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The Hidden Price of Bitcoin



Bitcoin - It is the newest, most rewarding, most attractive and entertaining way of making money, isn't it ?

But Bitcoin has a hidden price. Bitcoin is believed to have been created in 2009 by an anonymous person known as Satoshi Nakamoto as a new way of paying for things that would not be subject to central banks that are capable of devaluing currency. A bitcoin itself is essentially a line of computer code. It's signed digitally when it goes from one owner to another. In order to create one bitcoin, a computer must access the Bitcoin network and solve a complicated math problem, a process known as "mining." But there are a finite number of Bitcoins that can be mined 21 million, to be exact—and as more Bitcoins are mined, the math problems get more challenging. Off-the-shelf personal computers used to be powerful enough to mine Bitcoins. Now, because the math problems are so complex, they must use specialized hardware called Application Specific Integrated Circuit, or ASIC. These mining machines are big and run hot, and the people who use them—either Bitcoin mining companies or Bitcoin enthusiasts working together—use (unimaginable amounts) of electricity to do so. Companies and organizations that mine BTC will sometimes have 1000 of these machines packed into expansive warehouses. In 2015, Vice profiled a Chinese BTC mining facility that spent \$80,000 per month on electricity for these ASIC miners, in order to pro-

duce 4,050 bitcoins in the same period. A study from the University of Cambridge last year found that 58 percent of Bitcoin mining comes from China, describing "an arms race amongst miners to use the cheapest energy sources and the most efficient equipment to keep operators profitable." Cheap power oft means dirty power, and in China, miners draw on low-cost coal and hydroelectric generators. De Vries analyzed one mine in China whose carbon footprint was "simply shocking," emitting carbon dioxide at the same rate as a Boeing 747. Bitcoin analyst Alex de Vries, otherwise known as the Digiconomist, reports that the coin's surge caused its estimated annual energy consumption to increase from 25 TW hrs in early November to 30 TWh last week, a figure, wrote Vox's Umair Irfan, "on par with the energy use of the entire country of Morocco, and roughly 0.7 percent of total energy demand in the US, equal to 2.8 million U.S. households." Just one transaction can use as much energy as an entire household does in a week, and there are about 300,000 transactions every day. That energy demand is more often than not met through fossil fuel energy sources, which, along with polluting air and water, emit greenhouse gases that cause climate change. The more energy you use, the more resources you use, the more bitcoins you get. Harm the environment, and become rich, simple isn't it ?

Source : cbs news

Trending

- Previous evidences of water on Mars now identified as grain flows. Planet appears to have water-restricted environment by US geological survey.
- 2017 was among the hottest years ever recorded by US govt, 2nd by NASA. Thanks to insatiable greed of human race and the reluctant attitude of the Trump administration who withdraw from the Paris climate agreement last year. The government policies are more economic than environment oriented.



Rising temperature cause sea turtles to turn female

Rising temperature of earth is imposing so many threats to its inhabitants even leading to extinction of species. This time it's the turn of Green Sea turtles. One of the world's largest turtle populations is turning almost entirely female, and the cause is most likely warming temperatures in a changing climate.

The sex of hatchlings in sea turtles — and in a few other species such as alligators and crocodiles — depends on the temperature of the sand in which the eggs incubate. The US National Oceanic and Atmospheric Administration (NOAA) website specifies the temperature ranges that lead to offspring of one sex or the other: male when it is 27.7°C or cooler, female when 31°C or warmer, and a mix of male and female baby turtles when the temperature fluctuates between these two limits.

In a study led by NOAA research biologist Michael Jensen, an international team of scientists used a new research



method to assess sex ratios in two nesting populations of green sea turtles in Australia's Great Barrier Reef. Turtles of the northern Great Barrier Reef (GBR) are genetically different from those of the southern GBR. The results of the study, published in *Current Biology*, showed an alarming female bias in turtles from the northern Great Barrier Reef, which is warmer than the southern GBR: 86.8% female among adults, 99.8% female among sub-adults and 99.1% female among juveniles. A female bias showed again in turtles from the cooler,

southern GBR, but this was less stark: between 65% and 69%. The fact that the ratio exceeds 99% among the younger turtles from the warmer region, while being 86.8% among adults of the region, indicates that the proportion of females has increased in recent decades.

