



The very real financial risks associated with climate change



“That's how risky it is to stay invested in fossil fuels”

March 29, 2016. **Turning Point in Climate Fight as Attorneys General Unite to Target Exxon Crimes** by Lauren McCauley, Common Dreams. “In a move many are hailing as a “turning point” in the climate fight, **20 state Attorneys General launched an unprecedented, multi-state effort to investigate and prosecute** the “high-funded and morally vacant forces” that have stymied attempts to combat global warming—starting with holding ExxonMobil and other industry giants accountable for fraud and suppression of key climate science (...) Puerto Rico and the Virgin Islands are already “experiencing the effects of global warming,” from coral bleaching and the proliferation of seaweed, to ever-more powerful hurricanes. “It is troubling that, as the polar caps melt, there are companies that are looking at that as an opportunity to go and drill, to go and get more oil. How selfish can you be?” Attorney General Claude Earl Walker asked. “Your product is destroying this Earth, and you want to do what? Destroy the planet further,” he added, saying they have “documents” showing just that. **“We cannot continue to rely on fossil fuels”** (...) “The Exxon revelations may turn out to be the largest corporate scandal in history,” May Boeve, executive director of 350.org, continued. “Everyone is impacted by climate change, which means everyone has a stake in these investigations. **A trial of ExxonMobil and the fossil fuel industry would be even bigger than the cases against Big Tobacco.**”

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March 29, 2016. **Five Reasons to Pass the Climate Science Truth and Accountability Act (SB 1161)** by Jason Barbose, Union of Concerned Scientists. “This legislation, authored by Senator Ben Allen (D-Santa Monica) and sponsored by the Union of Concerned Scientists, would give explicit authority to public prosecutors in California to take legal action against businesses that have deceived the public about the scientific evidence of climate change over the past 30 years.”

March 24, 2016 **Rockefellers Divest from Fossil Fuels—Starting with Exxon Because #ExxonKnew** by Nika Knight, Common Dreams. The SEC also rebuked ExxonMobil this week as it told the oil giant it must disclose to its shareholders the financial risks of climate change. “With

sharp words for ExxonMobil's decades-long climate change cover-up, the \$130 million Rockefeller Family Fund announced that it has sold all of its ExxonMobil shares and that it plans to ditch all fossil fuels companies' stocks. The Rockefeller Family Fund is a charity led by the heirs of John D. Rockefeller, “one of America's original oil barons and among the wealthiest men in history,” as Quartz put it. The charity's divestment comes a year and half after another Rockefeller family charity, the Rockefeller Brothers Fund, made headlines when it also decided to divest from fossil fuels. **The Rockefellers' move is a pointed condemnation of the oil behemoth—which originally began as Rockefeller's Standard Oil Company—and this week's announcement specifically criticized the corporation's decades-long denial of climate change (...)** In another rebuke to Exxon, the Securities Exchange Commission (SEC) sent a [letter](#) to the company instructing it to "include a climate change resolution on its annual shareholder proxy," [Reuters reported](#). The SEC's decision marks a major defeat for the company who had thus far refused to acquiesce to its [shareholders' demand](#) that it disclose how it may be affected by climate change regulations in its annual reports. **“The SEC has rejected Exxon's attempt to silence investors' concerns about the very real financial risks associated with climate change,”** said Shanna Cleveland of Ceres, a non-profit organization that advocates for sustainable business practices.”

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March 16, 2016. Essay from the heir of an Exxon founder on why he's selling his stock. **My Oily Heirloom. Divesting from fossil fuels required breaking a family tradition by Lindsay Suter**. “Divesting my shares lifted a great burden. I’m both a direct descendent of one of the corporation’s early executives and an architect devoted to green building practices (...) I can be thankful for what my forebears provided me. But if that gift undermines my family and our planet’s very future, now is the time to change course. I sold all the shares belonging to my immediate family late last year. I’m now reinvesting that money into greener things. With virtuous irony, the education paid for by the company that became ExxonMobil encouraged me to think, challenge, and discover. This source of wealth helped me become a discerning, rational person — and when necessary, an activist. My great-great grandfather felt an obligation to ensure the well-being of his family’s next generations, so he left us valuable assets. One of my biggest family obligations is ensuring the well-being of future generations on a stable, fertile, and healthy planet. I’m not trying to vilify my great-great grandfather for what ExxonMobil has done. But we can blame the people and companies who are now recklessly and knowingly ignoring our common peril. **Whatever brings on your own epiphany, I hope you’ll see that it’s time to divest from fossil fuels and invest in a climate-friendly future.**”

November 17, 2015. **Rockefeller Fund: 'The oil age is coming to an end'** Stephen Heintz, president of the Rockefeller Brothers Fund, explains to DW [how it makes perfect sense that a fund which got rich on oil is now divesting from fossil fuels](#).



