-2020	50	Solar Energy LA & Long An Solar Park JSC			✓	
Solar Park 3,4	Long An	2019-2020	50	Solar Energy LA & Long An Solar Park JSC			✓	✓
Trung Nam - Thuan Nam	Ninh Thuan	2019-2020	450	Phuoc Minh Solar JSC	✓	✓	✓	✓
Tra O Lagoon	Binh Dinh	2020	50	VN Renewable Energy JSC	✓		✓	✓
Ninh Thuan provincial solar power potential planning	Ninh Thuan	2018		Ninh Thuan DOIT	✓			



NEW ENERGY CONSULTING CAPABILITY



NEW ENERGY CONSULTING CAPABILITY

SCOPE OF WORKS

- Project proposal report for investing in a green Hydrogen production plant complex;
- Calculate and propose solutions for supplying green electricity to industrial parks;
- Study report on co-firing solutions, CO2 storage in thermal power plants.



Ca Na Green Energy Complex (Ninh Thuan)

TYPICAL PROJECTS

A: Pre-feasibility study (Pre-FS)

B: Feasibility study (FS)

C: Technical design (TD)

D: Detailed design (DD)

PROJECT	LOCATION	PERIOD	CLIENT	STAGES			
				A	B	C	D
GREEN HYDROGEN & AMMONIA							
Study on Hydrogen production in Vietnam	Vietnam	2021-2022	SK E&S Co., Ltd	✓			
Tra Vinh Green Energy Complex	Tra Vinh	2022-2023	Trung Nam Group	✓			
Ca Na Green Energy Complex	Ninh Thuan	2022-2023	Trung Nam Group	✓			
Soc Trang Green Energy Complex	Soc Trang	2022-2023	Trung Nam Group	✓			
Southern Van Phong Green Energy Complex	Khanh Hoa	2022-2023	Trung Nam Group	✓			
Ben Tre Green Energy Complex	Ben Tre	2022-2023	Trung Nam Group	✓			
Pilot project on Green Hydrogen plant in Thuan Nam, Vietnam	Ninh Thuan	2022-2023	Trung Nam Group	✓			
Thuan Nam 11 solar power plant producing Green Hydrogen	Ninh Thuan	2023	T&T Oil, Coal & Gas Import Export JSC	✓			
General study on the global Hydrogen market and forecast of Hydrogen market to 2030	Vietnam	2023	EVN	✓			
Research on developing a green Ammonia supply chain for power generation in Vietnam	Vietnam	2023-2024	EVN	✓			
Hamburg - Ben Tre Energy Complex	Ben Tre	2023-2024	Hamburg Ben Tre Wind Power JSC	✓			
Green Growth pilot project on co-firing biomass at TKV Power's thermal power plants	Vietnam	2023-2024	TKV Power	✓			
Pilot project on co-firing Ammonia and Carbon Capture - Utilization at thermal power plants	Vietnam	2023-2024	EVNGENCO1	✓			
Green Hydrogen production complex and general port	Binh Dinh	2024	Mandala Group JSC	✓			



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THERMAL POWER CONSULTING CAPABILITY



THERMAL POWER CONSULTING CAPABILITY

With dynamic spirit and professional working style, EVNPECC4 thoroughly understand and wish to bring practical values to clients with the best engineering and operation solutions.

SCOPE OF WORKS

- Consulting on designing of thermal power plant: site planning, detail planning for thermal power center. Preparation, review, evaluation of investment report, tender document, request for proposal, FS, basic design, technical design, detail design of different systems of thermal power plants.
- Preparation, evaluation of design documents, tender document, request for proposal of new energy plants.
- Consulting on construction supervision and project management.
- Consulting on repaid and maintenance of power plants.

EXPERIENCE

- Additional planning, Pre-FS/FS report for thermal power plants, LNG, biomass with installed capacity from 20MW to 5,400MW.
- Engineering appraisal for 7 thermal power plants, LNG with total capacity up to 6,000MW.
- Consulting to Clients about optimization solution, reliability enhancement, performance enhancement, cost optimization, O&M for over 10 thermal power plants.
- Consulting supervision and support Clients in project management for 2 thermal power plants.



THERMAL POWER CONSULTING CAPABILITY

TYPICAL COAL-FIRED THERMAL POWER PROJECTS



Cong Thanh coal-fired thermal power plant

Location: Thanh Hoa

Installed capacity: 600 MW

Project classification: Class I

Scope of works:

- Survey, feasibility study (FS)
- Environmental impacts assessment
- EPC bids evaluation



Vinh Tan thermal power complex

Location: Binh Thuan

Installed capacity: 5,400 MW

Project classification: Class I

Scope of works:

- Preparation of revised planning
- Survey, infrastructure design (power, road, operation building)
- FS Appraisal of Vinh Tan TPP
- Vinh Tan 4 extension's EPC contract management

THERMAL POWER CONSULTING CAPABILITY

TYPICAL LNG THERMAL POWER PROJECTS



Nghi Son LNG thermal power plant

Location: Thanh Hoa

Installed capacity: 1,500 MW

Scope of works:

- Preparation of Investment Proposal Report
- Preparation of bid document

Ca Na LNG thermal power plant

Location: Ninh Thuan

Installed capacity: 6,000 MW

Project classification: Special class

Scope of works:

- Survey, site selection report
- Pre-feasibility study
- Environmental impacts assessment



THERMAL POWER CONSULTING CAPABILITY

TYPICAL WASTE-TO-ENERGY AND BIOMASS POWER PROJECTS



Khanh An wood-fired power plant

Location: Ca Mau

Installed capacity: 2x12 MW

Scope of work:

- Feasibility study (FS) - Basic Design
- Specialized reports



Seraphin waste-to-energy power plant

Location: Hanoi

Waste processing capacity: 2,250 tons/day

Installed capacity: 37 MW

Scope of work:

- Feasibility study (FS) - Technical Design
- Specialized reports



National Plan for solid waste-to-energy development to 2025, with vision to 2030

Scope of work:

- Masterplan supplementation report
- Environmental Impact Assessment



Bac Giang waste-to-energy power plant

Location: Bac Giang

Waste processing capacity: 750 tons/day

Installed capacity: 12 MW

Scope of work:

