

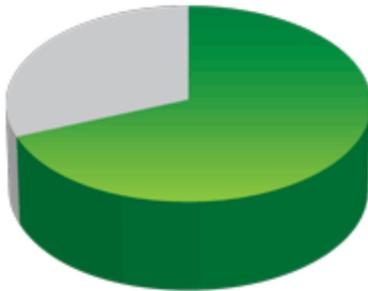
Add It Up: The Cost of Renewable Energy

02/17/2015

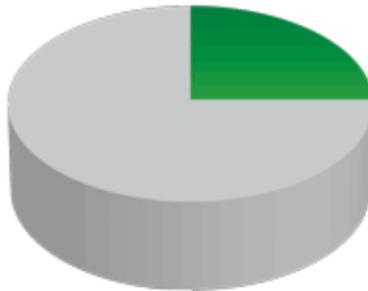
Setting aside environmental concerns, investing in renewable energy sources is a popular decision for businesses and governments around the world. What's the outlook for renewable energy and which methods have the lowest costs? The Online Accounting Schools explore.

Turning to Renewables

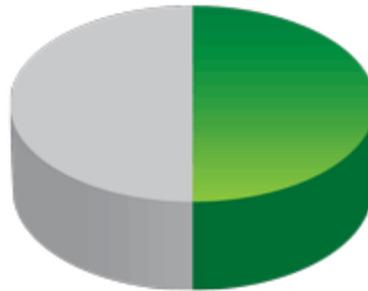
69% Projected growth in renewable electricity generation in the U.S. between 2012 and 2040¹



25% Average annual growth rate over past five years in global wind power capacity²

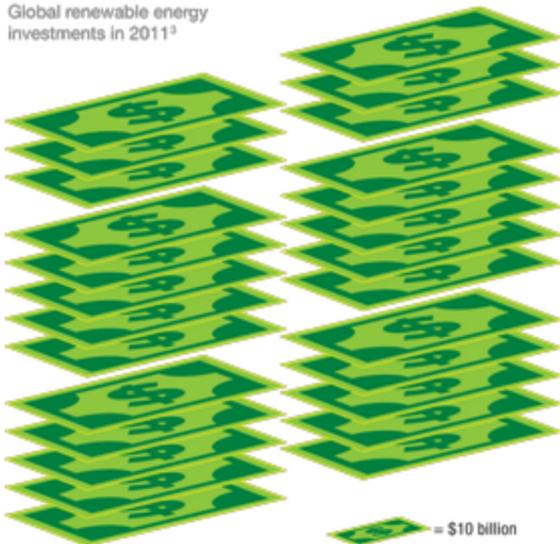


50% Average annual growth rate over past five years in solar photovoltaic capacity²



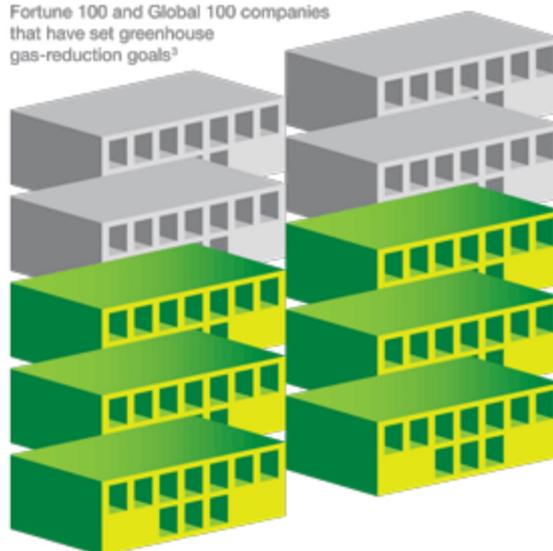
\$260 billion

Global renewable energy investments in 2011³



6 in 10

Fortune 100 and Global 100 companies that have set greenhouse gas-reduction goals³



