E.0
ENERGY NEW ERA

Fracking & Environmental risks

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USA, the oil-gas dream of richness is destroyed

Last years a lot of oil markets had invested in hydraulic fracturing. Dropped the oil price fracking has became too expansive for USA.

Historical events about fracking

2010	2012	2014	2015	2016
USA, Arabia, Russia invest in fracking	New frack wells	Over production	The price of oil goes dow	Fracking is too expensive

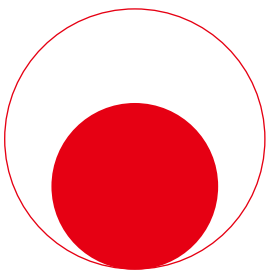
Events forecasts to the fracking

2016	2017
US petrol-gas productors failing	100.000 jobs loss

Fracking, the meaning and the risks for people

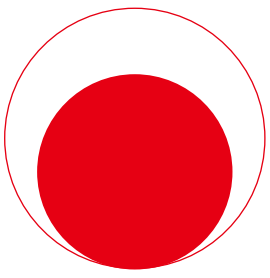
Hydrofracking is a controversial oil and gas extraction technique developed in the late 1940s to gain access to fossil energy deposits previously inaccessible to drilling operations.
The process, "hydraulic fracturing", literally involves the smashing of rock with millions of gallons of water–along with sand and a undisclosed assortment of chemicals in order to bring gas to the surface.

Risk of fraking for the environment

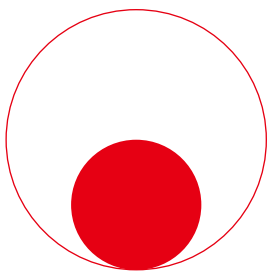


64% Environment

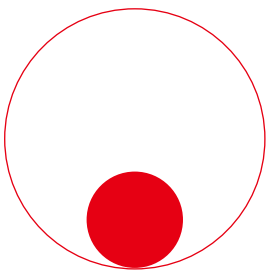
Risk of fracking for health



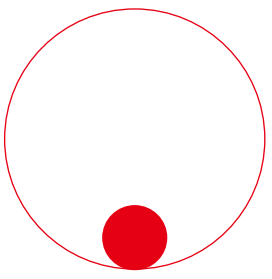
75% Sensory organs
The respiratory ystem
Gastrointestinal system