- Masterplan supplementation report
- Feasibility study (FS)

Combined Heat and Power (CHP) Project from selected sugar mills in Vietnam:

- Lam Son sugar cane JSC in Thanh Hoa

- Nghe An sugar mill (NASUCO) in Nghe An

Scope of work:

- Pre-feasibility study

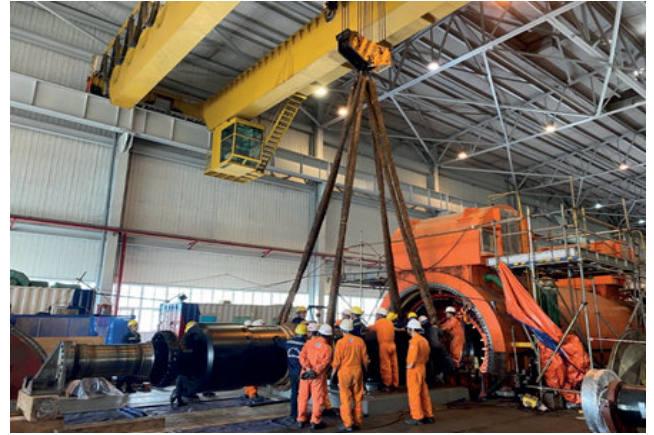
THERMAL POWER CONSULTING CAPABILITY

TYPICAL O&M PROJECTS



Uong Bi Thermal Power Plant

Preparing techno-economic report for major repairs



Vinh Tan 2 Thermal Power Plant

Proposing and implementing solutions to enhance operational reliability and efficiency



Duyen Hai 1 Thermal Power Plant

Surveying and evaluating key systems of the Plant

Digital transformation for EVNGENCO2

Consulting on preparing a master plan for Power Generation Corporation 2 (EVNGENCO2)'s digital transformation program



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THERMAL POWER CONSULTING CAPABILITY

LIST OF TYPICAL THERMAL POWER AND BIOMASS PROJECTS

A: Pre-feasibility study (Pre-FS)

B: Feasibility study (FS)

C: Technical design (TD)

D: Detailed design (DD)

PROJECT	LOCATION	PERIOD	SCALE (MW)	CLIENT	STAGES			
					A	B	C	D
ENGINEERING								
Cong Thanh TPP	Thanh Hoa	2010-2019	600	Cong Thanh Thermal Power JSC	✓	✓		
Ca Na LNG	Ninh Thuan	2020	1,500	Gulf Energy Development Public Co., Ltd	✓			
Van Phong LNG	Khanh Hoa	2020	2,600	Electric Power Development Co., Ltd.	✓			
Waste to Energy - Khanh Hoa province	Khanh Hoa	2020	500 tons /days	268 Viet Vam Energy – Environment JSC	✓			
Waste to Energy - Quang Nam province	Quang Nam	2020	500 tons /days	268 Viet Vam Energy – Environment JSC	✓			
Hon La Biomass	Quang Binh	2021	20	Byucksan Engineering Company Limited (BSE)	✓			
Khanh An Biomass	Ca Mau	2021	24	Intracom		✓		
Seraphin Waste-to-Energy Plant	Hanoi	2023-2024	2,250 tons /days	SERAPHIN Green Environment Technology JSC		✓	✓	
Bac Giang Waste-to-Energy Plant	Bac Giang	2023-2024	750 tons /days	SERAPHIN Green Environment Technology JSC	✓		✓	
Nghi Son LNG TPP	Thanh Hoa	2023-2024	1.500	SK E&S Co., Ltd	✓			
National planning of power source development using solid waste up to 2025, with vision to 2030	Vietnam	2015	-	Bureau of Energy – Ministry of Investment and Trade	✓			
APPRAISAL								
Mien Trung CCGT	Quang Ngai	2010-2014	2,200	Vietnam Oil and Gas Group		✓		
Vinh Tan TPP 2 - Extension of coal storage roof	Binh Thuan	2017-2020	2,200	EVN		✓		✓
Uong Bi TPP	Quang Ninh	2018	300	GENCO1		✓		
Vinh Tan TPP 4, 4 extension	Binh Thuan	2018-2019	2,200	EVN		✓		
Duyen Hai TPPs 3, 3 extension	Khanh Hoa	2020-2021	2,600	EVN		✓		



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THERMAL POWER CONSULTING CAPABILITY

LIST OF TYPICAL THERMAL POWER AND BIOMASS PROJECTS

PROJECT	LOCATION	PERIOD	SCALE (MW)	CLIENT	SCOPE OF SERVICES
OPERATION AND MAINTENANCE (O&M)					
Report on O&M for EVNGENCO1's power plants	Vietnam	2015-2016	-	EVNGENCO1	O&M
Uong Bi TPP	Quang Ninh	2015-2016	630	EVNGENCO1	Technical & economic analysis and evaluation report of unit's main equipment renovation. Preparation of Techno-Economic Report for project of transforming auxiliary material from FO/DO - 300 & 330 MW units
Pha Lai TPP	Hai Duong	2015-2017	4x110	Pha Lai Thermal Power Company	Preparation of Tender document, FS for equipment renovation and upgrade of Line 1 under Investment project. Preparation of Techno-Economic Report for project of transforming auxiliary material from FO/DO - Line 1, 2.
Optimization and reliability enhancement of TPPs' boiler	Vietnam	2016	1,200	EVNGENCO3	Optimization and reliability enhancement of TPPs' boiler
Ninh Binh TPP	Ninh Binh	2016-2017	4x25	Ninh Binh Thermal Power JSC	Performance enhancement, cost optimization.
Vinh Tan 2 TPP	Binh Thuan	2016-2017	2x600	EVNGENCO3	Optimization and reliability enhancement for boiler. Survey, assessment of plant performance and its systems.
Vung Ang 1 TPP	Ha Tinh	2016-2018	1,200	Vietnam Oil and Gas Group	Preparation of O&M norm (permanent and periodic)
Ca Mau 1&2 and Nhon Trach TPPs	Ha Tinh	2016-2020	1,200	Vietnam Oil and Gas Group	Preparation of inventory norm for O&M
Duyen Hai 1 TPP	Tra Vinh	2019	622.5	Duyen Hai Thermal Power Co.	Survey, assessment of plant's crucial system.
Lam Dong Aluminum Thermal Power Plants of TKV	Lam Dong	2019-2020	-	Lam Dong Aluminum One Member Co., Ltd	Refurbishing boiler 01, 02 - Thermal power plant.
Vinh Tan 4 TPP	Vietnam	2021	2x600	TKV	Preparation of TPPs' O&M norm.
				EVN	Survey, preparation of Techno-Economic report for monitoring system of coal crushing units.