Yes, the rising temperatures are shifting the ratio of turtles from male to female. Although researchers have known for decades that warming temperatures alter the sex of sea turtle offspring, this is the first time they have directly documented the trend in a major wild population. So, there is a chance of extinction of this species in future as it is not possible for them to adapt with the changing climate in such a short span of time. Scientists and wildlife managers now know what they are facing and may come up with practical ways to help the turtles. Hope we are not going to lose this species.

Source : nationalgeographic.com

China built the biggest air purifier in World

China has constructed Xian smog tower, an experimental air purifying tower touted to be the world's biggest at height of over 100 meters in an attempt to fight air pollution. The tower is built in Xian in Shaanxi province and has brought positive effect on chronic smog problem in China. It is undergoing testing by researchers at Institute of Earth Environment at Chinese Academy of Sciences.

Xian smog tower project was announced in 2015 to find low-cost method to artificially remove pollutants from atmosphere such as PM2.5, nitrates and sulphur dioxide which are the most harmful to human health. The polluted air is sucked into glasshouses of tower and is then heated up by solar energy. The hot air then moves through multiple cleaning filters and helps in reducing air pollution. The system in air purifier also works during winters as coat-



ings on greenhouses enable glass to absorb solar radiation at higher efficiency. According to its original design, the full-sized tower will reach 500 metres high with diameter of 200 metres. This tower size will capture greenhouses in nearly 30 square kilometres and will be capable of purifying the air for small-sized city.

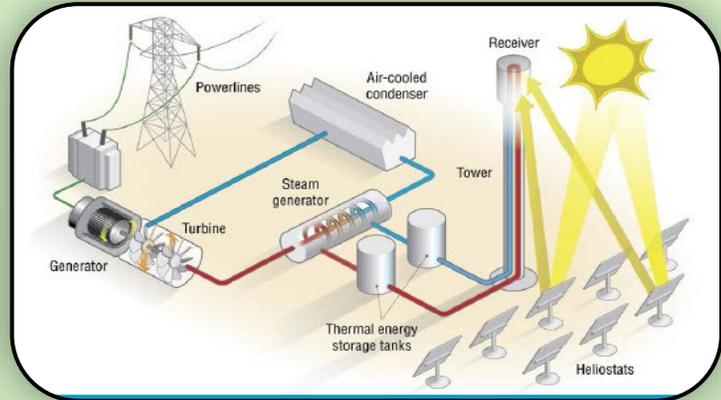
During the tests, the tower has managed to produce more than 10 million cubic metres of clean air/day since its launch.

It was able to bring down the smog to moderate levels the day when air quality was severe. However, the results were preliminary as of now. It has also improved quality of air after observations were made over distance of 10 square kilo-meters in the past few months.

Appreciating this move of China to think over a method to curb the air pollution, the citizens of India should also think in the similar direction as we are not such safe from the air pollution. It is sad but our capital Delhi gets frequently hit by fog and smog which makes the condition much terrible and threatening. Not only Delhi, but many other cities like Jaipur, Kanpur, Mumbai which have the nitrate, pm and sulphur levels high. So still it's time to think over the problem until it's too late to act upon.

Source : iflscience.com

Can Molten Salt Make 24-Hour Solar Energy Possible?



PRODUCING ENERGY WITH MOLTEN SALT :

Alongside solar and wind power, clean energy companies are also looking into using salt to generate electricity — molten salt, to be precise. SolarReserve is just one of several companies trying to prove that molten salt can generate electricity just as effectively as solar and wind.

How the New Source of Electricity is Produced?

At the crescent dunes, power generation begins with 10,347 mirrors, bringing the total to 13 million square feet of only glass. This space is as huge as Washington's National Mall starting from the steps of the Capitol to the Washington Monument. The heliostat is the name given to the mirrors because every single one of them can tilt and turn to point its beam of light.