Here's the moment Longannet power station was shut down marking the end of coal-fired generation in Scotland ([video](#))

March 24, 2016. **After 115 Years, Scotland Is Coal-Free** by Alejandro Davila Fragoso, Climate Progress. “After some 115 years, Scotland has burned its last lump of coal for electricity. The

Longannet power station, **the last and largest coal-fired power plant in Scotland**, ceased operations. What **once was the largest coal plant in Europe** shut down after 46 years before the eyes of workers and journalists, who gathered in the main control room (...) Longannet's closure comes as Scotland, a country of some 5 million people, aims to have enough renewable energy to power 100 percent of its electricity demand by 2020 (...) The station burned around 4.5 million metric tons of coal a year, and was responsible for a fifth of Scotland's climate change emissions. **"For a country which virtually invented the Industrial Revolution, this is a hugely significant step, marking the end of coal and the beginning of the end for fossil fuels in Scotland,"** Richard Dixon, Director of Friends of the Earth Scotland, said in a statement."

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November 12, 2015. **Scottish Whisky Goes Green** by Ted Bruning, Earth Island Journal. "Reducing the environmental footprint of Scotland's third largest industry (...) In addition to wood pellets, whisky production byproducts like draff and pot ale can also be used for energy production. The draff can be dried and burnt; the solids in pot ale can be separated out and **anaerobically digested to produce biogas**. These materials can either power CHP units for individual distilleries or generate electricity for sale to the national grid. A large plant that was opened in 2013 by a consortium of whisky companies — including Diageo, Chivas Brothers, Inver House, Edrington Group, Glen Grant and Benriach — generates 7 megawatts of energy a year from whisky waste, and saves 47,000 tons in carbon emissions a year."

October 30, 2015. **Food waste fuels mushrooming of thriving Scots power sector. Stricter Scottish waste laws boost anaerobic digestion investment.** "Scotland's anaerobic digestion industry – which turns rotting food and farm waste into electricity – has mushroomed by more than two thirds in a year, new figures show. Twenty seven AD projects are up and running in Scotland, up 69% (from 16) in 12 months ago, while a further 43 have planning approval. With a dozen more plants waiting for permission to go ahead, the sector could grow by more than 200% in the next two years, figures from the Anaerobic Digestion and Bioresources Association (ADBA) show (...) Increased numbers of household food waste collections under by the Waste (Scotland) Regulations 2012 mean more will become available to fuel Scotland's ongoing AD boom (...) Charlotte Morton, Chief Executive of ADBA, added: **"Scotland is leading the way in demonstrating how anaerobic digestion extracts value from our waste**, while supporting farming resilience, reducing billions in carbon abatement costs, improving food security and production and generating employment and investment opportunities for rural economies. We are particularly excited to see AD plants working in partnership with local authorities to collect residents' food waste and to distribute in its place heat and electricity for local homes."

August 18, 2015. **Diageo whiskey factory turns waste into renewable heat.** "Global drinks firm Diageo will generate 2 million cubic metres of biogas a year from its whiskey factory in Scotland thanks to a new anaerobic digestion plant. Thy system, designed by Clearfleau, converts waste outputs from the whiskey distillation process - known as pot-ale and draff - into biogas which then generates renewable heat. The plant at Diageo's Glendullan factory is expected to produce around 8,000MW hours of thermal energy, which is then used in the distillation process. The system also reduces waste disposal costs."