POWER GRID CONSULTING CAPABILITY



POWER GRID CONSULTING CAPABILITY

For over 45 years of experience in the field of power grids engineering consulting, EVNPECC4 currently is a strong service provider of survey, engineering for medium-voltage, high-voltage and 500kV super high-voltage power grids. With the rich experienced engineers and experts, EVNPECC4 is having many advantages in researching, calculating and proposing optimal solutions for power system operation.

SCOPE OF WORKS

- Territorial, provincial, municipal power development plans.
- Engineering for substations, transmission and distribution lines up to 500kV in all stages: pre-FS report, FS, technical design, detailed design, cost estimation, tender documents, bid evaluation.
- Building Information Modeling (BIM) Designing.
- Engineering appraisal.
- Participation in construction processes development and researching related topics.

EXPERIENCE

Transmission line

- More than 200 projects of 110/220/500kV overhead transmission line nationwide with over 2,500 km of 500kV transmission line, over 5,000 km of 110/220kV transmission lines.
- Many projects of electricity supplementation with over 10,000 km of 22/35kV distribution power network.
- Underground and submarine power cables to provide power for islands.

Substation

- More than 100 projects of 110/220kV substation.
- More than 20 projects of 500kV substation.
- Many distribution substations.

Power system optimization

- Projects on optimal calculation of capacitor capacity and resistance of 220/500kV grid.
- Projects on researching anti-resonance under synchronous solutions affecting power plants.
- Proposing the Electricity Industry and Government to supplement the planning of 220/500kV power grid to enhance the reliability in the operation of Vietnam power system, ensure national energy security, such as: 500kV Pleiku - My Phuoc - Cau Bong transmission line, 500kV Quang Trach - Doc Soi transmission line.

POWER GRID CONSULTING CAPABILITY

TYPICAL 500kV TRANSMISSION LINE PROJECTS

500kV Quang Trach – Doc Soi T/L

Location: Quang Binh, Quang Tri, Thua Thien Hue, Quang Nam, Quang Ngai, Da Nang

Project classification: Special class

Voltage level: 500kV

Number of circuit: 02

Length: 500 km

Scope of works:

- Masterplan supplementation report
- Survey, feasibility study (FS)
- Environmental impacts assessment
- Survey, technical design - total cost estimate, detailed design, bidding document
- Measuring cadastral maps for compensation and site clearance



500kV Pleiku - My Phuoc - Cau Bong T/L

Location: Gia Lai, Dak Lak, Dak Nong, Binh Phuoc, Binh Duong, Ho Chi Minh City

Project classification: Special class

Voltage level: 500kV

Number of circuit: 02

Length: 450 km

Scope of works:

- Masterplan supplementation report
- Survey, feasibility study (FS)
- Environmental impacts assessment
- Specific reports for capital mobilization
- Survey, technical design - total cost estimate, detailed design, bidding document
- Measuring cadastral maps for compensation and site clearance

POWER GRID CONSULTING CAPABILITY

TYPICAL 500KV TRANSMISSION LINE PROJECTS



500kV Nam Dinh I TPP – Thanh Hoa T/L

Location: Nam Dinh, Ninh Binh, Thanh Hoa

Project classification: Special class

Voltage level: 500kV

Number of circuit: 02

Length: 74,4 km

Scope of works:

- Masterplan supplementation report
- Survey, feasibility study (FS)
- Environmental impacts assessment
- Survey, technical design - total cost estimate, detailed design, bidding document
- Measuring cadastral maps for compensation and site clearance
- BIM design for Technical Design and Detailed Design

500kV Nam Dinh I TPP – Pho Noi T/L

Location: Nam Dinh, Thai Binh, Hai Duong, Hung Yen

Project classification: Special class

Voltage level: 500kV

Number of circuit: 02

Length: 126,9 km

Scope of works:

- Masterplan supplementation report
- Survey, feasibility study (FS)
- Environmental impacts assessment
- Survey, technical design - total cost estimate, detailed design, bidding document
- Measuring cadastral maps for compensation and site clearance
- BIM design for Technical Design and Detailed Design



POWER GRID CONSULTING CAPABILITY

TYPICAL 220KV TRANSMISSION LINE PROJECTS

220kV Hai Ha – Cam Pha T/L

Location: Quang Ninh

Project classification: Class I

Voltage level: 220kV

Number of circuit: 02

Length: 80 km

Scope of works:

- Survey, feasibility study (FS)
- Environmental impacts assessment
- Survey, technical design - total cost estimate, detailed design
- Detailed planning for construction



220kV Nha Trang – Thap Cham T/L

Location: Ninh Thuan, Khanh Hoa

Project classification: Class I

Voltage level: 220kV

Number of circuit: 02

Length: 80 km

Scope of works:

- Survey, feasibility study (FS)
- Environmental impacts assessment
- Survey, technical design - total cost estimate, detailed design

220kV Quang Ngai – Quy Nhon T/L

Location: Binh Dinh, Quang Ngai

Project classification: Class I

Voltage level: 220kV

Number of circuit: 02

Length: 140 km

Scope of works:

- Survey, feasibility study (FS)
- Survey, technical design - total cost estimate, detailed design
- Environmental impacts assessment
- Specific reports for capital mobilization



POWER GRID CONSULTING CAPABILITY

TYPICAL 500KV SUBSTATION PROJECTS



500kV Lai Chau substation

Location: Lai Chau

Project classification: Special class

Voltage level: 500kV

Scope of works:

