



# **Comprehensive renewable energy solutions**

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**ENVIRONMENTAL AND PERMITTING SERVICES  
FOR RENEWABLE ENERGY PROJECTS**





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*With your reading experience in mind, we have built in easy ways for you to navigate this document.*

*Use the top menu, arrows, and the table of contents to flip to different sections. Watch for arrows, buttons, and underlined hyperlinks throughout the document, they will lead you to more information.*

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# About Stantec



## Design with **community** in mind

The Stantec community unites approximately 22,000 employees working in over 400 locations across 6 continents. We collaborate across disciplines and industries to bring environmental, energy, water, buildings, and infrastructure projects to life. Our work, from initial project planning and permitting through to design, construction, commissioning, maintenance, decommissioning, and remediation—begins at the intersection of community, creativity, and client relationships. In the United States, we are ranked the #8 design firm and #8 environmental firm by ENR (2020).



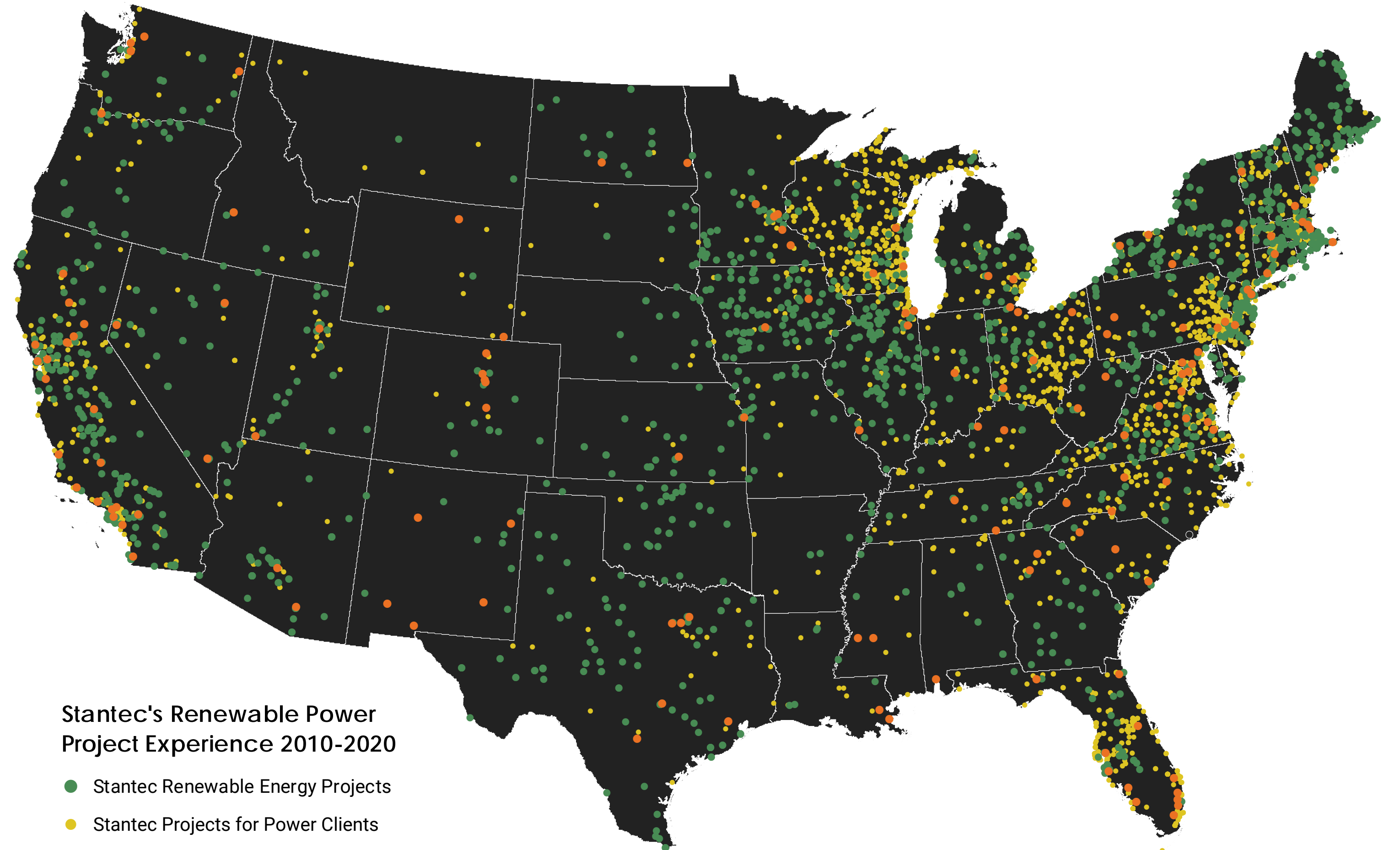


# Guiding projects to market

Stantec is one of the most respected environmental consulting firms in the US, with an outstanding record and an extensive nationwide portfolio of renewables projects that we have helped to bring into commercial operations. Over the past 10 years alone, we have provided environmental services for over 1,500 renewable energy projects across the country. Our project experience includes project siting and pre-construction, construction, operations, and decommissioning or re-powering. With more than 1,750 environmental staff located throughout the US, Stantec has the expertise to meet and exceed expectations on any of your projects.

We pride ourselves on providing comprehensive environmental services to the US power market by helping our clients successfully navigate environmental and regulatory channels. We have assisted in the delivery of thousands of megawatts of renewable energy and thousands of miles of electric and gas transmission lines, including those through highly remote and challenging areas such as Federal and tribal lands.

We understand the issues associated with renewables energy projects and how to incorporate them into a regulatory strategy, conduct field work efficiently, and then navigate complicated regulatory processes with the overriding goal of guiding these critical projects to market.



Stantec's Renewable Power Project Experience 2010-2020

- Stantec Renewable Energy Projects
- Stantec Projects for Power Clients
- Stantec Environmental Services Office Locations





# Services



# Renewable energy services at every stage

## Planning & stakeholder engagement

- Due diligence review
- Critical issues analysis
- Regulatory and project roadmaps
- Environmental constraints mapping
- Workplan development
- Feasibility studies
- Stakeholder involvement
- Public meeting and workshop facilitation
- Site Survey Plans

## Regulatory & permitting support

- State and federal wetland and waterway permitting
- State Energy Facilities Siting Board submittals and approvals
- Section 7 Biological Assessments
- NEPA, Environmental Assessment (EA), and Environmental Impact Statement (EIS) preparation
- Agency coordination
- Project alternatives analysis
- Mitigation design and restoration management
- Expert testimony
- Incidental Take Permit authorizations
- BOEM submittals and approvals, including Site Assessment Plans (SAP) and Construction and Operations Plans (COP)
- Federal regulatory review and agency permitting
- FERC hydropower licensing

## Resource assessment services

- Wetland and waterway delineations
- Habitat assessments
- Rare, threatened and endangered species surveys
- Bird, bat and wildlife monitoring
- Cultural resource assessments and field surveys
- Visual resource assessments including glare hazard analyses, viewshed modeling, and shadow flicker impact analyses
- Sound modeling and monitoring
- Geological and geophysical survey interpretations
- Marine sediment and benthic sampling
- Marine fisheries assessments
- Protected species observers
- Marine mammal protection planning and management

## Construction, operations & decommissioning services

- Regulatory agency coordination
- Site observation
- Environmental compliance monitoring
- Wildlife impact monitoring
- Permit compliance
- Decommissioning planning
- Post-construction monitoring
- Vegetation management planning
- Marine mammal monitoring