Diageo's Glendullan distillery bio energy plant (Clearfleau)

March 24, 2016. **Renewable Energy Investments: Major Milestones Reached, New World Record Set.** Coal and gas-fired generation attracted less than half as much capacity investment as renewables last year; **Renewables added more to global energy generation capacity than all other technologies combined**; For first time, developing world investments in renewables (up 19% in 2015) topped developed nations' (down 8%); World record total of \$286 billion invested in renewables last year; makes \$2.3 trillion over 12 years. **Global Trends in Renewable Energy Investment 2016**, the 10th edition of United Nations Environment Programme UNEP's annual

report, launched today by the [Frankfurt School](#)-UNEP Collaborating Centre for Climate & Sustainable Energy Finance and Bloomberg New Energy Finance ([BNEF](#)), says the annual global investment in new renewables capacity, at \$266 billion, was more than double the estimated \$130 billion invested in coal and gas power stations in 2015. All investments in renewables, including early-stage technology and R&D as well as spending on new capacity, totalled \$286 billion in 2015, some 3% higher than the previous record in 2011. **Since 2004, the world has invested \$2.3 trillion in renewable energy** (unadjusted for inflation) (...) UNEP Executive Director Achim Steiner said, "Renewables are becoming ever more central to our low-carbon lifestyles, and the record-setting investments in 2015 are further proof of this trend. **Importantly, for the first time in 2015, renewables in investments were higher in developing countries than developed** (...) By adopting the Sustainable Development Goals last year, the world pledged to end poverty, promote sustainable development, and to ensure healthier lives and access to affordable, sustainable, clean energy for all. Continued and increased investment in renewables will be a significant part of delivering on that promise." (...) The shift in investment towards developing countries and away from developed economies may be attributed to several factors: China's dash for wind and solar, fast-rising electricity demand in emerging countries, the reduced cost of choosing renewables to meet that demand, sluggish economic growth in the developed world and cutbacks in subsidy support in Europe (...) **Renewables, excluding large hydro, still represent a small minority of the world's total installed power capacity (about one-sixth, or 16.2%) but that figure continues to climb.** Meanwhile actual electricity generated by those renewables was 10.3% of global generation in 2015 (up from 9.1% in 2014). "Despite the ambitious signals from COP 21 in Paris and the growing capacity of new installed renewable energy, **there is still a long way to go,**" said Prof. Dr. Udo Steffens, President of the Frankfurt School of Finance & Management.

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March 24, 2016. Thanks to bad policy, [Germany drops in global renewables investment ranking to 6th place](#). **German investments in renewables drop by 47 percent.**

March 23, 2016. **European clean tech industry falls into rapid decline** by Fiona Harvey, The Guardian. Investment in low-carbon energy in Europe last year plummeted by more than half to \$58bn, the lowest level in a decade, analysis shows. "Europe's once world-beating clean technology industry has fallen into a rapid decline, with investment in low-carbon energy last year plummeting to its lowest level in a decade. **The plunge in European fortunes comes as renewable energy is burgeoning around the world,** with China in particular investing heavily (...) Michael Liebreich, chairman of the Bloomberg New Energy Finance (BNEF) board, said **the global financial crisis and its aftermath were to blame only in part.** "Europe's failure to respond [to the crisis was a factor and] global investors, scared about the survival of the euro, had plenty of reason to hesitate about putting money into euro-dominated clean energy projects," he said. **But he also pointed to mistakes made by policymakers in member states,** which he said had created a "boom-bust" cycle by initially showing strong support for renewables then rapidly rowing back as they feared the expense of successful subsidies. Europe's manufacturers have also suffered in the rapid fall. From being a world leader in solar panel manufacturing in the early and mid 2000s, the EU no longer has any companies in the global top 10. Last year, the Chinese company Goldwind took the crown as the world's biggest wind turbine maker, leaving European companies in the shade. Jobs are being lost as a result (...) **"The tragedy is that Europe lost its renewable energy mojo just as costs were plummeting to the point where green power is fully competitive without subsidies in more and more parts of the world."** (...) As the EU has declined, clean energy in China is forging ahead. Last year, according to a new report from the climate change thinktank E3G, **the Chinese invested two and a half times as much as the EU in clean tech.** The irony is that investment in the EU has made the Asian clean powerhouse possible, as initial subsidised forays into clean technology have borne fruit in the form of slicker manufacturing processes and vastly reduced costs. On current showings, **China is now poised to reap the economic benefits of Europe's historic investments."**

March 21, 2016. **Bank of England regulator warns of growing climate risks** by Ed King, Climate Home. "The financial impacts of climate change could hit global markets hard and at any time, a senior Bank of England official has warned. **Vulnerable companies include those holding long term high-carbon assets and businesses who could face legal action for their contribution to global greenhouse gas emissions** (...) Better levels of transparency were now essential to guide investors through the transition away from fossil fuels (...) Paul Fisher, deputy head of the Bank's regulatory body, suggested **climate change could be a factor in the ongoing slump in oil prices.** "We don't know how much the fall in the oil price over the last couple of years is linked to people changing their investment pattern away from carbon-based resources," he said. "Certainly that story is starting to appear in the analysis from the financial sector."