- Survey, feasibility study (FS)
- Environmental impacts assessment
- Survey, technical design - total cost estimate, detailed design
- Measuring cadastral maps for compensation and site clearance



500kV Dak Nong substation and branch

Location: Dak Nong

Project classification: Special class

Voltage level: 500kV

Scope of works:

- Survey, feasibility study (FS)
- Environmental impacts assessment
- Survey, technical design - total cost estimate, detailed design
- Measuring cadastral maps for compensation and site clearance



500kV Pleiku 2 substation

Location: Gia Lai

Project classification: Special class

Voltage level: 500kV

Scope of works:

- Survey, feasibility study (FS)
- Environmental impacts assessment
- Survey, technical design - total cost estimate, detailed design, bidding document

POWER GRID CONSULTING CAPABILITY

TYPICAL 220KV SUBSTATION PROJECTS

220kV Thap Cham substation

Location: Ninh Thuan

Project classification: Class I

Voltage level: 220kV

Scope of works:

- Survey, feasibility study (FS)
- Environmental impacts assessment
- Survey, technical design - total cost estimate, detailed design



220kV Phu My substation

Location: Binh Dinh

Project classification: Class I

Voltage level: 220kV

Scope of works:

- Survey, feasibility study (FS)
- Environmental impacts assessment
- Survey, technical design - total cost estimate, detailed design



220kV Thai Thuy substation

Location: Thai Binh

Project classification: Class I

Voltage level: 220kV

Scope of works:

- Survey, feasibility study (FS)
- Environmental impacts assessment
- Survey, technical design, detailed design

POWER GRID CONSULTING CAPABILITY

TYPICAL SUBMARINE CABLE PROJECTS

Supplying power from national power system to Ly Son island district

Location: Quang Ngai

Voltage level: 22kV

Newly constructing 26km - medium voltage submarine cable route

Newly constructing 13.5km - medium voltage 22kV overhead transmission line

Scope of works:

- Study for submarine cable route selection
- Survey of submarine cable route, mainland and island grids
- Feasibility study (FS)
- Environmental impacts assessment



Supplying power from national grid to Cu Lao Cham island via submarine cable

Location: Quang Nam

Voltage level: 22kV

Newly constructing 17.4km - medium voltage submarine cable route

Newly constructing 20km - medium voltage 22kV overhead transmission line

Scope of works:

- Study for submarine cable route selection
- Survey of submarine cable route, mainland and island grids
- Feasibility study (FS)
- Environmental impacts assessment

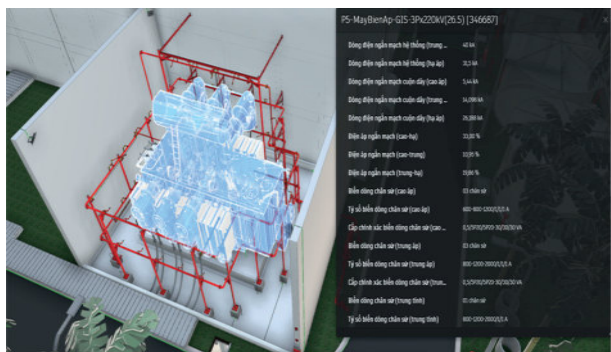
POWER GRID CONSULTING CAPABILITY

TYPICAL BIM PROJECTS

220kV Hai Chau Substation & 220kV Hoa Khanh - Hai Chau T/L



Overall of Hai Chau 220kV Substation (Front)



Information of the transformer

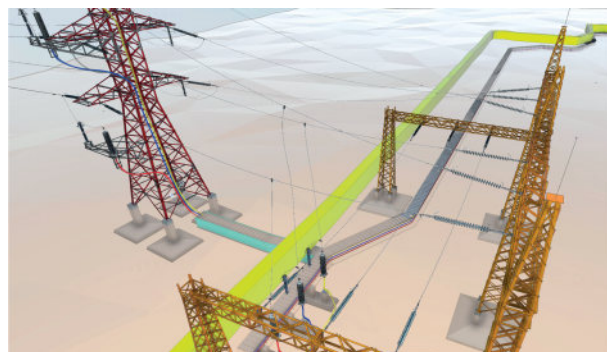
Location: Da Nang

Project classification: Class I

Voltage level: 220kV

Scope of work:

- Survey, feasibility study (FS)
- Environmental impacts assessment
- Survey, technical design- total cost estimate, detailed design, bidding document
- Measuring cadastral maps for compensation and site clearance
- BIM design for Detailed Design



Tower connecting to the substation

500kV Nam Dinh 1 TPP - Pho Noi T/L

Location: Nam Dinh, Thai Binh, Hai Duong, Hung Yen

Project classification: Special class

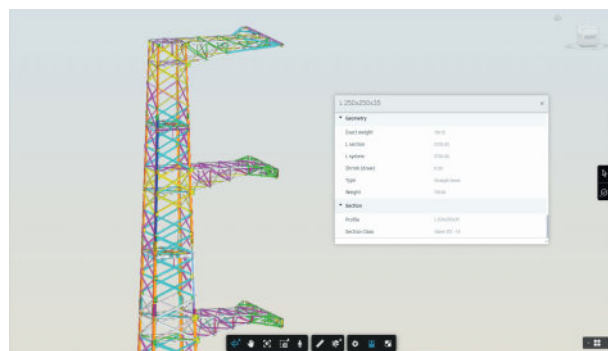
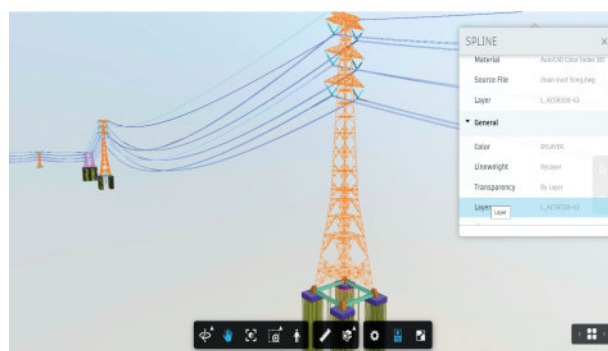
Voltage level: 500kV