## By the numbers

**25+**

Years providing environmental services to renewable energy clients in the US

**120+**

Environmental and power engineering services office locations in the US

**500+**

Power engineering services professionals in the US

**1,750+**

Environmental services professionals in the US





# Our team



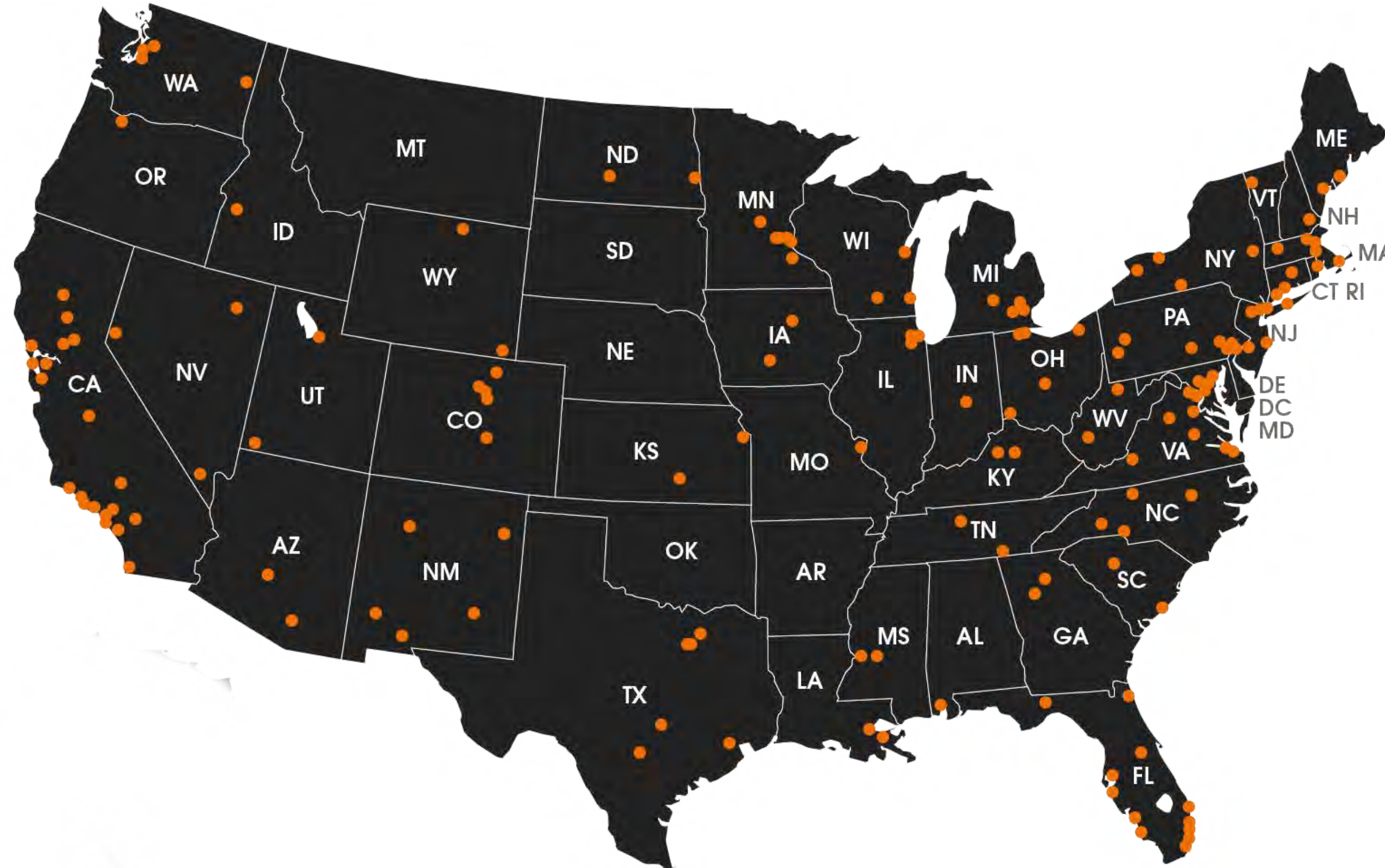


# Bench strength

Stantec has over 170 offices across the US, with a total bench-strength of close to 9,000 staff. We have experts in environmental services, power design & engineering, transportation, water engineering, and more. Specifically, across the US, our team of experts includes:

- 1,750 Environmental
- 500 Power & Dams
- 1,700 Transportation
- 1,400 Water
- 2,300 Buildings & Community Development
- 300 Mining, Oil & Gas

At any given time, we have over **100 experts** across North America working on renewable energy projects.



# Senior leadership

What sets us apart is our ability to provide local understanding while drawing on an international team of experts from within Stantec, providing you with a single environmental consultant for the life of your project. This experience provides consistent quality and reliable delivery.



**Kerrie Skillen**

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**Our  
commitment  
to safety**





## We're **committed** to keeping people safe

Stantec is committed to providing and maintaining an incident-free, healthy, and safe workplace. At Stantec, we believe in doing what is right, which includes sending our people home injury-free every day. Through our Health, Safety, Security, and Environment Program, Stantec employees are committed to:

- Complying with client health and safety requirements at all times when working on project sites.
- Identifying, assessing, and managing the environmental aspects and impacts associated with the services and products we provide.
- Identifying and managing the health, safety, security, and environmental risks and hazards to which our employees are exposed.
- Assisting our employees to develop an awareness and understanding of the health, safety, security, and environmental issues relevant to their work.
- Complying with legislation, regulations, and appropriate industry standards.
- Monitoring and enhancing the program through inspections, audits, reviews, investigations, corrective actions, and other processes.
- Facilitating communication regarding health, safety, security, and environmental issues.


Our Health, Safety, Security, and Environment Program applies to anyone employed by Stantec including employees, consultants, contractors, subcontractors, and suppliers working within Stantec workplaces.

Stantec's commitment to health and safety is integrated into all aspects of our business and we have delegated Stop Work Authority to all of our employees should they identify a safety hazard that requires resolution. Our team continually strives to improve the safe and efficient manner in which we execute our work. Stantec's commitment to health and safety is integrated into all aspects of our business.



*We believe that, ultimately, every Stantec employee has a role to play in maintaining and promoting a healthy and safe work environment.*





## Representative renewable energy project **experience**

With tens of thousands of megawatts delivered, we have the technical experience in markets across the US to meet your project needs.



# Wind project experience

## AVANGRID RENEWABLES 100 MW DEER RIVER WIND FARM

New York

Stantec is the lead environmental and permitting consultant for the 100 MW Deer River Wind Farm. In 2019, Stantec submitted an application to the New York State Board on Electric Generation Siting and the Environment pursuant to Article 10 of the Public Service Law, seeking approvals for construction and operation of the wind farm. *The Certificate of Environmental Compatibility and Public Need (CECPN) was awarded June 30, 2020.*

We have collaborated with a multidisciplinary environmental, engineering, and legal team to submit the application. In addition to compiling the application, we conducted ecological and biological surveys; prepared the visual impact analysis; wetland delineation and wetland mitigation plan; evaluated additional resources such as land use, topography, soils, aesthetic/visual, cultural, and historic, wetlands/surface waters, noise/sound; supported stakeholder engagement and agency outreach; provided expert witness testimony; and consulted with federal and state agencies to minimize and mitigate for impacts to sensitive birds and rare bats.