March 19, 2016. **Amory Lovins awarded the German Order of Merit for his vision of the Energy Transition** by Christian Roselund, PV Magazine. “Lovins’ concept of the “soft energy path” from 1976 is credited in providing the “intellectual DNA” for Germany’s Energiewende (Energy Transition)... In a [1976 article for Foreign Affairs](#), Lovins presented the idea that energy strategies could follow two paths: the “hard” path of increasing centralized, conventional generation, or the “soft” energy path of energy efficiency, developing renewable energy resources, and use of “special transitional fossil fuel technologies” (...) The context for this bold vision was the 1973 oil crisis, which caused the United States, Europe and other industrialized nations to rethink their energy systems. In recognizing how radical Lovins’ ideas were, it is important to understand the state of technology in the 1970s.”

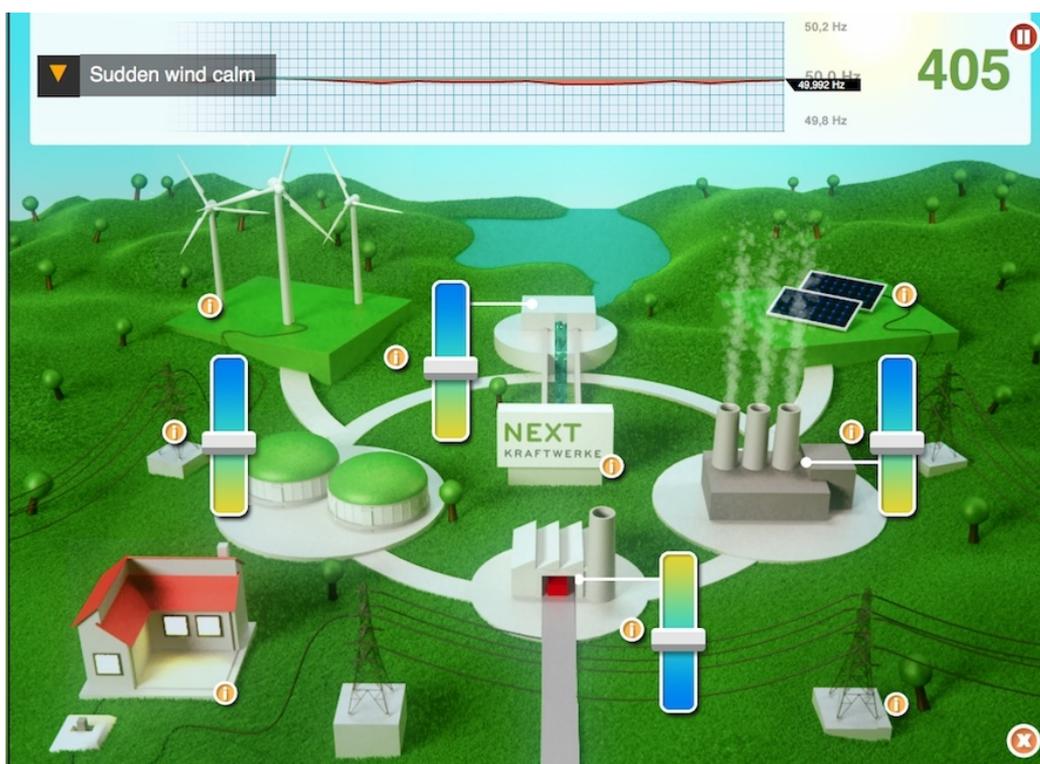
Biogas and the digital disruption into energy

