ENERGY TRANSITION SERVICES

Geosyntec consultants

Clients around the globe turn to Geosyntec's scientists and engineers to support transition from carbon intensive energy sources to renewable and sustainable alternatives. We help locate and develop energy projects, secure funding and other incentives, reduce carbon footprints, calculate consumption and set energy transition targets, support reporting and compliance obligations, identify transition-related risks and opportunities, develop and implement strategies to decrease energy and water use, conduct techno-economic analyses, and evaluate water supply and other natural resources. We are adept at balancing innovative technologies with conventional methods and anticipating how current or future policies and incentives can accommodate innovation.

Accelerate the energy transition and streamline your projects with Geosyntec's holistic approach:

MANAGEMENT STRATEGY
- Setting Metrics
- Decarbonization Plans
- ESG, Sustainability Goals
- GHG Inventory
- Life Cycle Assessment (LCA)

PROJECT DEVELOPMENT
- Scoping
- Conceptual Design
- Pre-Feasibility Siting Evaluations
- Funding/Grants
- Regulatory Review
- Environmental Surveys

OPERATIONS
- Startup and O&M Support
- Permitting/Compliance
- Environmental Auditing
- Annual GHG/SEC Reporting
- Offsets Determinations
- Monitoring, Reporting, and Verification

ENGINEERING DESIGN
- Techno-Economic Analyses (TEA)
- Feasibility Studies
- Permit Applications
- Emissions Modeling
- NEPA/CEQA Support

CAPITAL PROJECT DELIVERY
- Development Permitting
- Procurement Packages
- Contract Negotiations
- Construction/Commissioning
- Baseline Monitoring

CARBON MANAGEMENT & ADVISORY

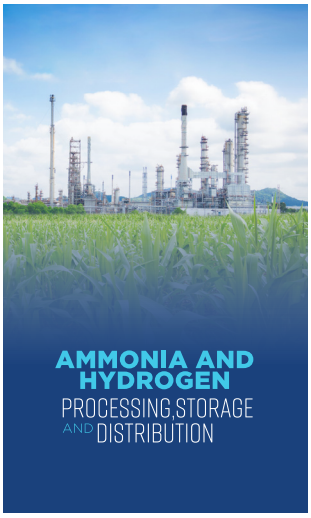
SITE SELECTION

DEVELOPMENT STUDIES

PERMITTING AND PLANNING

OWNER'S AGENT

ACCELERATING THE GLOBAL ENERGY TRANSITION



Green Fuels Project

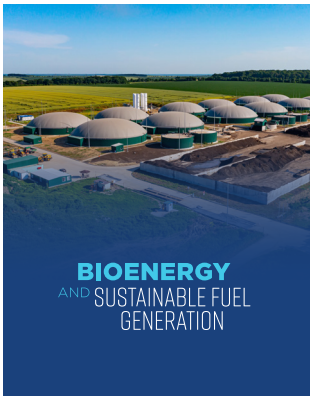
Geosyntec is the permitting and planning consultant for a green fuels facility in the Gulf Coast region with hydrogen, carbon dioxide, and natural-gas pipelines and processing operations. The facility will provide international markets with low-carbon fuel supply. We supported site selection and land procurement, water supply evaluations, risk register, preliminary offsite consequence analyses, air quality modeling and permitting, water and wastewater permitting, ecological surveys, and US Army Corps of Engineers permitting strategy. Site civil services included drainage assessments and topographic and title survey.

Green Hydrogen Processing Facilities Demonstration Studies

Geosyntec evaluated the technical and financial viability of hydrogen production and consumption as a manufacturing fuel source for a series of projects. Work included technical due diligence; water supply evaluations; conceptual water and wastewater treatment pricing; risk and safety evaluations; health, safety, and environmental planning; environmental permitting; and geotechnical engineering.

Lifecycle Assessment (LCA) and Carbon Advisory Services for Multiple Projects

Geosyntec provided product carbon footprint evaluations, low-carbon natural-gas feedstock sourcing, and development of strategies to help hydrogen co-products qualify for tax incentives. We also supported process benchmarking with various hydrogen pathways.



Biofuels Plant Air Quality Permitting and Greenhouse Gas Analysis Support

Geosyntec helped a private client develop a new biofuels facility to produce renewable diesel and sustainable aviation fuels for the growing renewable fuels market. This plant was designed to produce low-carbon fuels from renewable feedstocks such as waste vegetable oils and animal fats as part of the client's business plan for developing low-carbon alternatives to fossil fuels. The biofuels plant uses novel processing technologies to create a syngas, and through further refinements, renewable hydrogen, for use in producing low-carbon-intensity renewable diesel and sustainable aviation fuels to help consumers achieve their net-zero goals.

Waste-to-Energy Feasibility Study Lead

Geosyntec was retained by a military base to conduct a feasibility study of currently available waste-to-energy technologies and to identify best choices based on the types and quantities of wastes generated on-site. The study provided the base with the technical, economic, and regulatory rationales for selecting plasma gasification as the most feasible technology for the base to reduce waste landfilling, generate renewable energy, and reduce environmental impacts.

Carbon Capture and Storage Subsurface Modeling and Permitting

Geosyntec conducted geologic site characterization and created an operational testing and monitoring plan, an emergency response and remedial plan, and a quality assurance plan. We also provided data management, geochemical modeling, and subsurface visualization to complete an underground carbon dioxide injection permit with USEPA Class VI Underground Injection and Control Permit. We are providing ongoing post-application submittal support and Low Carbon Fuel Standard certification for this carbon dioxide sequestration project.

Federal Funding and Carbon Capture and Storage Project Support

Geosyntec prepared US Department of Energy CarbonSafe Phase III grant applications for two carbon capture and storage projects in the US Gulf Coast. The grant applicants were awarded more than $60 million in federal funding, and we also supported preparation of six USEPA Class VI permits and development of the geologic models.

Renewable Energy Technologies Feasibility Study Lead

Geosyntec evaluated the technical and financial feasibility, aesthetic qualities, and likely regulatory and public acceptance of four renewable energy technologies–solar, wind, biogas methane, and geothermal–being considered in conjunction with extending the operational life and increasing the disposal capacity of the landfill.

Transactional Support, Feasibility, Siting & Development, and Engineering for Renewables

Geosyntec has supported numerous solar, wind and battery projects on landfill caps, abandoned mine land, brownfield sites, undeveloped land, and offshore locations. We provided early-stage due diligence and funding support. We also conducted feasibility studies and screening level assessments, wetland delineations, natural and cultural resource studies, liability valuations, and geotechnical studies.

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