



Comprehensive renewable energy solutions

ENVIRONMENTAL SERVICES FOR SOLAR ENERGY





Our services meet your project **goals**

We recognize that your solar energy project's development needs are varied and complex, and we believe the best solution is to have outstanding talent working to meet your goals. We pride ourselves on being recognized for providing some of the best environmental and engineering services to the North American renewable energy market. We have over 3,900 environmental and engineering staff in 250-plus offices throughout North America.

We have helped our clients successfully meet engineering, environmental, and regulatory requirements to deliver projects in diverse and challenging settings. What sets us apart is our ability to manage projects locally, while providing industry leading resources. We understand the issues associated with solar projects and how to incorporate them into the engineering design, corresponding environmental assessment, and socioeconomic analyses. Combining industry leading experience, expertise, and local understanding means we can help your project move forward to the benefit of all communities involved.



2,700

environmental services staff
throughout North America

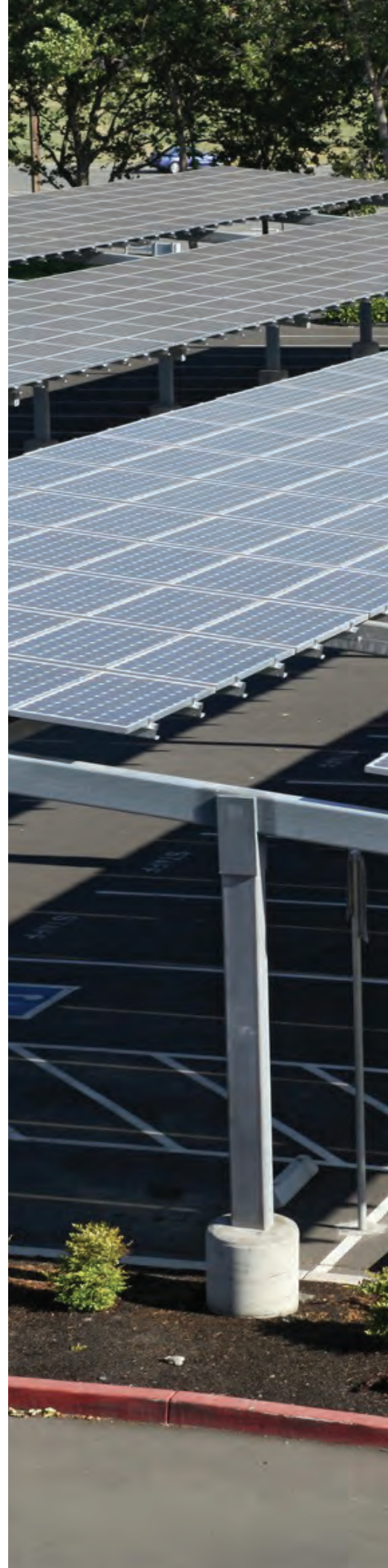
Sun to wire, we connect communities

Our solar experience includes a variety of rooftop, carport, and ground mounted solar systems ranging from 15 kW to over 100 MW and spans across the United States and North America. Our ability to provide local understanding while drawing on an international team of experts from within Stantec means we can provide engineering and environmental services for your project with consistent quality and reliable service delivery. Our expertise includes project planning and siting, design, development, permitting, and compliance monitoring.

At Stantec, we manage environmental challenges proactively to help our clients reduce project impacts and lower risk, control costs, and improve competitive advantage. We routinely assist our clients in identifying permitting requirements, critical path items, and potential mitigation strategies early in the regulatory process. This approach helps to reduce costs and the risk of project delays. Stantec is unique in the breadth and depth of technical disciplines and resources that we offer using in-house staff. Our environmental and engineering personnel are experienced in working collaboratively on projects, providing fully integrated solutions for our clients, and producing cost effective, timely, and environmentally sensitive solutions.

Our extensive engineering knowledge and willingness to solve problems creatively allows our clients to optimize their projects and efficiently address site-specific concerns, from access roads to landscape use issues, and from landscape buffers to the electrical interconnection with the utility. We also provide construction management, observation, and environmental compliance monitoring to verify that construction is proceeding as designed, and according to the design, permits for the project, and client schedules and budgets.

Our environmental staff hold substantial credentials in their respective fields of expertise, and have established long-standing working relationships with regulatory agencies throughout North America. Our regulatory knowledge and scientific expertise are respected by the regulatory agencies, and allow us to develop the most effective approach to secure the required permit approvals and confirm compliance. Our permitting experience includes the completion of applications and the underlying required environmental studies for a variety of agencies at all levels of government, including the US Army Corps of Engineers (USACE), the US Fish and Wildlife Service, state agencies, and numerous counties and local communities. We have prepared National Environmental Policy Act (NEPA) and analogous state environmental documents for a wide variety of project types and clients across the country.