March 24, 2016. **Flexibilisation des unités de méthanisation en Allemagne** par l'Office franco-allemand pour les énergies renouvelables (OFAEnR). “C’est surtout le caractère fluctuant de la mise à disposition d’électricité basée sur l’éolien ou le solaire qui exige de trouver de nouvelles solutions permettant d’assurer une fourniture d’énergie durable et sûre. Une stratégie visant à relever ce défi est la création de flexibilité au sein du système électrique. D’une manière générale, la flexibilité peut être définie comme la possibilité de compenser, grâce à diverses technologies, les disparités temporelles et géographiques entre l’offre et la demande d’énergie. Il est ainsi possible de piloter la consommation énergétique du côté de la demande qui peut être décalée vers des périodes de faible charge (maîtrise de la demande). Les possibilités côté offre incluent la création de capacités de stockage supplémentaires et l’adaptation du fonctionnement des installations de production d’énergie à la demande, c’est-à-dire la mise à disposition d’électricité en fonction des besoins. **Les technologies de valorisation de la biomasse offrent la possibilité de produire une énergie flexible et renouvelable apte à compenser le caractère intermittent de l’éolien et du solaire dont la disponibilité dépend des conditions météorologiques.** Les unités de méthanisation flexibles contribuent ainsi à la compensation des volumes d’électricité requis et, ce faisant, à la décongestion des réseaux électriques. La production flexible d’électricité à partir de biomasse, et notamment de biogaz, constitue donc une approche appropriée pour l’intégration d’une part croissante des sources d’énergies renouvelables intermittentes au système électrique. À l’heure actuelle, c’est surtout en Allemagne que l’on trouve des unités de méthanisation exploitées de façon flexible. Depuis 2012, la loi allemande sur les énergies renouvelables (EEG) encourage la flexibilisation de ces unités par le biais du versement d’une prime dite « de flexibilité » qui correspond à un système de tarifs d’achats. Mi-2015, quelque 3000 unités de méthanisation étaient inscrites au dispositif d’accès à la prime de flexibilité auprès des différents gestionnaires de réseau en Allemagne.”

March 24, 2016. **Why people come together in community projects** by Craig Morris, Energy Transition. “How can public acceptance of utility projects be increased? Policymakers want to allow citizens to invest in such projects, but the focus is insufficient. Citizens want more than just financial benefits. Policymakers worldwide are looking for ways to detect and solve public opposition. They offer financial stakes and try to play down impacts. As that study puts it, “It’s not enough to want to win over residents by providing them with information early on. Instead, **people need to be able to participate early on – and have real input**” (...) The Prometheus study lists a wide range of benefits citizens have from community projects. **People come together in cooperatives to do the right thing, get to know each other, and create a sense of community.** Some of these projects focus on profits, especially those in the energy sector, but most don’t (think of fire brigades, sport clubs, kindergartens, etc.). And that is the main difference between

community energy projects and those run by corporate utilities, with citizens as shareholders. If the corporate utility does not pay a dividend, all shareholders are upset – because they are only in it for the money, and profits are all they get.”

March 23, 2016. **Despite increasing demand for balancing energy reliable biogas plants are switched off** by Fachverband Biogas eV (German Biogas Association). “The percentage of biogas in electricity production from renewable energy sources in Germany decreases while increases the significance of biogas for the future energy mix. Current data point to this paradoxical development (...) **Because the production of wind and solar power varies greatly depending on the weather, this fluctuating renewable energies need a reliable balancing.** This function can now be handled by biogas when climate-damaging coal power plants and dangerous nuclear reactors are finally shut. “Already hundreds plant operators have upgraded by high investments in storage and combined heat their biogas plants for flexible operation. Many more could follow. We will need the forthcoming amendment to the Renewable Energies Act (EEG) but a strong legal basis - both for existing and new biogas plants,” says the chief executive of the German Biogas, Dr. Claudius da Costa Gomez. If there is a lack of fair rules for biogas plants in the EEG 2016, so the potential of these need-based and climate-friendly electricity production remains undeveloped. “**Biogas is by far the most cost effective energy storage.** This biogas can compensate for the fluctuating production from wind and solar power, a current production of biogas at least at the current level is necessary,” says da Costa Gomez.”



Integrated in a virtual power plant, biogas plants produce valuable balancing energy and prevent the grid from suffering a blackout

March 21, 2016. **La double révolution de l'énergie** par Florence Lambert, Directrice de l'Institut CEA-LITEN; Les Echos. “Le secteur de l'énergie traverse aujourd'hui une crise mondiale qui déstabilise les grands acteurs historiques en France comme en Europe. L'origine de la crise est liée à plusieurs facteurs : formidable essor des renouvelables, chute du prix du pétrole, politiques de transition énergétique. Derrière cette crise se profile une véritable révolution du monde de l'énergie qui promet d'être au moins aussi importante que celle du numérique, avec **un mouvement de décentralisation des sources énergétiques – production et stockage** (...) Les grands énergéticiens

(EDF, Engie, Total) vont devoir se positionner face à cette mutation. Leur situation est difficile : ils doivent à la fois conserver l'existant, le sécuriser, tout en anticipant **un futur décentralisé** qui peut menacer leur modèle historique.”