## AMEREN AND TERRA-GEN 400 MW HIGH PRAIRIE WIND ENERGY CENTER

Missouri

Stantec first worked on the High Prairie Wind Energy Center in 2008 for a previous developer. Since 2016, Stantec has been working on the current project with Terra-Gen and Ameren. Stantec has completed numerous tasks for the project including preparation of a site characterization report based on the US Fish and Wildlife Service (USFWS) Land-based Wind Energy Guidelines, two years of pre-construction acoustic presence/probable absence surveys for the Indiana bat, northern long-eared bat, little brown bat, and tri-colored bat, mist-net surveys, radio-telemetry and emergence counts for the four target bats, a one-year avian use survey, a raptor nest search, two years of eagle use surveys, and a meteorological tower acoustic bat survey. Stantec analyzed acoustic and avian data, analyzed eagle use data following guidelines in the USFWS Eagle Conservation Plan Guidance, and prepared reports describing results of the surveys and studies, and prepared a project Bird and Bat Conservation Strategy.

Stantec led the preparation of the Habitat Conservation Plan (HCP) in support of an Endangered Species Act Section 10 Incidental Take Permit (ITP) application for the Indiana bat,

northern long-eared bat, and little brown bat, including calculating an estimate of take, impacts of minimization measures, and utilization of the Resource Equivalency Analysis model for impact of take and mitigation calculations, and development of the post-construction monitoring plan utilizing EofA model. *The USFWS issued Ameren an ITP in May of 2021.* Stantec then conducted post-construction monitoring during turbine commissioning during the 2020 and 2021 field seasons.





# Wind project experience

## MIDAMERICAN WIND ENERGY COMPANY ENVIRONMENTAL IMPACT STATEMENT WIND FLEET Iowa

Stantec served as a third-party contractor working with the USFWS (Illinois/Iowa Field Office, Region 3) to prepare an Environmental Impact Statement (EIS) under the National Environmental Policy Act (NEPA) evaluating the effects of issuance of an ITP, pursuant to the provisions of Section 10(a)(1)(B) of the Endangered Species Act (ESA), for MidAmerican Energy Company's (MEC) wind fleet in Iowa. An HCP was prepared by MEC in order to manage risk associated with the federally endangered Indiana bat, the federally threatened northern long-eared bat, the little brown bat, and tri-colored bat which are not currently listed but may be in the future, and the bald eagle which is no longer listed under the ESA but is protected under the Bald and Golden Eagle Protection Act. The EIS analyzed the impact of issuance of the ITP for MEC's 22 existing facilities, as well as reasonably foreseeable effects at a planned 2,000 MW expansion in Iowa. Stantec managed the EIS process, assisted with the preparation of the notice of intent and notice of availability, was responsible for coordination of scoping and public outreach, participation in public meetings, direct, indirect and cumulative impact analysis, alternatives

analyses, preparation of the draft and final EIS, and maintenance of the administrative record. *The USFWS published the final EIS in September 2019 and the Record of Decision was published November 2019.*

## TERRA-GEN 155 MW HUMBOLDT WIND PROJECT California

Stantec served as the lead consultant to Terra-Gen, for the development of a 155 MW wind energy project in Humboldt County, California from 2017-2019. The project evaluated 60 turbines, a 25-mile transmission line across 2,244 acres of old growth forest, prairie, a harbor, and Highway 101.

The Stantec team has conducted protocol-level surveys for plants, marbled murrelet, northern spotted owl, willow flycatcher, golden and bald eagles and other raptors, as well as bird use counts, bat acoustic surveys, wetland delineations, noise analysis, visual analysis and simulations, built environment evaluations, and archaeological surveys. Additionally, Stantec prepared resulting technical reports for use in the County's Environmental Impact Report (EIR) to satisfy the California Environmental Quality Act (CEQA).

As part of this project, Stantec has led consultations and prepared permit applications with the regulatory and approval agencies with jurisdiction over the project, including: USFWS (Biological Opinion), National Marine Fisheries Service (Biological Opinion), US Army Corps of Engineers (Section 404 Nationwide Permit), North Coast Regional Water Quality Control Board (Section 401 Water Quality Certification), California Department of Fish and Wildlife (Lake and Streambed Alteration Agreement, Timber Harvest Plan, Section 2081 ITP), California Coastal Commission (Coastal Development Permit), State Historic Preservation Office (Section 106), Humboldt County (EIR, encroachment permits), and Caltrans District 1 and Headquarters (encroachment permit and bridge variance).

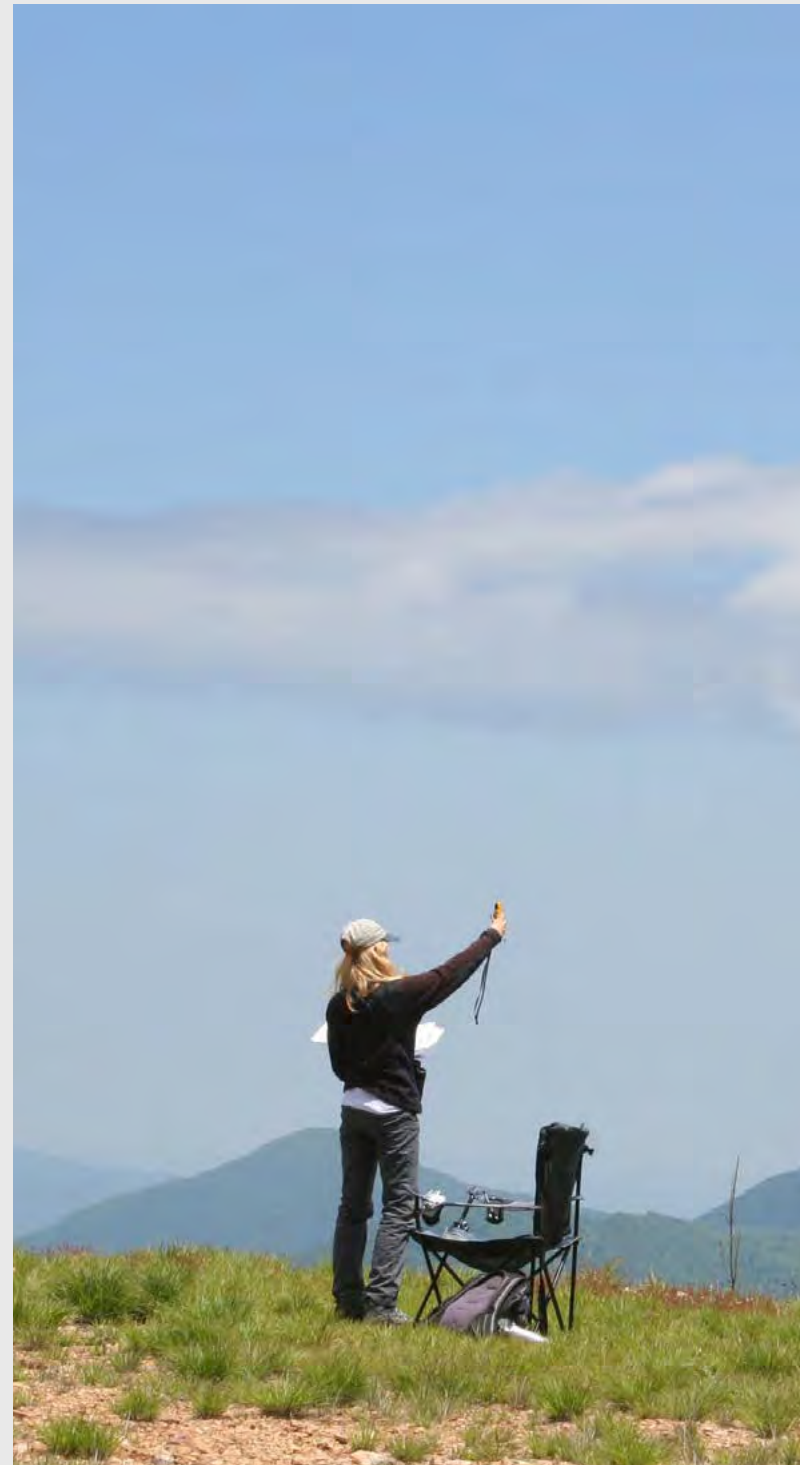
This project was on an accelerated schedule to obtain CEQA certification in under 9-months, and was anticipated to result in the *first ITP for marbled murrelet issued by the USFWS*, and required extensive coordination and collaboration with Caltrans District 1 staff.