Number of circuit: 02

Length: 126.9 km

Scope of works:

- Masterplan supplementation report
- Survey, feasibility study (FS)
- Environmental impacts assessment
- Survey, technical design - total cost estimate, detailed design, bidding document
- Measuring cadastral maps for compensation and site clearance
- BIM design for Technical Design and Detailed Design



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POWER GRID CONSULTING CAPABILITY

LIST OF TYPICAL POWER GRID PROJECTS

A: Pre-feasibility study (Pre-FS)

B: Feasibility study (FS)

C: Technical design (TD)

D: Detailed design (DD)

PROJECT	PERIOD	SCALE (KM)	CLIENT	STAGES			
				A	B	C	D
TRANSMISSION LINE (T/L)							
500kV North - South T/L - Circuit 1 (Segment of Da Nang - Buon Ma Thuot)	1992-1995	436	EVN			✓	✓
500kV North - South T/L - Circuit 2 (Segment of Ha Tinh - Nho Quan)	2003-2005	277	EVN		✓	✓	✓
500kV Quang Ninh - Thuong Tin T/L	2003-2010	2 x 148.9	EVN		✓	✓	✓
500kV Quang Ninh - Mong Duong T/L	2004-2014	2 x 25.15	EVN		✓	✓	✓
500kV Ban Sok - Pleiku T/L	2009-2013	2 x 110	EVN		✓		
500kV Pleiku - My Phuoc - Cau Bong T/L	2011-2016	442	EVN		✓	✓	✓
500kV Nam Dinh I TPP - Pho Noi T/L	2016-2024	2 x 126.9	EVN	✓	✓	✓	✓
500kV Nam Dinh I TPP - Thanh Hoa T/L	2016-2024	2 x 74.4	EVN	✓	✓	✓	✓
500kV Quang Trach - Doc Soi T/L	2018-2021	2 x 500	EVN	✓	✓	✓	✓
220kV Hoa Khanh - Hue T/L	2000-2002	2 x 82	EVN		✓	✓	✓
220kV Da Nhim - Nha Trang T/L	2002-2003	1 x 113	EVN		✓	✓	✓
220kV Lower Song Ba - Tuy Hoa T/L	2002-2008	2 x 35.5	EVN		✓		✓
220kV Pleiku - KrongBuk T/L	2002-2008	170	EVN		✓	✓	✓
220kV Quy Nhon - Tuy Hoa T/L	2002-2010	2 x 92.5	EVN		✓	✓	✓
220kV Tuy Hoa - Nha Trang T/L	2002-2010	2 x 135	EVN		✓	✓	✓
220kV Ban La - Vinh T/L	2002-2012	2 x 167	EVN		✓	✓	✓
220kV Dong Hoi - Hue T/L	2003-2011	173	EVN		✓	✓	✓
220kV Buon Kuop - Buon Tua Srah T/L	2004-2009	1 x 46	EVN		✓	✓	✓
220kV Buon Kuop - KrongBuk T/L	2004-2009	2 x 59	EVN		✓	✓	✓
220kV Buon Tua Srah - Dak Nong T/L	2004-2009	1 x 66	EVN		✓	✓	✓
220kV Da Nang - Doc Soi T/L	2004-2013	2 x 106	EVN		✓	✓	✓
220kV Tuyen Quang - Thai Nguyen T/L	2006-2007	2 x 77	EVN		✓	✓	✓
220kV XeKaMan 3 - Thanh My T/L	2007-2011	1 x 92.3	EVN		✓	✓	✓
220kV Upper Kon Tum - Quang Ngai T/L	2007-2020	2 x 76	EVN		✓	✓	✓
220kV Doc Soi - Quang Ngai T/L	2007-2020	2 x 59	EVN		✓	✓	✓
220kV KrongBuk - Nha Trang T/L	2008-2018	2 x 148	EVN		✓	✓	✓
220kV T/L connecting DakMi 4 HPP	2008-2021	2 x 60	IDICO		✓	✓	✓
220kV Phan Thiet - Phu My 2 T/L and extending 220kV feeders	2009-2015	2 x 144	EVN		✓	✓	✓



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POWER GRID CONSULTING CAPABILITY

