

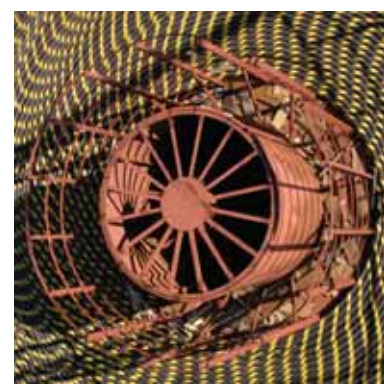
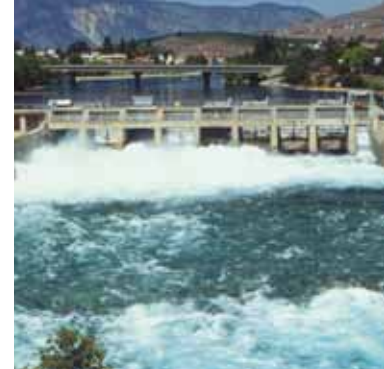
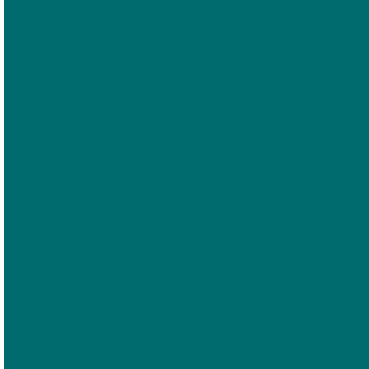


HDR

*Renewable Energy*

DELIVERED

*Listen first. Solve second.*





A 65-mile-long cable laid under New York Harbor sends power to more than 600,000 homes | Long Island, NY



Substation receives power from 13 wind turbines, generating power for 7,000 homes | Baker, MT



100 MW Wind Project | Martin and Jackson Counties, MN

## Delivering Tailored Renewable Energy

Harnessing the power of energy diversity requires utilities and project developers to navigate an array of choices. Widespread understanding that renewable energy offers environmentally responsible solutions comes as renewable energy goals present challenges across the power industry.

Renewables are not new. They have always been around us. What is new is the push to harness renewable sources of energy as the sustainable answer to an ever-growing power appetite. HDR has the resources and expertise to deliver power solutions tailored to the needs of each client. We know that pre-packaged solutions are not the answer. Each community and region requires power solutions that work for them based on available resources.

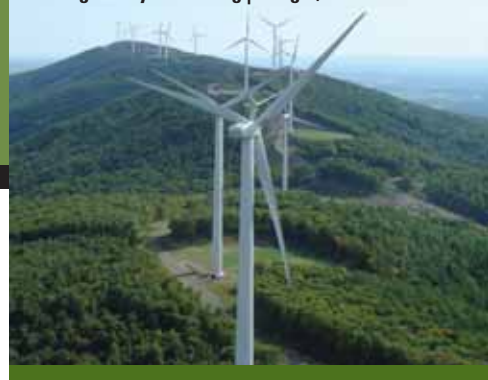
The multi-disciplinary teams of HDR work to site, design and build customized renewable facilities. Our experience in consulting, environmental services, engineering and economics covers the full range of renewable options to help clients craft solutions with maximum returns.

## Calculating Return on Investment

HDR understands the risks and rewards offered by renewable power. We help clients meet renewable portfolio goals with an eye on creating a sustainable return on investment (SROI). Our in-house economists have proprietary models to create evidenced-based analyses that help stakeholders understand, in quantitative terms, what is known about both the costs and the benefits of a project.

The SROI approach gives utilities and developers a tool to use with the many stakeholders who can influence the look, pace and successful delivery of a project. The HDR SROI toolbox includes cost/risk assessment, energy efficiency, carbon management and system reliability.

**HDR|DTA led preliminary civil, geotechnical environmental assessment and permitting and regulatory consulting | Bangor, ME**



## Trusted Solutions from a Trusted Partner

At HDR, you will find all the renewable energy expertise you need in one place. Our ability to craft nimble and flexible options for a complete and balanced energy portfolio is what makes us different. Turning to HDR gives you the confidence of knowing you are working with the industry leader for renewable solutions.

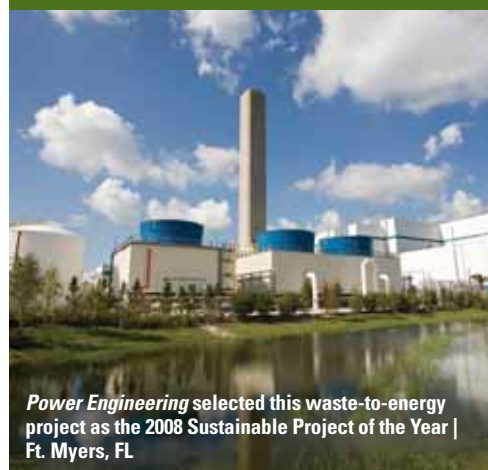
Our balanced technical program and fully integrated service teams work together to deliver projects, from power generation to power delivery, that exceed expectations. The recent acquisition of the leading hydropower and alternative renewable technology firm Devine Tarbell & Associates, Inc. (DTA) solidifies the prominence of HDR as the source for effective renewable project solutions.