The project involved extensive collaboration between Stantec, our teaming partners, resource agencies, and NGOs to design the project to meet the energy demands of Humboldt County and to reduce and avoid impacts, where feasible, to threatened and endangered species.





# Wind project experience



↑ Taking temperature and wind measurements prior to a raptor migration survey.

## BP WIND ENERGY 740 MW FOWLER RIDGE WIND FARM ENVIRONMENTAL IMPACT STATEMENT Indiana

As the first wind energy facility to have a documented take of the federally endangered Indiana bat, BP Wind Energy's Fowler Ridge Wind Farm needed to initiate the ITP process with the USFWS. As part of the ITP process, Stantec served as a third-party NEPA consultant evaluate impacts of various alternatives relating to the issuance of the ITP for the projects.

At the time of the EIS, three existing phases of the Fowler Ridge were in operation with a total of 355 turbines and total energy capacity of 600 MW. The existing project included three substations and a 31-mile generation tie-in line. Construction of a fourth phase was evaluated in the EIS. The total build-out for all four phases was proposed to be 449 turbines and 740 MW.

The EIS analyzed the impact of issuance of an ITP by evaluating the No-Action Alternative and eight Action Alternatives including the project's proposed HCP

alternative. Stantec managed the EIS process, assisting with the preparation of the notice of intent and notice of availability, coordination of scoping and public outreach and participation in public meetings; direct, indirect and cumulative impact analysis; alternatives analyses; preparation of the draft and final EIS; and maintenance of the administrative record. Stantec also conducted a noise analysis, wetland determination, cultural resources evaluation and Section 106 compliance, and prepared a photo-simulation for Phase IV of the project.

*The final EIS was made available January 2014 and the Record of Decision issued March 2014.*

## ENEL GREEN POWER NORTH AMERICA RENEWABLE ENERGY PROJECTS

Various locations across the US

Stantec has a long-standing relationship with Enel (and formerly Tradewind) dating over 15 years providing a variety of environmental and engineering services – *including over 4,000 MW of operational projects:*

- Alta Farms Wind, Illinois (200.5 MW)
- Aurora Solar, Minnesota (150.2)
- Azure Sky Solar, Texas (284 MW)
- Buffalo Dunes Wind Project, Kansas (249.8 MW)
- Caney River Wind Project, Kansas (199.8 MW)
- Castle Rock Ridge Wind Farm, Alberta (105.6 MW)
- Chisholm Wind Project, Oklahoma (64.8 MW)
- Drift Sand Wind Project, Oklahoma (108 MW)
- Diamond Vista Wind Farm, Kansas (299.3 MW)
- Goodwell Wind Project, Oklahoma (200 MW)
- HillTopper Wind Farm, Illinois (185 MW)
- Lindhal Wind Project, North Dakota (150 MW)
- Origin Wind Project, Oklahoma (150 MW)
- Osage Wind Project, Oklahoma (150.4 MW)
- Prairie Rose Wind Farm, Minnesota (199.9 MW)
- Red Dirt Wind Project, Oklahoma (299.3 MW)
- Rockhaven Wind Project, Oklahoma (140 MW)
- Rocky Ridge Wind Farm, Oklahoma (148.8 MW)
- Salt Wells Geothermal Project, Nevada (13.4 MW)
- Smoky Hill I and II Wind Projects, Kansas (249.3 MW)
- Stillwater Integrated Solar and Geothermal Project, Nevada (86.6 MW)
- Thunder Ranch Wind Project, Oklahoma (297.8 MW)
- White Cloud Wind Farm, Missouri (236.5 MW)
- Whitney Hill Wind Farm, Illinois (65.7 MW)



# Solar project experience

## ALLIANT ENERGY SOLAR ENGINEERING, ENVIRONMENTAL, AND PERMITTING SUPPORT Various locations

Stantec provided Alliant Energy with environmental, engineering, and permitting support for the development of five solar projects totaling 314 MW of power. We provided solar site design, generation tie line design and EMF studies across the portfolio of five projects; easement reviews, buildable areas analysis, road condition studies and preparation of preliminary erosion control plans and decommissioning plans; wetland investigations, glare hazard analyses, cultural resource investigations, endangered resource reviews, vegetation management plans, visual simulations, sound studies and navigability determination requests.

These projects were submitted in a single Public Service Commission application in 2021:

- Albany: 50MW project in Green County, Wisconsin
- Beaver Dam: 50MW project in Dodge County, Wisconsin
- Cassville: 50MW project in Grant County, Wisconsin
- Paddock: 65MW project in Rock County, Wisconsin
- Wautoma: 99MW project in Waushara County, Wisconsin

## SAVION ENERGY US SOLAR ENVIRONMENTAL, ENGINEERING, AND PERMITTING SERVICES, Kentucky, Ohio, Wisconsin, Georgia, and Texas

Stantec regularly performs pre-construction environmental services; provides solar farm, generation tie line and substation engineering and design; and prepares State Siting Board Applications, local zoning permits and regulatory permitting for multiple ground-mounted utility scale PV solar facilities for Savion Energy.

Services provided by Stantec include Critical Issues Analyses; habitat assessments for federal and state-listed rare, threatened and endangered species; wetland and waterway delineations; cultural resource investigations; visual impact analyses including visual simulations and glare hazard analyses; preparation of vegetation management plans, decommissioning plans, and road condition reports.

*The 150 MW Wood County Solar Project obtained a Certificate of Public Convenience and Necessity (CPCN) from the Public Service Commission of Wisconsin in 2021 and is currently under construction after being purchased by Alliant Energy. In Ohio, the 200 MW Madison Fields Solar Project received its (CECPN) from the Ohio Power Siting Board in January 2021, and the 110 MW Mark Center Solar Project received its CECPN September 2021.*

## RWE RENEWABLES PV SOLAR FACILITIES PORTFOLIO (91 PROJECTS) Various locations

Stantec has performed pre-construction environmental services, civil engineering, and regulatory permitting for more than 91 ground-mounted utility scale PV solar facilities in 20 states across the central and eastern US for RWE Renewables. Services provided by Stantec include Critical Issues Analyses with an assessment of local, state, and federal permit requirements (permit matrix), habitat assessments for listed rare, threatened, and endangered species, federal wetland and stream delineations, cultural resource investigations, Phase 1 Environmental Site Assessments, visual impact analysis, including Glint and Glare Analysis, conservation easement assessments, watershed and floodplain studies, and stormwater and erosion/sediment control designs supporting Stormwater Pollution Prevention Plans.