LIST OF TYPICAL POWER GRID PROJECTS

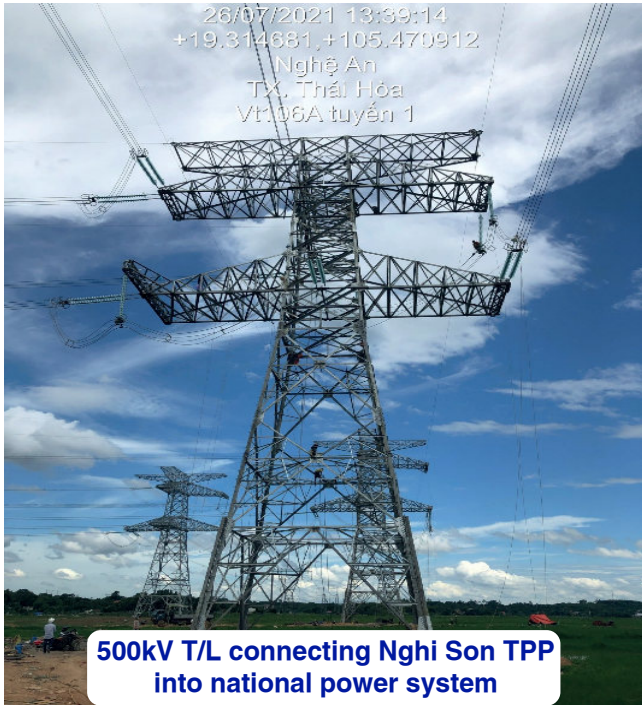
PROJECT	PERIOD	SCALE	CLIENT	STAGES			
				A	B	C	D
220kV Quang Ngai - Quy Nhon T/L	2009-2015	2 x 147 km	EVN		✓	✓	✓
220kV Vinh Tan - Thap Cham T/L	2009-2016	2 x 64 km	EVN		✓	✓	✓
220kV Vinh Tan - Phan Thiet T/L	2009-2016	2 x 92 km	EVN		✓	✓	✓
220kV An Khe - Quy Nhon T/L	2010-2015	2 x 52 km	EVN		✓		
220kV connecting Trung Son HPP into national power system	2010-2015	2 x 65 km	EVN		✓	✓	✓
220kV Son Ha - Doc Soi	2011-2014	2 x 46 km	EVN		✓		
220kV A Vuong 1 - Hoa Khanh T/L	2012-2013	2 x 79 km	EVN		✓	✓	✓
SUBSTATION							
500kV Quang Ninh substation	2003-2010	TX 500/220/35kV-2x450MVA 220/110/22kV-1x125MVA	EVN		✓	✓	✓
500kV DakNong substation and Branch	2004-2012	TX 500/220/35kV-2x450MVA	EVN		✓	✓	✓
500kV Pho Noi substation and connecting branch	2008-2016	TX 2x600MVA	EVN		✓		
500kV Thanh My substation and Branch	2009-2011	TX 500/220/35kV-2x450MVA	EVN		✓	✓	✓
Upgrading capacity of 500kV Pleiku substation	2021	TX 500/220/35kV-450MVA TX 220/110/22kV-125MVA	EVN		✓	✓	✓
220kV Quy Nhon substation	1994-1995	TX 220kV-125MVA	EVN		✓	✓	✓
220kV Nha Trang substation	1997-1999	TX 220kV-2x25MVA	EVN		✓	✓	✓
220kV KrongBuk substation	1997-1999	TX 220/110/22kV-2x63MVA	EVN		✓	✓	✓
220kV Doc Soi substation	1997-2003	TX 220/110/10.5kV-2x63MVA	EVN		✓	✓	✓
220kV Hoa Khanh substation	2000-2002	TX 220/110/10kV-2x125MVA	EVN		✓	✓	✓
220kV Do Luong substation and Branch	2005-2007	TX 220/110/22kV-2x125MVA	EVN		✓	✓	✓
220kV Dong Ha substation and Branch	2005-2010	TX 220/110kV-125MVA	EVN		✓	✓	✓
220kV Tuy Hoa substation	2006-2009	TX 220/110kV-125MVA	EVN		✓	✓	✓
220kV Tam Ky substation and Branch	2007-2010	TX 220/110kV-125MVA	EVN		✓	✓	✓
220kV Tuyen Quang substation	2007-2014	TX 220/110/22kV-125MVA	EVN		✓	✓	✓
220kV Ngu Hanh Son substation and 220kV Da Nang - District 3 T/L	2007-2016	TX 220/110kV-125MVA	EVN		✓	✓	✓
220kV Thap Cham substation and connecting T/L	2009-2016	TX 220/110kV-125MVA	EVN		✓	✓	✓
220kV Thanh My substation	2011-2012	TX 220/110kV-1x125MVA	EVN		✓	✓	✓
220kV Son Ha substation	2011-2017	TX 220/110kV-2x125MVA	EVN		✓	✓	✓
220kV Song Tranh 2 substation	2011-2020	TX 2x125MVA	EVN		✓		
220kV Dung Quat substation	2014-2016	TX 220/110kV-125MVA	EVN		✓	✓	✓

SITE SUPERVISION CONSULTING CAPABILITY



SITE SUPERVISION CONSULTING CAPABILITY

POWER GRID PROJECTS



POWER SOURCE PROJECTS



SITE SUPERVISION CONSULTING CAPABILITY

EVNPECC4 has carried out construction and survey supervision for more than 200 energy projects in the fields of hydropower, thermal power, power grid and renewable energy.

TYPICAL PROJECTS

PROJECT	LOCATION	PERIOD	SCALE (MW)	CLIENT
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SITE SUPERVISION FOR HYDROPOWER PROJECTS

Reservoir C (Upgrading capacity of Vinh Son HPP)	Binh Dinh	2003-2006	66 EVN	
Song Ba Ha	Phu Yen	2004-2008	220 EVN	
Srepok 4	Dak Lak	2005-2009	70 Dai Hai Power Investment & Development JSC	
Srepok 3	Dak Nong & Dak Lak	2005-2009	220 EVN	
An Khe - KaNak	Gia Lai & Binh Dinh	2006-2009	173 EVN	
Song Bung 4	Quang Nam	2009-2013	164 EVN	
Dong Nai 2	Lam Dong	2009-2015	70 Trung Nam Hydropower JSC	

SITE SUPERVISION FOR THERMAL POWER PROJECTS

Infrastructure of Vinh Tan power complex	Binh Thuan	2009-2019	5,400 EVN	
Vinh Tan 4 Extension TPP	Binh Thuan	2016-2019	600 EVN	
Vinh Tan 2 TPP	Binh Thuan	2016-2021	1,244 EVN	

SITE SUPERVISION FOR WIND POWER PROJECTS

Thuan Nhien Phong	Ninh Thuan	2021	32 Thuan Nhien Phong 1 Wind Power Co., Ltd.	
Hung Hai Gia Lai	Gia Lai	2021-2022	100 Gia Lai Investment & Development JSC	

SITE SUPERVISION FOR SOLAR POWER PROJECTS

Phuoc Huu	Ninh Thuan	2019	50 Nha Trang Bay Investment JSC	
Hong Phong 5.2	Binh Thuan	2020	48 Millennium Power JSC	
Phan Lam	Binh Thuan	2020	49 Phan Lam Power JSC	
Trung Nam	Ninh Thuan	2020	450 Trung Nam - Thuan Nam Solar Power Co., Ltd.	
Ea Sup - Xuan Thien	Dak Lak	2020	780 Xuan Thien - Dak Lak Co., Ltd	


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SITE SUPERVISION CONSULTING CAPABILITY