Breaking Down the Options

	Pros	Cons
Solar	<ul style="list-style-type: none"> • Most abundant energy source available • Long lifespan of systems 	<ul style="list-style-type: none"> • Dependent on sunshine • Expensive initial cost • Space needed for photovoltaic cells
Wind	<ul style="list-style-type: none"> • Affordable • Lack of disruption on ecosystem 	<ul style="list-style-type: none"> • Not possible for all areas • Expensive initial and ongoing cost • Lots of land needed
Hydro	<ul style="list-style-type: none"> • Reliable • Adjustable output based on demand 	<ul style="list-style-type: none"> • Can have negative impact on area ecosystem • Flood potential
Geothermal	<ul style="list-style-type: none"> • Low environmental impact • Costs fall rapidly after initial investment 	<ul style="list-style-type: none"> • Few wells currently in use • Potential for depletion of wells in future

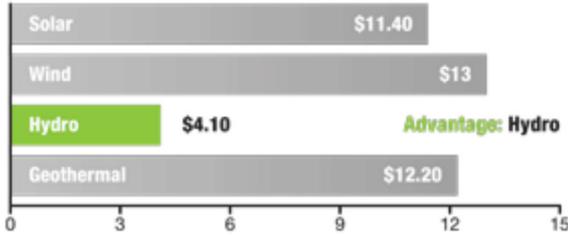
So What's the Bottom Line?

Levelized cost¹



In this analysis, we'll look at expected levelized cost of electricity, operations and maintenance and typical lifespan for each of the four methods. Includes: Financing, Lead time for building, Inflation, Resource supply, & Learning rate

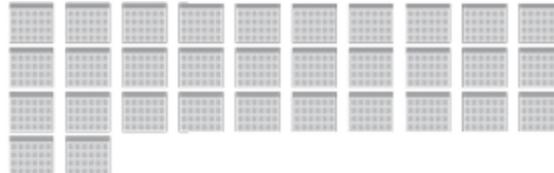
Maintenance cost¹



Estimated levelized cost of electricity, \$/MWh, for new plants coming online in 2019. Includes: Day-to-day operations, Ongoing maintenance

Lifespan

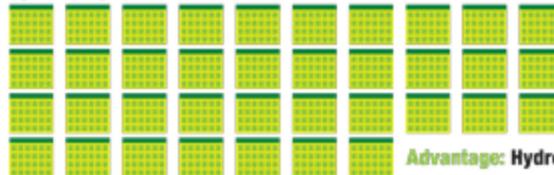
Solar: 32 years



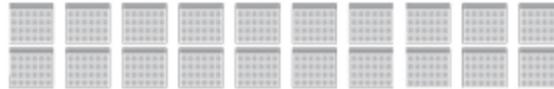
Wind: 20 years



Hydro: 37 years



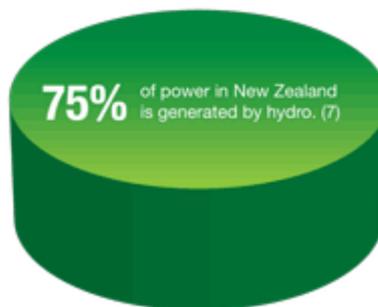
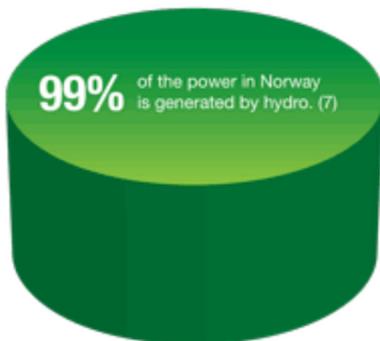
Geothermal: 20 years*



* Internal components

The Winner

Hydroelectric power may represent the most cost-effective alternative to burning fossil fuels. With long lifespans and low maintenance costs, hydro is the fuel of choice in many places in the world.



Source: The Online Accounting Schools, citing the following: ¹<http://www.eia.gov>, ²<http://www.iea.org>, ³<http://www.worldwildlife.org>, ⁴<http://www.energy4me.org>, ⁵<http://www.renewablesfirst.co.uk>, ⁶<http://www.nrel.gov>, ⁷<http://www.statisticbrain.com>