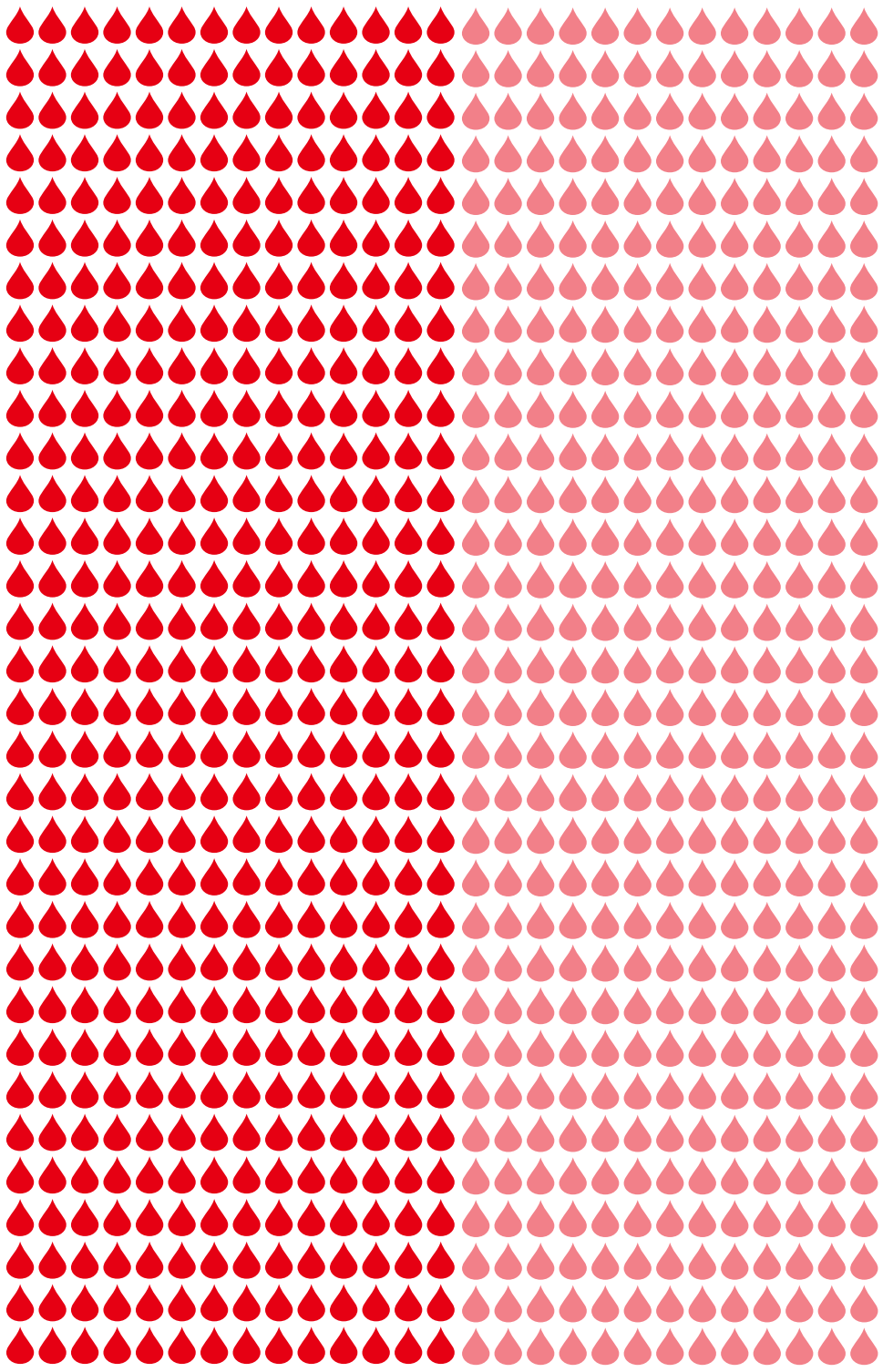
50% Nervous system
Immune system
Cardiovascular system
The kidneys



37% The endocrine system



25% Cancer mutations



4,8 M Water polluted by chemicals

3,2M Facturing fluid recovered

Pollution of water: 10,000 gal. of corrupt water — 10,000 gal. of clean water

Promised land, Gus Van Sant

Promised Land is a 2012 American drama film directed by Gus Van Sant and starring Matt Damon, and John Krasinski about fracking.

"

Hi everybody. I'm here because my farm is gone. The land just turned brown and it died. It's happened to one of us. It can happen to all of us.

"

What H. Clinton and B. Sanders think about fracking

"

We have to regulate what is currently underway, and we have to have a system in place that prevents further fracking unless conditions like the ones that I just mentions are met.

Hilary Clinton's answer

"

"

"My answer is a lot shorter. No. I do not support fracking."

Bernie Sanders's answer

"

What a Stanford scientist says about fracking

A Stanford University scientist has found that people who live near shallowly drilled oil and natural gas wells risk drinking water contaminated with methane. Local geology plays a role in leaks. For instance, when Jackson sampled groundwater in Arkansas, he didn't encounter contamination because rock formations provided a seal against potential leaks.

Marine life thrives in unlikely place: off shore oil rigs

EUREKA OIL PLATFORM OFF CALIFORNIA COAST — Eight miles off the coast of Long Beach, Calif., the oil rig Eureka, which has stood here for 40 years, is a study in contrasts.
From a distance, it looks like just another offshore platform, an artifact of the modern industrial landscape.
But beneath the waves, the Eureka and other rigs like it in the area are home to a vast and thriving community of sea life that some scientists say is one of the richest marine ecosystems on the planet.

Sources: www.theguardian.com; www.lastampa.it; ; www.it.ibtimes.com; www.The NewYork Times.com;
#visualisingthecrisis

Daily World CO_2 Emissions of March 10th, 2016

406.10 ppm
(part per million)

Off-grid solar market trend report 2016

The off-grid solar market has grown to $700 million now from non existent less than a decade ago, according to a report Thursday from the London-based research company and the World Bank Group's Lighting Global. They expect that to swell to $3.1 billion by the end of the decade. There are about 1.2 billion people without access to energy and another billion who are connected to a national grid, but with unstable power (95% of this people in Asia and Africa). Almost 100 million households worldwide may be powered by solar panels by 2020, according to Bloomberg New Energy Finance.