March 11, 2016. **Germany's Bet on Renewable Energy is an Investment in Digital Disruption** by Dr. Erin Grossi, Environmental Leader. “The extraordinary amount of money Germany is spending to transition its market away from fossil fuels and nuclear energy sources is looking increasingly like an investment in the country's future industrial competitiveness. Most experts have estimated the cost of Germany's ‘Energiewende’ policy in the hundreds of billions of euro, some as much as a trillion euro. However, the less-often-told story of the Energiewende is that German engineering and its industrial base are at the forefront of global efforts to integrate renewables into energy networks (...) **The key to the German transformation is the entry of “digital disruption” into its energy space**, including the advent of digital control platforms for aggregating distributed energy resources, such as so-called ‘Virtual Power Plants (VPP’s), which combine the use of many smaller-scale connected energy systems to provide a bigger, grid-balancing resource. What I discovered is that the integration of these technology tools, sensors and VPP’s to better control these distributed resources and make them responsible at grid scale in the same way fossils have been, was really the answer of how Germany is making this engineering challenge work (...) **A much more distributed, resilient and smarter energy future globally will take hold over the next decade”**

March 2, 2016. **Blockchain-based microgrid gives power to consumers in New York** by Aviva Rutkin, New Scientist. “Something odd is happening on President Street in Brooklyn. While solar panels on the roofs of terraced houses soak up sun, a pair of computers connected to the panels quietly crunch numbers. First, they count how many electrons are being generated. Then, they write that number to a blockchain. Welcome to the future of energy exchange. This project [**Brooklyn Microgrid**], run by a startup called Transactive Grid, is **the first version of a new kind of energy market, operated by consumers, which will change the way we generate and consume electricity**. Transactive Grid aims to enable people to buy and sell renewable energy to their neighbours. To deal in energy at the moment, you have to go through a central company like Duke Energy in the US or National Grid in the UK, or one of their resellers. Transactive can skip this central authority because its energy market is built on a technology called blockchain. First used to underpin the bitcoin currency, a blockchain is a cryptographically secure list of transactions. The list is stored on every computer in the system, and is continuously updated as each transaction is completed. The list for President Street is built using blockchain software called Ethereum. It deals with buying and selling electrons generated by solar panels. **No central authority is in control: the computers monitor each other to stop fraud** (...) Other companies are hot on Transactive's heels. Grid Singularity, based in Vienna, Austria, wants to bring the same decentralised energy market to developing countries, to help distribute solar power. MIT start-up SolarCoin pays people with an alternative digital currency for generating solar energy, one coin for 1 megawatt-hour of solar electricity. **With blockchain, “it's like the early days of the internet,”** says Greentech Media CEO Scott Clavenna. When the internet was first introduced, it was hard to conceive of the drastic impact it would have on the world. “We've got all the parts to do some really interesting things,” he says.”

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February 26, 2016. **The Energy Blockchain: How Bitcoin Could Be a Catalyst for the Distributed Grid** by Stephen Lacey, Green Tech Media. “We are on the ground floor of one of the most significant transitions in human history. There's a new buzzword emerging in the energy industry: blockchain. Blockchain is commonly known as the public database created to track the cryptocurrency Bitcoin. It chronologically records and links every transaction made across the network, making Bitcoin more secure and keeping authentications decentralized. Blockchain is the reason Bitcoin can exist and transactions using it can be trusted. But the blockchain concept isn't limited to Bitcoin. Experts are now asking if it can be used to track the flow of electrons on a distributed grid. If the future two-way electric system is made up of billions of endpoints interacting with each other -- microgrids, solar systems, smart appliances, in-field distributed computing and energy management software -- how do you create a secure system that can verify instantaneous, autonomous transactions across these nodes as market conditions change? Many people believe that the blockchain can serve as the foundation of this system.”



Coopérative Ökostrom Schweiz, association des exploitants d'installations de biogaz agricole en Suisse, dispose d'une centrale électrique virtuelle

April 18, 2013. **Energy from biogas as an operating reserve ?** by Stefan Mutzner, Coopérative Ökostrom Schweiz, at Workshop «Biogas Process Optimisation», Task 37 IEA. “**Virtual biogas power plant: The solution for power grid stability ? (...)** Characteristics of renewable energy production: Power plants from renewable energy sources (biomass, solar, small hydro, wind) are usually small. The power plants are decentralized. The independent producers have no strong position. Electricity production from solar and wind plants are swaying. **Biogas plants produce base load energy and have storage options. Individual decentralized biogas plants are combined to a virtual large power plant** by an intelligent central control system based on modern communication technologies. It doesn't matter where the individual plants are located.”