TYPICAL PROJECTS

PROJECT	PERIOD	SCALE	CLIENT
SITE SUPERVISION FOR TRANSMISSION LINE PROJECTS			
500kV T/L connecting Thang Long TPP	2016	4.15 km	EVN
500kV My Tho - Duc Hoa T/L	2017-2021	55.09 km	EVN
500kV T/L connecting Nghi Son TPP into national power system	2018-2021	39.6 km	EVN
Replacing 2 nd lightning wire for 500kV North-South T/L	2018-2022	1,554.5 km	EVN
500kV Duc Hoa - Chon Thanh T/L	2021-on going	104 km	EVN
500kV Monsoon - Thanh My T/L	2023-2024	44.71 km	EVN
500kV Nam Dinh I TPP - Thanh Hoa T/L	2023-2024	74.4 km	EVN
500kV Quynh Luu - Thanh Hoa T/L	2024	91.8 km	EVN
220kV An Khe - Quy Nhon T/L - 2 nd circuit + 1 st circuit renovation	2015	46.11 km	EVN
220kV Ninh Binh - Nam Dinh T/L	2016-2017	34.7 km	EVN
220kV Thai Binh - Tien Hai - Truc Ninh T/L double circuit	2016-2017	42.68 km	EVN
220kV Hai Duong TPP T/L - 500kV Pho Noi substation	2019-on going	55.83 km	EVN
220kV Nam Sum - Nong Cong switching station (T/L segment in Vietnamese territory)	2022-on going	129.03 km	EVN
PROJECT	PERIOD	SCALE	CLIENT
SITE SUPERVISION FOR SUBSTATION PROJECTS			
500kV Viet Tri substation	2016-2018	TX 500/220/35kV-450MVA	EVN
500kV Western Ha Noi substation	2016-2019	TX 500/220/35kV-900MVA	EVN
500kV substation and connecting lines - Trung Nam -Thuan Nam Solar Power Plant	2020	S/S 500/220/33kV-3x900MVA	Trung Nam - Thuan Nam Solar Power Co., Ltd.
500kV Xuan Thien - Ea Sup substation	2020-2021	S/S 500/110/35kV-3x900MVA	Xuan Thien - Dak Lak Co., Ltd
500kV Van Phong substation and connecting lines	2021-on going	TX 500/220/35kV-2x900MVA	EVN
220kV Tuong Duong substation and connecting lines	2021-on going	S/S 220/110/22kV-2x125MVA	EVN
220kV Ba Thien substation and 220kV Viet Tri - Tam Duong - Ba Thien T/L	2021-on going	S/S 220/110/22kV-250MVA	EVN
220kV Ninh Hoa substation and connecting lines	2023-2025	SS 220/110/22kV-250MVA	EVN

ENVIRONMENTAL CONSULTING CAPABILITY



ENVIRONMENTAL CONSULTING CAPABILITY

SCOPE OF WORKS

- Consulting to prepare TOR of impacts on livelihood and living activities due to land acquisition and resettlement; impacts on terrestrial biodiversity, aquatic creatures, air environment, water environment during the project operation and construction.
- Survey, assessment of current environmental situation. Consulting to prepare specialized reports on natural environmental and social environment.
- Consulting to prepare reports on environmental impact assessment (EIA) for a wide range of projects in industry, agriculture, planning.
- Consulting to prepare reports on environmental and social impact assessment (ESIA, EMP, EMDP, RP, RLDP, etc.) for capital mobilisation from international financial organisations.
- Consulting to prepare reports on compensation, assistance and resettlement; survey and prepare maps on soil, adaptive category, rural agricultural planning.
- Consulting on conversion of forest use purposes.
- Consulting to review social and environmental reports.

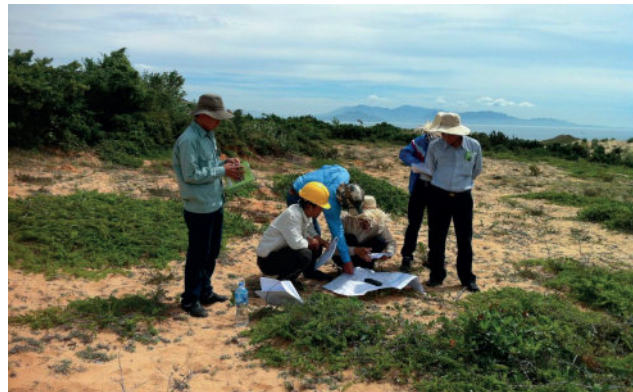
EXPERIENCE

- Preparing environmental impact assessment reports for more than 50 power source projects and over 100 power grid projects.
- Preparing reports on environmental and social impact assessment (ESIA, EMP, EMDP, RP, RLDP, etc.) for many power sources and power grid projects for capital mobilisation purpose, typically:
 - Hoi Xuan HPP - 90 MW
 - Trung Son HPP - 260 MW
 - Bac Ai PSHP - 1,200 MW
 - Xekaman 1 HPP (Laos) - 322 MW
 - Xekaman 3 HPP (Laos) - 250 MW
 - 500kV Pleiku - My Phuoc - Cau Bong T/L - 442 km
 - 500kV Hatxan (Laos) - Pleiku T/L - 93.5 km