"

The most simple path would be if we could bring the cost of solar electric and wind down by another factor of say, three, and then have some miraculous storage solution, so that not only over the 24-hour day but over long periods of time where the wind doesn't blow, you have reliable energy. That's a path. But energy storage is hard. That's not a guaranteed path.

Bill Gates interview, Tech Insider, 22 February 2016

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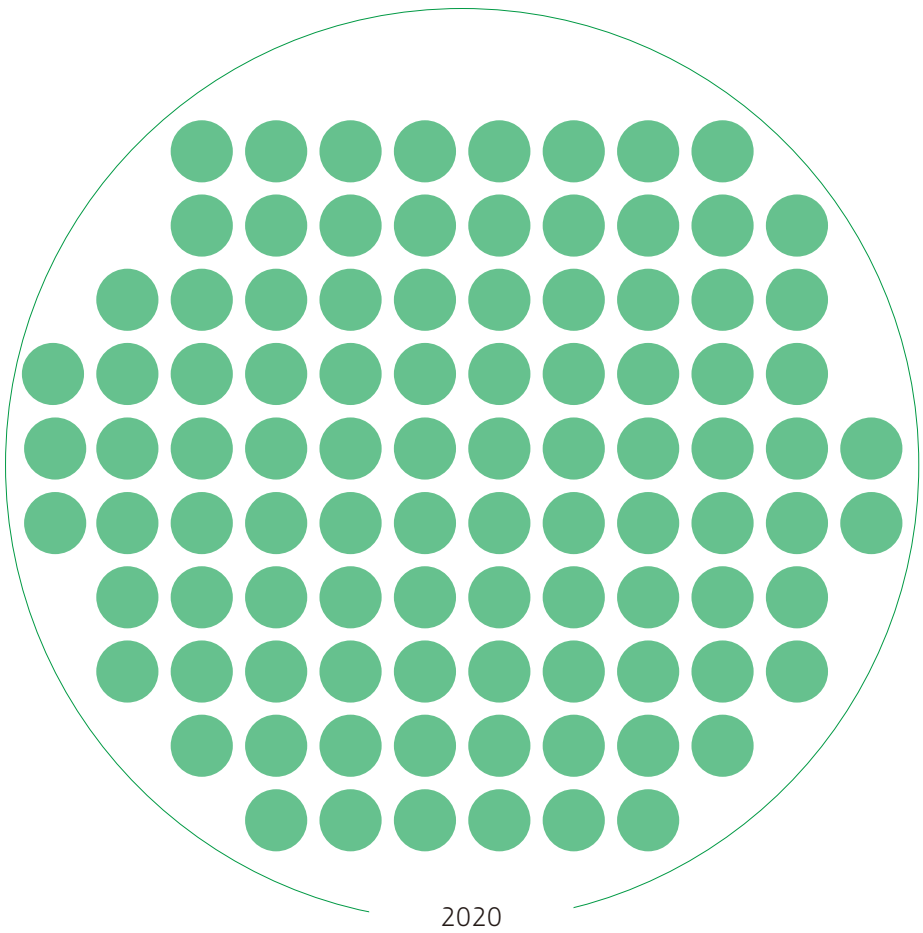
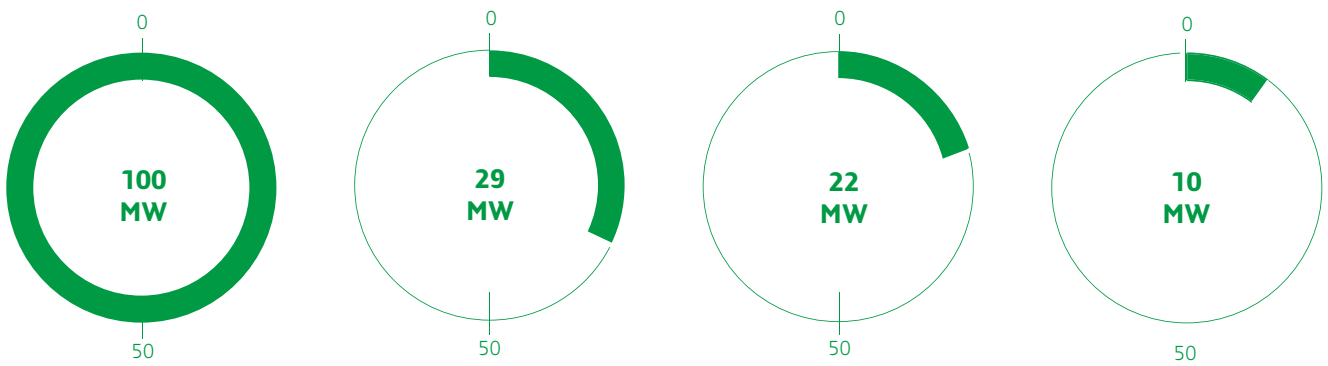