Biomethane extending the energy transition to transport

March 17, 2016. **L'AFGNV propose aux pouvoirs publics son plan de développement de la filière gaz véhicule en France à l'horizon 2020.** “L'Association Française du Gaz Naturel Véhicule (AFGNV) vient de remettre aux services du Ministère de l'Environnement, de l'Energie et de la Mer un rapport portant sa vision du marché du véhicule gaz à l'échéance 2020, ainsi que des perspectives de développement à l'horizon 2030. Coordonné par GRTgaz, ce rapport, qui associe tous les acteurs de la filière, **propose une réponse à la directive européenne du 22 octobre 2014, dite directive « AFI », sur le déploiement d'une infrastructure pour carburants alternatif.** Chaque État membre doit définir d'ici le 18 novembre 2016 un cadre d'actions national pour le développement du marché relatif aux carburants alternatifs et le déploiement des infrastructures.”

March, 2016. **Infrastructure GNV France 2020 – 2025** par l'Association Française du Gaz Naturel Véhicule (AFGNV). “Tracé grâce au mécanisme des garanties d'origine, consommable partout sur le territoire grâce aux réseaux de gaz, le biométhane se mixe parfaitement avec le gaz naturel dont il a la même composition. Ainsi, **le « système GNV » pourra intégrer une part croissante et progressive d'énergie renouvelable, sans adaptation technique tant au niveau des véhicules que des stations d'avitaillement (...)** Le véhicule au gaz naturel carburant n'étant pas le fruit d'une innovation technologique récente, ce type de carburant s'est déjà bien développé dans d'autres régions du monde. En 2013, le parc de véhicules GNV en circulation dans le monde est estimé à environ 18 millions de véhicules (...). **Le bioGNV constitue un facteur clé pour réduire l'empreinte carbone du GNV.** Les initiatives visant à inciter au développement du biométhane et son utilisation en tant que bioGNV doivent être poursuivies et renforcées. Le GNV est identifié dans les territoires comme une alternative disponible et crédible permettant de répondre aux enjeux de qualité de l'air mais aussi de s'inscrire dans des projets territoriaux basés sur la production de biométhane. Associer un projet de production de biométhane à un développement du GNV au sein

de flottes publiques telles que bus, bennes à ordures ménagères, véhicules utilitaires des collectivités permet d'inscrire le GNV au cœur de l'économie circulaire des territoires. Pour ce faire, plusieurs mesures doivent être instaurées. - Tout d'abord **le biométhane doit être considéré comme un biocarburant avancé**. Alors que la directive ENR identifie le biométhane comme un biocarburant avancé, les dispositifs français l'ont exclu. Aussi malgré le développement observé du biométhane et de son usage bioGNV31, il n'est pas comptabilisé dans les objectifs nationaux de la LTECV, fixés à 10% de carburant renouvelable à horizon 2020 et 15 % en 2030. - Depuis le 1er avril 2014, le bioGNV est soumis à la Contribution Climat Énergie (CCE) de manière identique au gaz naturel. La CCE étant proportionnelle au contenu carbone des énergies sur lesquelles elle s'applique, et compte tenu du très faible contenu carbone de bioGNV en cycle de vie complet, il est essentiel de parvenir a minima à une stabilisation de cette contribution dès 2017.”



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March 14, 2016. CNG Fuels and National Grid unveil the UK's first high - pressure grid connected compressed natural gas (CNG) filling station. “100% renewable CNG, made from

organic waste, dispensed from the high-pressure local transmission system has the lowest carbon footprint of any truck fuel (...) Located near to junction 28 on the M6, the CNG filling station will be accessible around the clock, 365 days a year. The facility also supplies 100% renewable biomethane (Bio-CNG) and is an important part of the UK's rapidly growing CNG refuelling infrastructure. The biomethane is made from waste at anaerobic digestion plants and delivered to the filling station through the National Grid pipeline system (...) Justin Laney, central transport general manager for the John Lewis Partnership, added: "John Lewis Partnership is committed to running a sustainable logistics operation, and the use of low carbon fuels in our vehicle fleet is a key element of that. Our strategy is **to displace diesel with bio-methane where practical, and we run one of the largest alternatively fuelled heavy truck fleets in the UK to enable us to do that.** This filling station is an important step that will help us continue to improve our fleet sustainability."