*Projects in this portfolio are located in Illinois, Tennessee, Georgia, Virginia, Mississippi, Alabama, Louisiana, Arkansas, Florida, Texas, North Carolina, Kentucky, South Carolina, Michigan, Ohio, Indiana, Pennsylvania, New Jersey, Delaware, and Maryland and range in size between 10 MW and 315 MW.*





# Solar project experience



## **BROOKFIELD RENEWABLE ENERGY 60 MW OTTER CREEK AND 60 MW MEHERRIN SOLAR PROJECTS**

Virginia

Stantec provided support to Brookfield Renewable Energy with environmental impact assessment and permit applications for two 60 MW (AC) solar array projects located in southern Virginia. Stantec's scope of services included preparing a Zoning Permit application for both the specific counties as well as coordinating with the Virginia Department of Environmental Quality to obtain a "Permit-by-Rule." Stantec has provided support services to the Brookfield team for public meetings and permit applications to obtain zoning approval for the project from the local planning departments; support services included high quality, visually accurate renderings of the proposed solar projects for use in meetings with officials and the community where Stantec staff supported/lead meetings along with Brookfield. Stantec performed pre-construction environmental services, civil engineering, and regulatory permitting. Stantec also conducted critical issues analyses and corresponding mapping which evaluates wetland and streams, habitat assessments for listed rare, threatened, and endangered species, cultural resource evaluations, Phase 1 Environmental Site Assessments, and steep slope analysis to guide the solar

panel layout and overall site plan development. Stantec was also responsible for coordinating with the state and local agencies to obtain approvals on all environmental studies as well as permits if required and for coordinating with sub-contractors to have detailed topography and geotechnical information generated for the site.

## **174 POWER GLOBAL AND CLENERA 80 MW SWEETWATER SOLAR ENERGY FACILITY**

Wyoming

Stantec was the first- and third-party contractor for this 80MW PV solar facility located near Green River in Sweetwater County, Wyoming.

As a first-party contractor for Sweetwater Solar, LLC (a subsidiary of 174 Power Global), Stantec prepared the plan of development (POD) for the facility, assisted Sweetwater Solar with their right-of-way applications for the generation tie-in across Bureau of Reclamation land and geotechnical investigation on Bureau of Land Management (BLM) land, conducted public outreach in Sweetwater County, and prepared a conditional use permit application for Sweetwater County.

*Sweetwater Solar became operational in early 2019.*

As a third-party contractor, Stantec assisted the BLM with the preparation of an Environmental Assessment (EA) under the NEPA. As part of the POD and EA development, Stantec conducted natural resources baseline data collection, visual simulation, glare analysis, review of production estimates, and a Phase I Environmental Site Assessment. Stantec also coordinated a Class III Cultural Resources Inventory on over 700 acres of public and private lands. Stantec's project manager and staff worked seamlessly with the BLM and Wyoming Game and Fish Department to identify an action alternative and mitigation measures to reduce potential impacts to pronghorn.

After the BLM approved the project and issued Notice to Proceed, the new owners of the facility, Clenera, engaged Stantec to conduct the environmental compliance services during the construction of the facility, including biological surveys for pygmy rabbits and burrowing owls, site inspections, and daily monitoring to confirm the environmental protection measures and best management practices were adhered to during construction.



# Solar project experience



## **NEXTERA ENERGY RESOURCES 150 MW TWO CREEKS AND 100 MW POINT BEACH SOLAR FARMS** Wisconsin

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Stantec performed pre-construction environmental services to assist NextEra with their successful submittal to the Wisconsin Public Service Commission for a CPCN for two solar sites in eastern Wisconsin.

Services provided by Stantec included wetland and waterway delineations; cultural resource investigations; visual impact analyses with simulations; habitat assessments for federal and state-listed rare, threatened, and endangered species; vegetation management plan; sound study; decommissioning plan; road condition reports; Phase I Environmental Site Assessments, and text for applicable sections of the CPCN application.

Post-construction support for the two projects has included stormwater and erosion control compliance inspections, agency coordination meetings, revised vegetation management planning (revised seed mixes and tree clearing specifications), and rare, threatened, and endangered surveys.

*Two Creeks became operational in late 2020 and Point Beach became operational in late 2021.*

## **HECATE ENERGY 500 MW CIDER SOLAR FARM** New York

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Stantec is the lead engineering and environmental consultant supporting the development of an approximately 500 MW solar project in which an Application was submitted pursuant to New York State Executive Law Section 94-c through the newly created New York Office of Renewable Energy Siting (ORES). The Application is currently under ORES review. Stantec has participated in environmental strategy development, conducted biological and cultural field studies, led agency consultation, state permitting, and public outreach. Stantec has also developed the conceptual site layout, conducted interconnection planning with the New York Power Authority, and responsible for the site survey, civil design, and site stormwater management.



# Battery Energy Storage Systems project experience



## **COUNTY OF IMPERIAL 2,000 MW WESTSIDE CANAL BATTERY STORAGE ENVIRONMENTAL IMPACT REPORT** California

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Stantec is preparing an EIR for the County of Imperial to support a 2,000 MW utility-scale energy storage complex. The proposed project site encompasses approximately 163 acres, and will be constructed in three to five phases over a 10-year period—with each phase ranging from approximately 25 MW to 400 MW. Stantec prepared the hazard analysis and peer reviewed the project technical studies, including, air quality, cultural, geotechnical, noise, traffic, and visual resource study.

## **ORMAT 10 MW VALLECITO BATTERY ENERGY STORAGE PROJECT** California

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Stantec led discretionary permitting for a 10 MW BESS Facility in Santa Barbara County, including project design and construction compliance support.

## **HECATE 750 MW HUMIDOR BATTERY ENERGY STORAGE PROJECT** California

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Stantec prepared the Critical Issues Analysis for this project. Stantec is also currently preparing conditional use permit application and conducting geotechnical investigations, ALTA surveys, Phase I Environmental Site Assessment, biological and cultural resource surveys and studies in support of the first 305 MW phase of this project. Stantec is also conducting electrical, civil engineering, and landscape design.

Hecate is currently looking to expand onto adjacent parcels totaling 75 acres. Stantec is preparing all technical studies to support permitting and CEQA compliance, including the plans listed above for the adjacent parcels, as well as preparing reports for work proposed within the Significant Ecological Areas in Los Angeles County.

## **FLUENCE FALLBROOK 40 MW BATTERY ENERGY STORAGE PROJECT** California

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Stantec is leading discretionary permitting for a 40 MW BESS facility in San Diego County. We provided project design support and led technical resource studies, including biological and cultural resources, offsite hazards consequence analysis, noise study, and hydrology and drainage studies.

## **RWE RENEWABLES 20 MW PAINTER BATTERY ENERGY STORAGE PROJECT** California

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Stantec began supporting RWE on this project by preparing a Critical Issues Analysis, then led discretionary permitting for a 10 MW BESS Project in Santa Barbara County's coastal zone including project design support, technical resource studies and pre-construction compliance. Stantec also successfully lobbied for use of a CEQ Exemption for one of the projects.

## **FLUENCE/LS POWER 200 MW DIABLO ENERGY STORAGE** California

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Stantec worked with Fluence to review environmental approvals and identify environmental issues related to changing technology from the original proposed project. Stantec oversaw preparation of noise studies, prepared visual simulations, and provided general environmental support to deem the project consistent with existing approvals.