- The off-grid solar market in 2015
- The off-grid solar market in 2020
- 10.000 houses worldwide may be powered by solar panels

Solar, wind and hydro projects added to the North American grid

Recent data released from Generation Hub shows that four renewable energy projects went into operation in February 2016. The 29-MW Cannelton Hydropower plant in Kentucky and the 22-MW Willow Island Hydropower plant in West Virginia both owned by American Municipal Power – Ohio (AMP) each went online in February. In addition, the 100-MW Grand Bend Wind Project in Ontario owned by Northland Power and the PSE&G-owned 10-MW solar power plant, L&D Landfill Solar, in New Jersey rounded out the newly operating projects.

"The U.S. is blessed with world-class wind resources," said Tom Kiernan, CEO of AWEA in a release. "We're tapping into this homegrown resource more than ever thanks to American innovation and U.S. workers building some of the most productive wind turbines in the world. Now more than ever, low-cost, stably-priced, zero-emission wind energy is keeping our air clean and cutting costs for consumers. American wind power is well on its way to supplying 20 percent of U.S. electricity by 2030."



Grand Bend Wind
Northland Power
Ontario

Cannelton Hydropower Plant
American Municipal Power
Kentucky

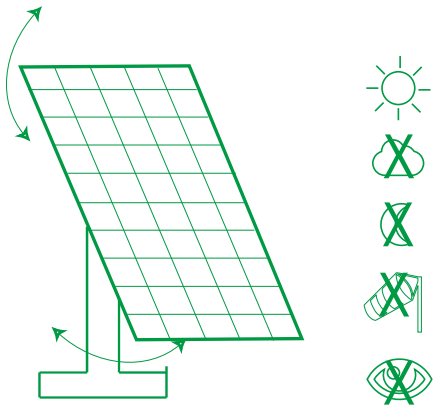
Willow Island Hydropower Plant
American Municipal Power
West Virginia

Solar Power Plant
PSE&G-owned
New Jersey

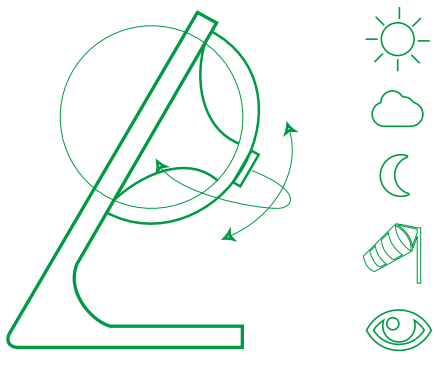
The spherical sun power generator "Beta.ra"

German Architect Andre Broessel designed the spherical sun power generator prototype called the beta.ray.
His technology will combine spherical geometry principles with a dual axis tracking system, allowing twice the yield of a conventional solar panel in a much smaller surface area. The futuristic design is fully rotational and is suitable for inclined surfaces, walls of buildings, and anywhere with access to the sky. It can even be used as anelectric car charging station.
The beta.ray comes with a hybrid collector to convert daily electricity and thermal energy at the same time. While reducing the silicon cell area to 25% with the equivalent power output by using our ultra transmission Ball Lens point focusing concentrator, it operates at efficiency levels of nearly 57% in hybrid mode.

At nighttime the Ball Lens can transform into a high-power lamp to illuminate your location, simply by using a few LED's. The station is designed for off grid conditions as well as to supplement buildings' consumption of electricity and thermal circuits like hot water."



Photovoltaic system



Beta.ra system

Sources: AENews; Anna Hirtenstein, Bloomberg; Drake Baer, Business Insider; Jennifer Runyonrenewableenergyworld

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San Marco Airport
Green energy produced until now

3089,187 MWh
(Megawatt/hour)