The heliostats are arranged in concentric circles and focus sunlight on the receiver at the very top of the central tower. The receiver is matte black in the absence of sunlight and absorbs enough light at 1,050 degrees Fahrenheit to heat the molten salt that flows through several pipes. The hot salt which now looks like water flows down to a 3.6 million gallon storage tank made of stainless steel. It will then go through a heat exchanger to produce steam and thus turn a standard turbine generator. The tank carries molten salt that can run the generator for up to 10 hours which is equivalent to 1,100 megawatt. This is approximately ten times more than the biggest lithium-ion battery systems that store renewable power.

If this 110 megawatt concentrated solar power (CSP) plant and similar others under construction turn out to be reliable,

the technology will swing into action. Currently, a CSP tower with 8-10 hours of storage of molten is way cheaper compared to a solar PV farm with the same number of lithium-ion batteries. This new technology is believed to be able to produce solar power that is carbon-free, 24 hours energy source, affordable and like other fossil fuel plants can be dispatched on the electric grid.

CSP Molten Salt Generation is the Next Big Thing

Majority of the CSP projects are found in Spain and the U.S. This is because, before the 2008 financial crisis, their governments gave generous subsidies. Sener, the Spanish engineering company is, however, building two plants in Ourzazate, Morocco. One uses the molten salt storage system and CSP trough technology while the other is a molten salt tower design. Although the developers still need to prove that CSP molten salt towers can generate power at promised prices and at the same time be reliable, SolarReserve has bid to sell power at almost 5 cents per kilowatt-hour from a project in Atacama Desert in Chile. In China, the government has recently announced it plans to construct a 6000 MW of CSP with storage. SolarReserve is teaming up with China's Shenhua Group, a coal-fired power plant constructor, to develop 1,000 MW of CSP molten salt generations.

“We’re going to see it through. It’s taken a while to get to where we are. The market is now responding. We’ve got our costs down. We’re winning bids.” Kevin Smith affirmed.

Source : Futurism.com

Makar Sankranti—Kite flying and accidents.