Our commitment to safety

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

At Stantec, we make safety a pillar in our company culture and incorporate it into all aspects of our business. 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.

National **expertise**, local delivery

When it comes to utility-scale solar energy projects, Stantec has the capacity and experience executing a project from conception to construction, and beyond. 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. With over 1,400 environmental staff working out of more than 100 offices dedicated to environmental services in the US alone, our solar energy professionals provide local delivery with national expertise to your projects.





- Stantec Office Location
- Stantec Environmental Services Office Location

Solar energy services at every stage

PLANNING & SITING



- Due diligence review support
- Grid system integration studies
- Environmental site screening
- Schedule and budget risk analysis and mitigation
- Energy optimization
- Feasibility studies
- Electrical studies
- Geotechnical assessment

DETAILED ENGINEERING & DESIGN



- Civil
- Structural
- Mechanical
- Geotechnical
- Grounding
- Electrical, DC & AC collection
- Instrumentation and controls

REGULATORY SUPPORT & PERMITTING



- Strategic regulatory facilitation
- Habitat and rare species surveys
- Cultural resource evaluation
- Visual impact assessment
- Wetland and stream delineation
- Biophysical assessments and surveys
- Project alternatives analysis
- Mitigation design
- Federal, State/Provincial and local agency consultation and permitting
- NEPA compliance documentation

PROJECT & CONSTRUCTION MANAGEMENT



- Site observation
- Cost controls and scheduling
- Independent engineering review
- Environmental compliance and monitoring
- Regulatory agency coordination
- Habitat restoration
- Best management practice design

START-UP, COMMISSIONING, & OPERATIONS



- System turnover & checkout functions
- Equipment, system, and plant testing
- Grid connection
- O&M programs
- Performance testing
- Permit compliance and close-out





Solar energy lifecycle

PLANNING & SITING

DETAILED
ENGINEERING &
DESIGN

REGULATORY
SUPPORT &
PERMITTING

PROJECT &
CONSTRUCTION
MANAGEMENT

START-UP,
COMMISSIONING, &
OPERATIONS

DECOMMISSIONING

Full compliance

Combining engineering and environmental services, we can service all your projects' compliance needs.



Our roadmap to success

Our scope for solar projects often includes both engineering design and environmental review, which allows us to develop an integrated project execution plan and provide efficient quality technical reviews. We have developed a technical approach that draws upon our project team's extensive experience designing solar projects and conducting supporting surveys for those designs. Our approach is to work with developers in coordination with the resource agencies to design and implement environmental surveys that will be accepted and that make the most sense based on the questions

being asked, with cost efficiencies in mind – we are truly your consultant. The key issues for successful project development and permitting include both schedule and resource management. Stantec manages these issues through a combination of seasoned project managers, engineers with extensive solar design experience, and skilled scientists with appropriate natural and cultural resource experience. Stantec's roadmap to a successful project implementation is summarized below.

| ISSUE OF FOCUS | CONTROL STRATEGY |
|---|--|
| <p>Design approach that is technically and scientifically sound, practical, and defensible</p> | <p>Development of clear objectives for environmental plan and engineering</p> <p>Early identification of environmental constraints and engineering challenges</p> <p>Consistent communication between technical leaders and client contacts</p> |
| <p>Technical strength necessary to address key issues identified by agencies and the public</p> | <p>Selecting the right project team who have robust technical capabilities, sufficient capacity to meet deadlines of multiple projects, and extensive solar development experience</p> |
| <p>Production of high-quality documentation in compliance with permitting agency expectations</p> | <p>Stantec is committed to the philosophy that quality products result from quality planning, design, and work performance by skilled and experienced professionals. Production of high quality products will be achieved by:</p> <ul style="list-style-type: none"> • Quality assessment through senior oversight and review • Self-Review and Independent Audits: Self-review is conducted by each project team member to confirm that the work they have completed is correct; Independent audits of key tasks to ensure self-reviews occur • Technical Reviews of Project Deliverables: Peer review conducted by staff who do not have direct responsibility for the report |
| <p>Effective communication with our clients and other team members</p> | <p>Project managers with extensive solar energy experience who understand the unique needs of the development process</p> <p>Development of a clear scope of work and schedule for each project, and task, identifying responsibilities and milestones</p> <p>Regular communication between the our clients, Stantec, and partners</p> |
| <p>Monitoring and control of overall project costs</p> | <p>Use of local staff – key to efficiencies in both mobilization and costs</p> <p>Maintaining key staff throughout each project</p> <p>Timely receipt of project information from our clients</p> |



The best solutions are created when we work together

We're proud of our contribution — we're providing the energy the world needs for today and tomorrow and creating lasting connections with our clients and communities.