Our comprehensive services include:

- Feasibility studies, alternatives analysis and strategic planning
- Regulatory support, environmental permitting and compliance
- Owner's engineer and program management services
- Power facility design
- Construction and right-of-way services
- Carbon management, cost-benefit and risk analysis
- Retrofits, upgrades and modifications

## Delivering Baseload Power

HDR understands that generating power from renewable sources is just part of the equation. The challenge ahead lies not just in creating power from renewable sources, but in being able to store it for when it is needed and to move it to where it is needed. The depth of our expertise allows us to offer clients the full range of complementary power delivery services as part of a renewable energy package. From collection systems to substation and high-voltage transmission, we have the resources and track record to get the job done. Our hydropower pumped storage and combustion turbine expertise adds to our ability to help clients balance renewable generation resources on the grid.



**Power Engineering selected this waste-to-energy project as the 2008 Sustainable Project of the Year | Ft. Myers, FL**

**HDR|DTA completed a hydroelectric feasibility study to provide renewable power | Susitna River, AK**



**The Grand Ridge Wind Farm will produce enough energy to support 60,000 homes | LaSalle County, IL**



## Wind

HDR's integrated wind energy services lead the nation. We have sited and designed wind power projects that exceed 15,000 megawatts of renewable energy across North America. From planning and permitting to final design and construction quality control, HDR combines extensive knowledge of conventional power delivery and generation with wind projects to build reliable systems that meet client needs for sustainable and dependable power.

## Hydropower and Pumped Storage/ Ocean Energy

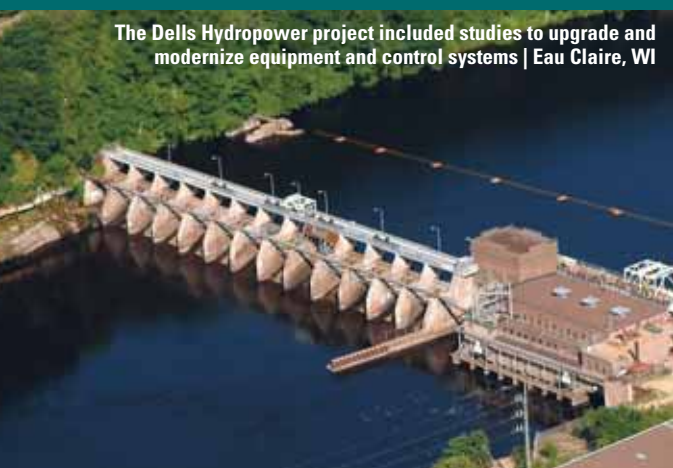
We are unique in tying together strong teams with engineering, regulatory and environmental expertise so that we can see the big picture in developing the best strategy. As leaders in hydropower, pumped storage and ocean energy, HDR|DTA believes that solid, senior level expertise in all three of these disciplines is necessary to diligently serve our clients in both new developments and upgrades to existing facilities. The ability to tie hydropower technology, like pumped storage, to wind and transmission solutions is what sets us apart.

Waves and tides hold potential as a significant source of renewable energy. As the leading provider of services in this emerging arena, HDR|DTA understands the regulatory and site development challenges that confront ocean energy projects including offshore wind and subsea transmission cables. By working with developers, agency personnel and stakeholders, we guide clients through permitting and licensing processes and engineering feasibility studies for projects to harness the kinetic energy of ocean waves and tides.

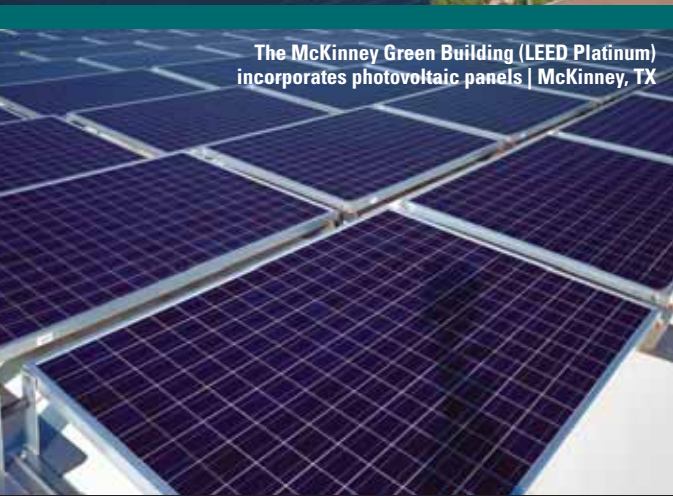
## Solar

Many technologies can be used to harness heat and light from the sun, from the simple to complex. Passive solar heating and daylighting maximize beneficial use of this abundant source of renewable power. Photovoltaic systems and utility-scale solar energy projects can add to a renewable portfolio. HDR understands how to unite appropriate storage and generation technologies to support the variability and intermittent nature of solar energy, crafting a strategic solar program to meet client needs.