# Battery Energy Storage Systems

## project experience

### HECATE ENERGY 65 MW SAN JACINTO BATTERY ENERGY STORAGE PROJECT California

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Stantec prepared the Critical Issues Analysis for this project and is currently providing permitting support for this project with the City of Banning, California. Stantec prepared preliminary electrical layouts, conceptual grading and landscape plans as well as prepared technical studies including biological and cultural resources, visual simulations, water quality management plan, geotechnical investigation and preliminary drainage and hydrology reports. Additionally, Stantec is coordinating FAA submittals related to new transmission poles for the project interconnection and application to the Riverside County Airport Land Use Commission.

### CRITICAL ISSUES ANALYSES FOR MULTIPLE POTENTIAL BESS SITES

California, Southwestern US, and Hawaii

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Stantec has conducted desktop reviews for dozens of sites to identify critical environmental issues and permitting paths for potential BESS sites.

### AES WESTWING 200 MW BATTERY ENERGY STORAGE PROJECT Arizona

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Stantec led discretionary permitting for a 100 MW BESS facility in Maricopa County, Arizona. Stantec participated in project design support and led technical resource studies in support of the project including biological and cultural resources and preparation of visual simulations. Stantec prepared a NEPA EA/Finding of No Significant Impact for Western Area Power Administration on this project due to federal funding. *The project was unanimously approved by the Maricopa County Planning Commission and Board of Supervisors in June 2021. The project received Final Environmental Assessment and the Finding of No Significant Impacts (FONSI) in September 2021.*

Stantec is currently working on permitting a second phase which includes another 100 MW of battery storage on an adjacent site. All technical studies above were prepared for the second site.

### TERRAGEN VALLEY CENTER 140 MW ENERGY STORAGE PROJECT California

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Stantec conducted a peer review of the Offsite Hazards Consequence Analysis for this project in San Diego County.

### EOLUS NORTH AMERICA 120 MW CLAD BATTERY ENERGY STORAGE PROJECT California

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Stantec is currently permitting a 120 MW BESS in Los Angeles County. Stantec is coordinating all permitting submittals including preliminary CEQA review and also prepared electrical layouts, conceptual grading and landscape plans, conducted Phase II investigations and is coordinating a Voluntary Cleanup Agreement with DTSC for the site.





# Hydropower project experience

## APPALACHIAN POWER COMPANY, CLAYTOR HYDROELECTRIC PROJECT FERC NO. 739, FERC LICENSE COMPLIANCE SUPPORT

Virginia

Stantec was contracted to conduct water quality and mussel surveys on the New River as a condition of Appalachian Power Company's Federal Energy Regulatory Commission (FERC) license for the Claytor Hydroelectric project. This study is part of a Freshwater Mussel Adaptive Management Plan that is designed to determine if flow, temperature, and/or occasionally depressed dissolved oxygen concentrations are affecting freshwater mussels downstream of Claytor Dam over the term of the new license. Field studies will continue through 2022.

## USGEN AND TRANSCANADA RELICENSING, FOR WILDER, BELLOWS FALLS, AND VERNON HYDROELECTRIC PROJECTS

Vermont

Stantec supported the relicensing efforts on these Connecticut River projects. Our role was to perform environmental studies with responsibilities including study site identification, field surveys, and reporting for FERC relicensing. Areas of interest included channel morphology, benthic habitat, and recreation assessment.

## MARINE HYDROKINETIC ENERGY, MULTIPLE PROJECTS

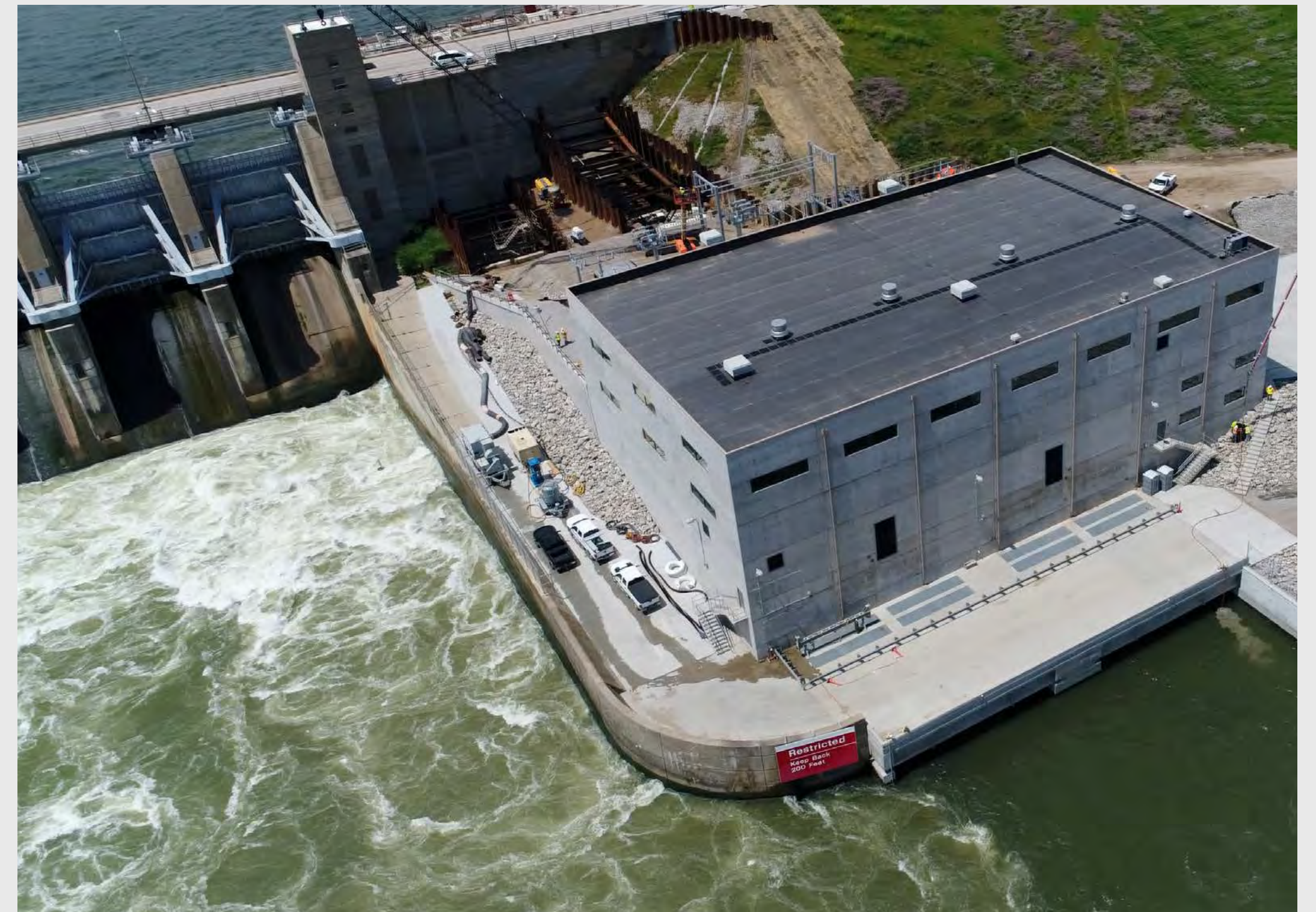
United States and Canada

Stantec staff have experience with supporting the planning, siting and permitting of numerous hydrokinetic projects including some of the first of it's kind projects in the United States. These projects have consisted of both tidal and wave energy technologies and have been located on the Atlantic and Pacific coasts. Regulatory support has included FERC licensing as well as other Federal, state, and local environmental permits required for the operation and maintenance of the generation infrastructure, underwater power cable, and grid interconnection of the projects.