March 9, 2016. The energy transition and Germany's transport sector. **Car giant Germany struggles to ignite Energiewende in transportation** by Paul Hockenos, Clean Energy Wire. "When it comes to the automobile, Germany flaunts unique gravitas. The German engineer Karl Benz invented the first automobile powered by an internal combustion engine 130 years ago. Today, sales by its carmakers Daimler-Benz, Volkswagen, BMW, Porsche, and Audi top Denmark's annual GDP. But so far, Germany has made little headway in linking up its transport prowess to another prominent industry showcase – the transition to renewable energy. **It's clear that extending the Energiewende to transport will be crucial in the country's quest for a low-carbon economy, but there is no consensus on how this should be done** (...) Greening Germany's transport sector will be a massive undertaking, and it will basically have to start from scratch. A PricewaterhouseCoopers study notes that the energy transition has barely affected transport emissions yet and concludes that **"the transport-related climate targets cannot be met unless the transport sector is transformed radically."** Mobility expert Peter Kasten from the Institute for Applied Ecology sees difficult choices ahead for consumers, politicians, and the carmakers. "Transportation hasn't been a priority in the Energiewende, not yet," he told the Clean Energy Wire. "Decarbonisation isn't happening anywhere in the sector. Measures are expensive and intervene with our daily life. Thus, it just hasn't been pushed by either politicians or industry."



The 86th Geneva International Motor Show

March 3, 2016. **Salon de l'Automobile Genève 2016: Accalmie dans l'offre de véhicules GNV. Les avantages de rouler au gnv/biognv sont bien connus, mais l'offre du constructeurs d'automobile reste plus décevant.** VW Passat et Touran EcoFuel ont jusqu'à présent aucun

successeur, sans parler de la Polo et de la Sportsvan Golf, pas d'info sur la nouvelle Mercedes E et une variante possible NGD, Fiat a longtemps ne crée pas de nouvelles versions NP de ses voitures dans Opel est resté l'offre le Zafira Tourer, etc. Pouvez-vous donc certainement parler d'une accalmie permanente dans l'offre de véhicules au gaz naturel. Sinon, vous ne pouvez pas se référer à la situation actuelle. Rouler au gaz naturel/biogaz: avantageux pour l'environnement et le portemonnaie. Les véhicules à gaz naturel/biogaz émettent non seulement moins de CO2 que les véhicules équipés d'un moteur à combustion classique mais aussi moins d'oxydes d'azote (...) Les véhicules à gaz naturel, qui roulent avec un apport de 20% biogaz en moyenne en Suisse, émettent 40% de CO2 en moins comparé aux véhicules à essence. En plus, les émissions des autres polluants nocifs pour la santé et l'environnement sont fortement réduites en comparaison avec les émissions des moteurs à essence ou diesel. La réduction des émissions d'oxyde d'azote atteint jusqu'à 95% versus un moteur à essence et 50% comparé au moteur diesel. Les oxydes d'azote sont particulièrement nuisibles car ils favorisent la formation d'ozone durant les mois d'été. Grâce au développement de nouvelles technologies de moteur, les conducteurs de véhicules à gaz naturel/biogaz peuvent jouir d'un confort de conduite identique à celui des voitures à essence ou diesel et ce même au niveau de la puissance. (...) vous pour-rez découvrir des véhicules attractifs et écologiques équipés d'un moteur à gaz naturel/biogaz comme l'Audi A3 g-tron, la Seat Leon ST TGI, le nouveau VW Caddy Eco Fuel et la Fiat Panda Natural Power.”

March 2, 2016. **Sweden: Large scale production of biogas is a necessity.** “The proportions and the scale of the project GoBiGas is difficult to grasp. But large-scale production of biogas is necessary **if we are to achieve the goal of fossil-free transportation in 2050**, says Henry Thurman, Professor of Energy at Chalmers. There are huge quantities of biofuels that will be needed to phase out fossil fuels. We use nine billion liters of fuel each year in Sweden alone. This represents approximately 80 terawatt hours (Twh). **Now we are talking about the second generation biofuels and the need therefore immense volumes to replace gasoline and diesel.**”