**The Dells Hydropower project included studies to upgrade and modernize equipment and control systems | Eau Claire, WI**



**The McKinney Green Building (LEED Platinum) incorporates photovoltaic panels | McKinney, TX**



Facility upgrades improved efficiency and performance at the 454-metric ton MacArthur Resource Recovery Facility | Islip, NY

## Biogas

Ranked as the #1 solid waste consultant by *Engineering-News Record*, HDR is a trusted source when it comes to beneficial reuse of methane gas derived from landfills and wastewater plant digesters. Methane gas energy conversion projects have a 20-fold reduction of greenhouse gases, and at the same time are an economically competitive and proven source of renewable energy. HDR knows how to integrate a thorough economic analysis of a project's viability with carbon management and owner's engineer services to build a strategic methane energy program.

## Biofuels

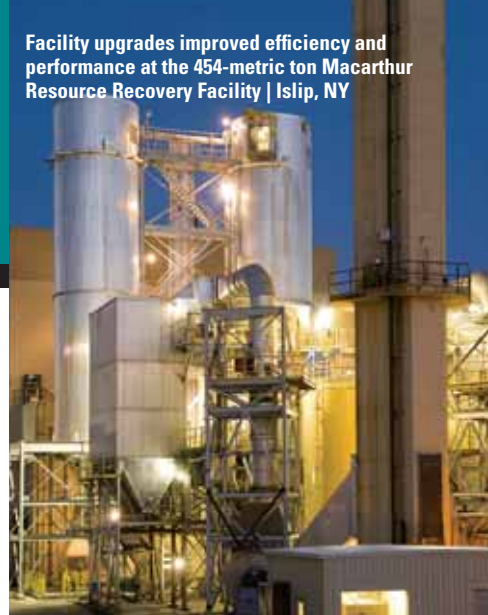
In the evolving biofuels industry, HDR provides unmatched professional services, including project management and alternative delivery strategies, design of industrial energy systems, transportation logistics planning and design, wastewater discharge and site utilities. We are experienced advisors who represent client interests to bring plants online and deliver the product to market efficiently.

## Renewable Solid Fuels

Transforming waste and biomass into energy helps communities demonstrate their commitment to renewable energy and protecting the environment. Acceptance of waste as a source of energy has gone mainstream. With a strong track record in biomass and involvement in more than two-thirds of operational waste-to-energy facilities in the United States, HDR solutions tap into the latest and cleanest options available.

## Geothermal

The naturally stable temperature of the earth provides a variety of ways to maximize the use of geothermal technologies from small to large projects. HDR develops a well-integrated team that pulls the pieces together from permitting and site development to owner's engineering and construction management support. We combine the best national expertise with local resources who understand unique local site conditions.



The Douglas County Landfill Gas Facility generates power for more than 4,000 homes and businesses | Elk City, NE

HDR|DTA Puget Sound Tidal Project, Permitting Support | Admiralty Inlet, WA



**F**ounded in 1917, HDR is an architectural, engineering and consulting firm that excels at complex projects and improving quality of life. With locations across North America and abroad, we deliver more than 50 different design and scientific disciplines.

Your community matters to HDR. After all, it's HDR's community too. HDR's operating philosophy is to be an expertise-driven international firm, which delivers tailored solutions through a strong local presence.

Service is what differentiates HDR from firms of similar size. Repeat business stands at 80 percent, a clear indication of client satisfaction and confidence. Professional publications consistently rank HDR among the leading consulting and design firms. You'll have confidence knowing that HDR is an international firm with a small-firm service approach and a reputation for exceeding clients' expectations.

No matter what industry HDR clients are in, they operate in an increasingly complex world. In addition to traditional architecture and engineering services, HDR offers up-front services such as feasibility studies, siting, permitting, public involvement and economics.



HDR is committed to reducing our environmental impact through increased use of recycled post-consumer materials. This brochure is printed on paper that contains 20% post-consumer waste and is FSC certified mixed source.

Cover Photo: Scott Dobry | Siting and environmental assessment and permitting support for one of the nation's largest wind farms. Once complete, Grand Ridge Wind Farm will produce enough clean, renewable energy to support 60,000 typical homes | LaSalle County, IL