## BROOKFIELD RENEWABLES, FERC RELICENSING SUPPORT

Aziscohos, Maine

In support of Brookfield's hydro relicensing of the Aziscohos project, Stantec is currently performing environmental assessments at the project including wildlife resources. These include both desktop and field efforts for species presence and absence as well as project effects.





# Hydropower project experience



## **CITY OF HAMILTON, OHIO, 70 MW GREENUP HYDROELECTRIC PROJECT** Ohio River

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Since 2016, Stantec has been providing relicensing support services for the City of Hamilton's a co-Licensee American Municipal Power's 70 MW Greenup Hydroelectric Project with a FERC license that expires in 2026.

The project was placed in commercial operation in December 1982. The draft license application and negotiation with key agencies and stakeholders is currently underway. Services to date have included:

- Relicensing strategy and budget planning
- Pre-Application Document (PAD) and Post-PAD Agency consultation
- Preparation of NOI and PAD and relicensing documents
- Study planning, subcontractor management and agency coordination

Stantec was the primary author of a 2019 FERC License Amendment Application that removed a large portion of the transmission line from the Project in advance of relicensing. Staff are also the primary author of the Pre-Application Document (PAD), Notice of Intent to File a New License (NOI), and Request to Use the Traditional Licensing Process.

## **SHELL ENERGY NORTH AMERICA, PEARL HILL PUMPED STORAGE PROJECT** Bridgeport, Washington

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Stantec worked with Shell Energy on all aspects of project feasibility and FERC licensing for a new innovative small (5 MW) pumped storage concept based on modular components and use of a water tank for upper reservoir storage and the Corps of Engineer's Rufus Woods Lake Reservoir on the Columbia River for the lower reservoir.

The Stantec project team assisted Shell in agency and tribal consultation and in conducting environmental studies. Stantec prepared visual 3D animated graphics of the pumped storage operational schemes for public and agency meetings and that were successfully used in industry journals for Shell to promote the project and its concept. Stantec prepared meeting materials and facilitated telephone and in-person agency meetings to help maintain schedule, negotiate mitigation plans, and communicate updates of the project.

Stantec also prepared a preliminary draft Biological Assessment for FERC and included it with the final license application, which was filed and accepted by FERC in November 2017.

## **CALIFORNIA DEPARTMENT OF WATER RESOURCES (DWR) P-14797, DEVIL CANYON PROJECT, FERC RELICENSING LEAD** California

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Stantec is the overall program manager for the FERC relicensing of the Devil Canyon Projects (P-14797). Stantec was engaged early on in the relicensing process to assist in early strategy development and upfront planning in preparation for relicensing. As part of the early strategy, Stantec worked with DWR to separate out the Devil Canyon Project and receive approval to utilize the Traditional Licensing Process. Under P-14797, Stantec has assisted DWR with development and filing of the PAD, Study Program Development and all associated agency and stakeholder negotiations, and regulatory and strategic planning in order to develop the required license application. Current activities include draft license application development and negotiation/facilitation services for development of protection, mitigation and enhancement measures.



# Offshore wind project experience

## SUNRISE WIND 01 OFFSHORE WIND FARM

New York

The Sunrise Wind 01 Offshore Wind Farm project is a joint venture (JV) between Orsted North America, Inc., and Eversource Investment, LLC. Stantec is the lead regulatory, permitting, and technical consultant supporting the JV team. This includes overseeing all necessary documents for submission to BOEM, including the COP, as well as preparation of other necessary state and federal permits.

The proposed project includes navigating and permitting the transmission portions of the project through Article VII of the New York Public Service Law which regulates major electric transmission facilities in New York. Technical surveys, assessments, and models are being completed by Stantec subject matter experts and a number of subconsultants. Technical analysis is needed for both onshore and offshore resources and include natural resources as well as socioeconomic implications. Close coordination with BOEM and the New York State regulatory offices is essential to ensure the project stays on schedule while meeting all regulatory requirements.

## SKIPJACK WIND 01 OFFSHORE WIND FARM

Maryland

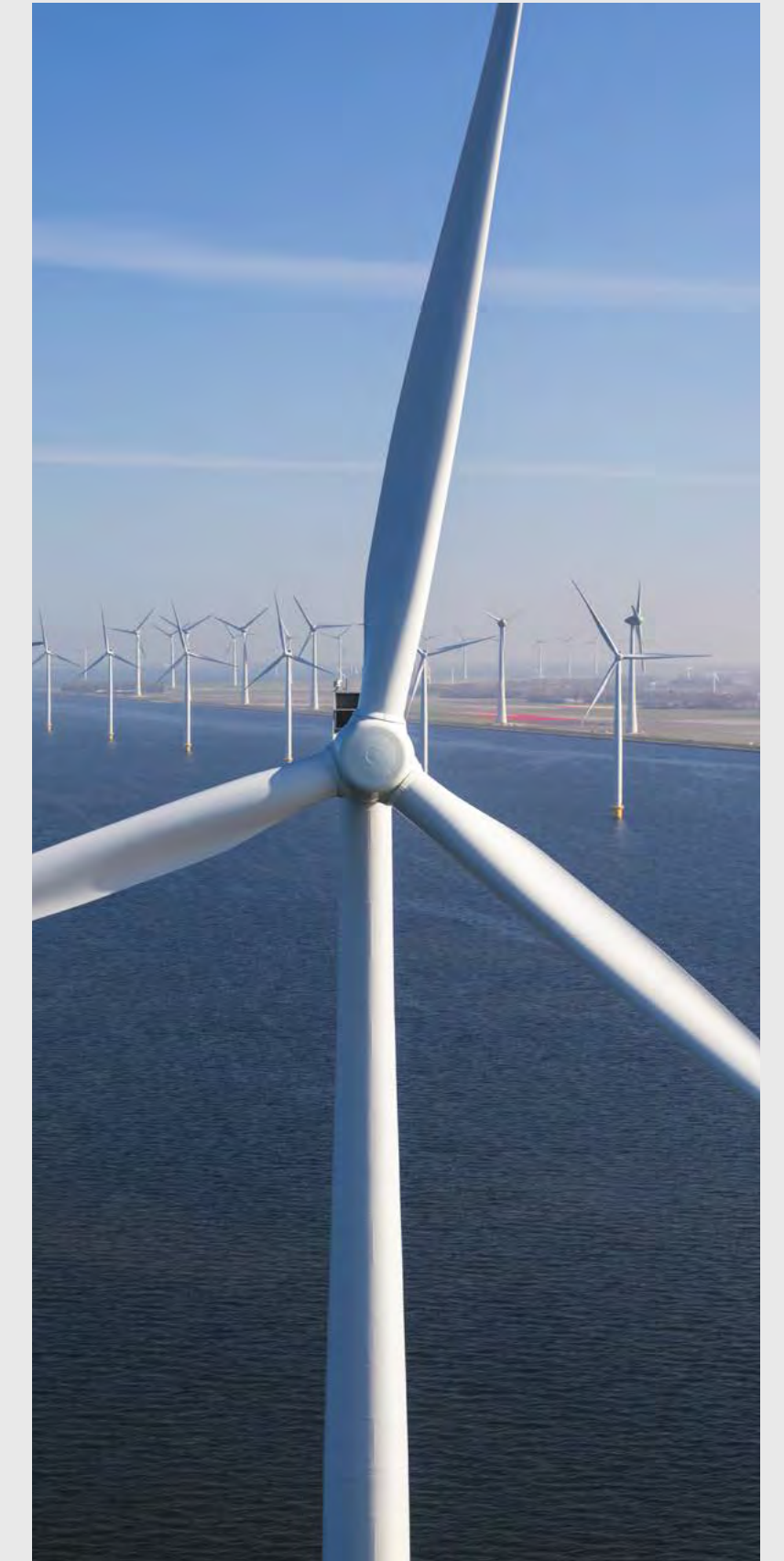
Stantec is the prime consultant leading the environmental analysis and permitting support activities for Orsted's Skipjack Wind 01 Offshore Farm project. Stantec is supported by a team of subconsultants that provide a variety of studies such as acoustical noise analysis, air permitting, visual and historic architectural investigations, GIS support and assistance with federal and state permitting.