ENVIRONMENTAL CONSULTING CAPABILITY

TYPICAL PROJECTS



Environmental site survey



Environmental measurement and sampling



Community consultation



EVNPECC4

Trust building

ENVIRONMENTAL CONSULTING CAPABILITY

ENVIRONMENTAL AND SOCIAL CONSULTING FOR TYPICAL PROJECTS

PROJECT	LOCATION	PERIOD	SCALE (MW)	CLIENT
RENEWABLE ENERGY				
Da Mi Floating SPP	Binh Thuan	2017	47.5	GENCO1
AMI SPP	Khanh Hoa	2017	50	AMI Khanh Hoa Energy JSC
Phuoc Huu SPP	Ninh Thuan	2017	50	Nha Trang Bay Construction Investment JSC
Binh Dai 1,2,3 WPP	Ben Tre	2019-2020	150	Mekong Wind Power JSC
Trung Nam SPP	Ninh Thuan	2020	450	Phuoc Minh Solar JSC
Hong Phong 1 WPP	Binh Thuan	2020-2021	40	Hong Phong 1 Wind Power JSC
CWP Hieu WPP	Kon Tum	2021	100	Hero Future Energies Asia Pte., Ltd
Hon Trau WPP	Binh Dinh	2023	2,000	PNE AG Group
HYDROPOWER				
Bac Ai PSHP	Ninh Thuan	2010-2013	1,200	EVN
Xekaman 1 & Xekaman Sanxay	Laos	2022-2023	322	Xekaman 1 Power Company Limited
Xekaman 3	Laos	2022-2023	250	Xekaman 3 Power Company Limited
Dak Drinh	Quang Ngai	2022-2023	125	DakDrinh Hydropower Joint Stock Company
THERMAL POWER				
Mien Trung CCGT	Quang Nam	2010-2014	1,500	Vietnam Oil and Gas Group
Cong Thanh	Thanh Hoa	2010-2019	600	Cong Thanh Thermal Power JSC
Vinh Tan 4 extension	Binh Thuan	2018-2019	600	EVN
PROJECT	PERIOD		SCALE	CLIENT
POWER GRID				
Supplying power from national grid to Ly Son island district via submarine cable	2013-2014		39.5 km	EVN
Supplying power from national grid to Cu Lao Cham island via submarine cable	2014-2015		37.4 km	EVN
500kV Nam Dinh I - Thanh Hoa T/L	2019-2021		74.4 km	EVN
500kV Vinh Tan - Van Phong T/L	2020		500 km	EVN
500kV Binh Duong 1 - Song May - Tan Dinh T/L	2021-2023		40 km	EVN
500kV Dak Nong substation	2004-2012		2x450MVA	EVN
500kV Pho Noi substation	2008-2016		2x600MVA	EVN
220kV Son Ha substation	2011-2017		2x125MVA	EVN


EVNPECC4

Trust building

EPC, PMC CAPABILITY



EPC, PMC CONSULTING CAPABILITY

TYPICAL PROJECTS (PMC):



Srepok 4A hydropower plant

Location: Dak Lak

Installed capacity: 156 MW

Project classification: Class I

Scope of work: Investment, construction and operation management



Buon Kuop hydropower plant

220kV transformer installation project

Location: Dak Lak

Project classification: Class I

Scope of work: Project management



Song Bung 4 hydropower plant

Location: Quang Nam

Installed capacity: 156 MW

Main dam height: 114 m

Project classification: Class I

Scope of work:

- Review of Technical design
- Bidding process assistance
- Project construction supervision



110kV Bau Bang 2 substation & connection lines

Location: Binh Duong

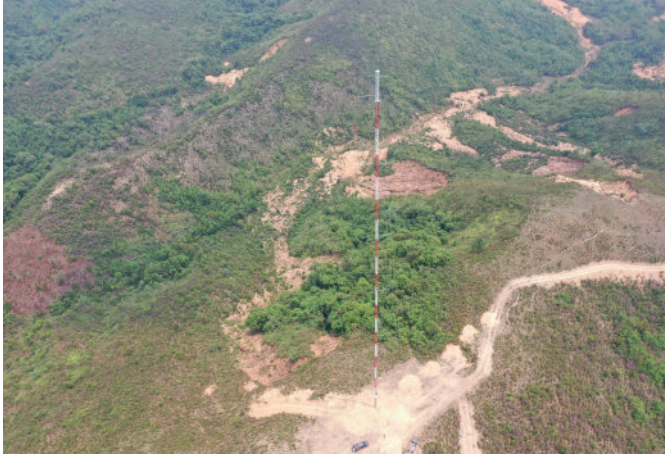
Capacity: 110kV

Scope of work:

- Project management
- Construction and installation supervision of materials and equipment
- Application of BIM in project management and construction supervision

EPC, PMC CONSULTING CAPABILITY

With the strength of being one of professional consultants in the field of energy, along with experience of investing and managing many power projects for Clients, EVNPECC4 has aimed to become an EPC General Contractor for power projects in Vietnam and regionally.



Savannakhet wind power plant

Location: Laos

Scope of work:

- Design, supply, construction and installation of wind measurement towers
- Operation, data collection and installation report preparation



Phuoc Huu solar power plant

Location: Ninh Thuan

Scope of work: Renovation of switchyard connected to the 110kV Phuoc Thai – Phuoc Huu transmission line



Vinh Tan 4 Extension TPP (EPC)

Location: Binh Thuan

Installed capacity: 600 MW

Project classification: Class I

Scope of works: EPC contracting management assistance



Xuan Thien Ea Sup solar power plant

Location: Dak Lak

Installed capacity: 2,800 MWp

Project classification: Class I

Scope of work: Site supervision and project management

RESEARCH & DEVELOPMENT CAPABILITY



RESEARCH AND DEVELOPMENT CAPABILITY

With over 45 years of experience in the field of power system surveying and design consultancy, and simultaneously being a pioneer in research to solve problems arising from practical situations such as power system planning, analysis and calculations, research and analysis of phenomena when operating the power grid (Evaluation of subsynchronous resonance phenomenon for various types of power sources: (i) Thermal power plants (SSR), (ii) Wind power plants (SSCI);...), issues related to power quality ... Up to now, EVNPECC4 has been researching and developing many new products/solutions to meet the development needs of the power system (HVDC/Back-to-back DC power transmission; Smart Grid;...) and deploying digital transformation solutions for power plants (building remote control centers; automatic monitoring solutions; BIM design;...) to meet practical demands of customers now and in the future.



INTERNATIONAL COOPERATION



INTERNATIONAL COOPERATION

During the consultancy performance, EVNPECC4 has extended cooperation relation, exchanged experience and cooperated with many international consulting organizations in all fields; especially in recent time, EVNPECC4 has coordinated with foreign consulting institutions in the engineering of many hydropower, renewable energy and power grid projects, such as: AFRY from Sweden, Fitchner from Germany, J-Power, Nipon Koei, TEPCO, TEPCO from Japan, Mott Macdonald from UK, Damwatch Engineering Ltd from New Zealand, Powerchina Huadong Engineering Corporation Limited from China etc. The good cooperation with international organizations has been and will contribute to enhancing the consulting values that EVNPECC4 brings to all customers.

CUSTOMERS



PARTNERS





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