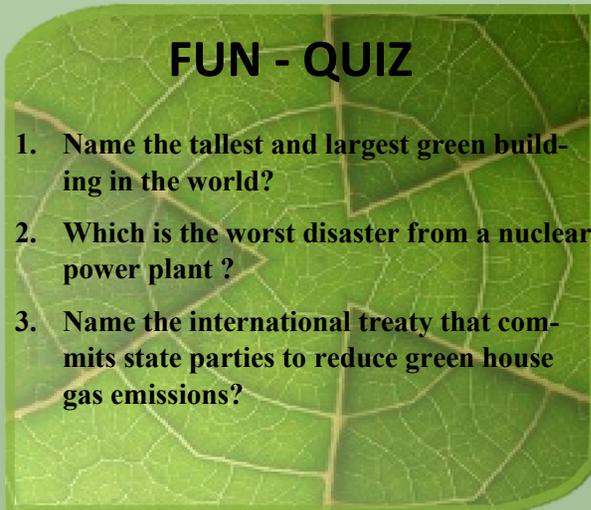
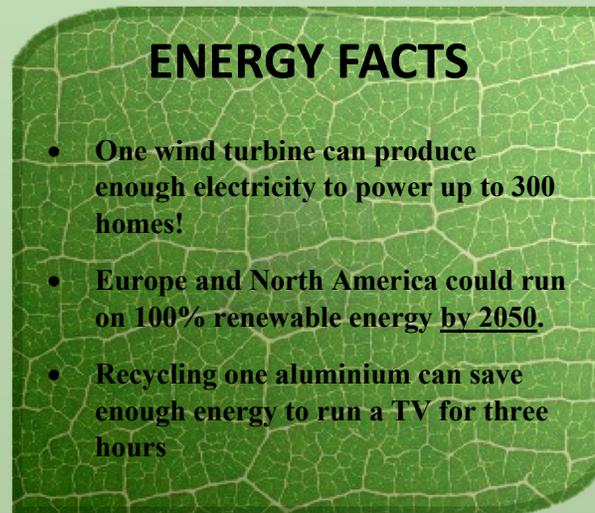
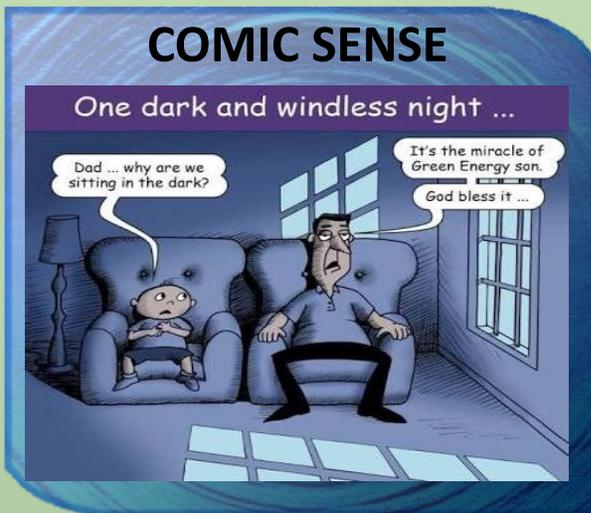
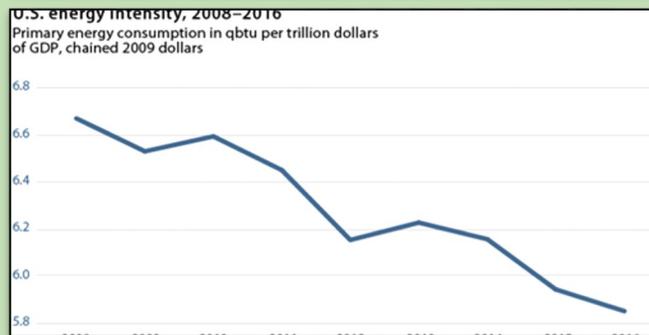
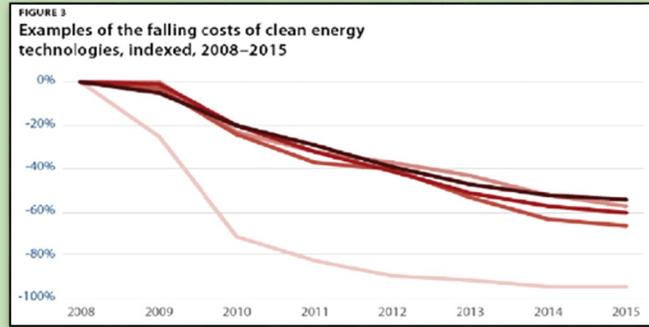
Makar Sankranti is one of the most important festivals in Indian culture. It should be celebrated like a festival, and should not take a dangerous turn. Kite flying was at its peak on Makar Sankranti as the sky was dotted with kites. over 110 people landed in different hospitals of Jaipur due to injuries they suffered from falls from rooftops or cuts on faces by sharp manjha thread on Maker Sankranti. Nearly 1100 birds were also injured due to manjha threads from

January 13 to 15 in Jaipur itself. So as a part of society it's our responsibility to tell children to be more careful while flying kites. Open areas should be used for kite flying rather than the rooftops.

Source: Outlook web bureau.

America's Clean Energy Success, by the Numbers

Over the past eight years, the United States has experienced a remarkable explosion of innovation and entrepreneurship in clean energy. The U.S. energy sector has steadily transformed to a cleaner one with electricity production from wind quadrupling and utility-scale solar electric generation increasing 40-fold. Throughout this transformation, the energy sector has maintained affordability and reliability and supported clean energy jobs for millions of Americans. The clean energy sector will continue to build on this foundation, given the powerful forces of technological innovation, ever-lower costs, and broad business and public support that have coalesced around clean energy. As the electricity market opened to cleaner technologies the costs of those technologies went down, job numbers associated with them went up, and Americans embraced an energy future increasingly fueled by clean, domestically produced, renewable energy.



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