The Stantec team is responsible for the environmental analysis, documentation, and permitting, which includes the development of a Site Assessment Plan (SAP), Construction and Operations Plan (COP), and key federal and state permits, approvals, and consultations. This project includes considerable coordination and communication with the various Federal agencies (Bureau of Ocean Energy Management [BOEM], U.S. Environmental Protection Agency, USFWS, National Oceanic and Atmospheric Administration [NOAA] National Marine Fisheries Service) and state agencies (Maryland Department of the Environment, Maryland Department of Natural Resources, and Delaware Department of Natural Resources and Environmental Control.). Stakeholder input is critical to the successful implementation of this project.

## CONFIDENTIAL SITING AND ENVIRONMENTAL EVALUATION OFFSHORE WIND FARM

California

Stantec is performing an environmental feasibility evaluation to identify key considerations for the development of a wind farm off the coast of California. This evaluation includes GIS analysis of lease area and cable routes, constraint mapping, desk-top level assessment of ground conditions, and the creation of a federal, state, and local permitting roadmap. Our findings will provide a high-level analysis of critical issues and provide an indication of high- to low-risk items requiring further studies, preparing the client for upcoming BOEM lease auctions.





# Offshore wind project experience

## BLOCK ISLAND OFFSHORE WIND FARM

Rhode Island

Stantec worked with Deepwater Wind (now Orsted) to provide specialized regulatory environmental compliance services, including hydroacoustic monitoring and innovative avian and bat post-construction monitoring.

Stantec provided included hydroacoustic monitoring of underwater noise associated with the project's submarine cable laying barge. This barge was used to install the submarine cable that connects five offshore wind turbines to Block Island for energy transfer. Stantec's team worked collaboratively with Deepwater Wind and the permitting agencies to develop a field verification monitoring program that ultimately created efficiencies for the client by not having to perform continuous monitoring during the cable laying process.

Additionally, Stantec conducted bat and avian post-construction monitoring that includes testing of proprietary offshore thermal camera imagery as well as ship-based observations.

## GULF-WIDE COMPREHENSIVE PLAN FOR IN-WATER SEA TURTLE DATA COLLECTION

Gulf of Mexico

Stantec is supporting the National Fish and Wildlife Foundation (NFWF) and NOAA in developing a Gulf of Mexico-wide Comprehensive Plan for In-water Sea Turtle Data Collection. Stantec's team of scientists and environmental specialists are providing the project management expertise as well as the technical experts and the subject matter knowledge needed to meet the project's objectives. In this effort, Stantec is supporting NOAA and the Steering Committee during the process of engaging known sea turtle scientists and experts for developing Technical Working Groups dedicated to addressing select 'topics of interest' relative to in-water sea turtle data collection strategies.

The goal of this project is to develop a statistically sound plan for the establishment of a coordinated Gulf-wide network for collection and compilation of critical abundance, demographic, and biological information on all sizes and life stages of turtles. Gulf-wide monitoring of sea turtle populations and the implementation of standardized monitoring protocols for specific activities and life stages will provide important context for project-level monitoring at individual sites where restoration is implemented and will allow comparisons across multiple projects.

This project will identify and prioritize a scientifically and statistically appropriate data collection strategy to provide reference-point abundance and demographic data in inshore, nearshore, and offshore habitats of the Gulf of Mexico, to allow a more comprehensive evaluation of the status and trends of sea turtle populations as part of restoration. The project is scheduled to be completed by 2023.

Specific tasks for this project include:

- Facilitate Steering Committee and Working Group(s)
- Development for criteria/parameters for a comprehensive in-water monitoring plan
- Preparation and logistics for in-water monitoring and data collection workshop
- Execution of the in-water data monitoring and collection workshop(s)
- Drafting of the Comprehensive Plan and outreach materials





# Rankings and awards

Achievement at every level begins and ends with a firm commitment to being the best we can be.

Here's how we rank nationally and internationally.



## Stantec receives HRH The Prince of Wales' Terra Carta Seal

Stantec is one of 45 companies that have been awarded the Terra Carta Seal.

The Terra Carta Seal has been awarded to companies who hold a leadership position within their industry and have credible transition roadmaps underpinned by globally recognized, scientific metrics for achieving net zero by 2050 or earlier.



## Global

- No. 11 Top 150 Design Firms (2020)

## Environmental

- No. 8 Top 200 Environmental Firms (July 2020)
- No. 4 Top 10 Environmental Firms by Type of Work - CM/PM (July 2020)
- No. 8 Top 10 Environmental Firms by Type of Work - Consulting/Studies (July 2020)

## Power

- No. 14 Top 50 Design Firms in Power (June 2020)
- No. 2 Top 10 Design Firms in Power Hydro Plants (June 2020)
- No. 4 Top 10 Design Firms in Power Wind Power (June 2020)
- No. 5 Top 5 Design Firms in Power Operation and Maintenance (June 2020)
- No. 9 Top 10 Design Firms in Power Solar Power (June 2020)
- No. 10 Top 10 Design Firms in Power Co-Generation (June 2020)
- No. 11 Top 25 Design Firms in Power - Transmission and Distribution (June 2020)

## Design

- No. 2 Top 10 International Design Firms by Market – Water (August 2020)
- No. 2 Top 5 Green Design Firms by Sector - Educational Facilities (September 2020)
- No. 3 Top 10 International Design Firms by Region - United States (August 2020)
- No. 3 Top 100 Pure Designers (May 2020)
- No. 5 Top 5 Green Design Firms by Sector - Retail (September 2020)
- No. 5 Top 50 Design Firms in General Building (June 2020)
- No. 8 Top 500 Design Firms (May 2020)
- No. 8 Top 100 Green Building Design Firms (September 2020)
- No. 8 Top 225 International Design Firms (September 2020)

## RANKINGS:

- No. 1 Top 100 Architecture Engineering Firms (BD&C, 2020)
- No. 5 Top 100 MEP Giants (Consulting-Specifying Engineer, 2020)
- No. 21 Top 50 Program Management Firms (ENR, 2020)



■ Communities are fundamental. Whether around the corner or across the globe, they provide a foundation, a sense of place and of belonging. That's why at Stantec, we always design with community in mind.

We care about the communities we serve—because they're our communities too. This allows us to assess what's needed and connect our expertise, to appreciate nuances and envision what's never been considered, to bring together diverse perspectives so we can collaborate toward a shared success.

We're designers, engineers, scientists, and project managers, innovating together at the intersection of community, creativity, and client relationships. Balancing these priorities results in projects that advance the quality of life in communities across the globe.

Stantec trades on the TSX and the NYSE under the symbol STN. Visit us at [stantec.com](http://stantec.com) or find us on social media.

[Contact us.](#)

**Design with community in mind**