LP#1
(beta)

regensw

ENERGY AND THE ARTS

AN ONGOING ARCHIVE

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CALLING ALL ARTISTS!

ENERGY IS VITAL TO OUR WAY OF LIFE ON EARTH

It is impossible to overstate how important energy is to civilisation. The ability to harness energy for our own use has changed us in ways it's hard to understand. This ability, perhaps more than any other, is what separates us from other species.

Many of us are a long way from gathering wood for our hearths; the energy systems that fuel our lives, our cultures and our economies are incredibly complex; magnificent and terrifying and changing at a rapid rate, but for the lay person even the fuel bill is almost incomprehensible.

EXISTING ENERGY SYSTEMS NEED TO EVOLVE

Without needing a PhD it is clear to see that; a nation whose energy is imported is in essence on a life support system and subject to the whim of others: A nation whose energy production is dependent on limited resources has a use by date and will pass away: A nation that subjects others to the negative outputs from fossil fuel and uranium use will inspire retaliation.

On a local level, many towns across the UK find that more money leaves the local economy in energy bills than comes into the local economy from the largest industry in that town. For example Wadebridge Renewable Energy Network calculate a £10 million annual energy spend with roughly half that amount coming into the town through income generated from tourism. This wealth could be kept in the area

through; community level investment into local renewable projects, micro-grids, energy storage systems and local energy markets.

On a home level, many people waste huge amounts of money through lack of knowledge and funds to make improvements. This could be avoided with increased energy literacy.

WE NEED MORE PEOPLE TO ENGAGE IN THE NARRATIVE

Regen SW wants to see an increased interest in the energy debate. We want to see individuals and communities better off because they are able to make the most of their own energy usage. We want to see a resilient and healthy society that doesn't feel threatened by events beyond its control. We want to see more employment for the young and prosperous local supply chains in part due to energy projects.

There are a multitude of perspectives surrounding energy. Indeed the heat generated during these debates could surely be tapped in some useful way! However, this charged atmosphere makes it challenging for the unengaged majority to participate. Discussion can be technically unapproachable, superficially dull and, importantly, it can appear socially daunting. Why would you enter a conversation unprepared with participants who are stridently partisan? This issue is compounded by misinformation disseminated by a media responding to our appetite for simple dramatic stories and knee-jerk soup.

WE NEED ARTISTS TO PLAY A ROLE IN THE DEBATE

Regen SW wants to see an increase in artistic responses to the energy debate. There is space on

the national platform for an artist's voice. We need cultural champions to say ' Look! Listen! Feel! This energy stuff is really interesting, it is your world and you can influence what happens in it'.

The energy we harness is the beating heart of our culture, this fact invites a cultural awareness and response. Whilst part of a philosophical debate, it is within artists' reach to consider a huge raft of questions like:

- How has energy changed us?
- Is the electricity generated from a ray of sunshine now any different from the electricity generated by a ray of sunshine that fell on a plant leaf to be stored in the form of fossil fuels for millennia?
- How would we live and love differently if we no longer had access to oil?
- Does energy have memory?
- How does energy connect us?

We need to reflect on the sort of world we want. Who else will hold a mirror up to society if artists don't?

Winston Churchill said "there is no public opinion, just published opinion". If this is the case, then artists can give a voice to opinions not currently heard in the energy debate: those of the fuel poor, those with restricted time, and those of people in other lands.

Through history, our landscapes have been changed by our energy infrastructures. Turbines and pylons, power-stations, mines, mills, and furnaces. Even forests are part of the architecture of the energy industry. They are monuments to our success at

harnessing power. Factories, shops, farms, homes, vehicles are all testimonies to our power to use that energy to transform matter from one thing into another to achieve the satisfaction of human desires and the creation of 'wealth'. Artists have been involved in the creation of the world we now inhabit and are also a part of the visioning of it's future.

ENGAGE WITH REGEN SW

- Regen SW will maintain a directory of the most exciting arts and energy projects to inspire artists and the energy industry alike.
- Post details of your arts and energy projects on our twitter and facebook feeds.
- Join our network to find out about opportunities in the arts and energy space.
- Attend our sustainable energy networking events

Please read and enjoy this compilation of our research to date and begin engaging with how you will be able to connect with these debates yourselves.

Chloe Uden
Regen SW, Programme Manager

EXPLORING VAST CAVES WITH IPADS ON WIFI

Energy is what stimulates us, what forms us, what moves us, what warms us. It's the stuff that makes life and sustains life. We all need it. Bodies, atmospheres, buildings, plants, landscapes - everything takes part in the four laws of thermodynamics.

Where are the boundaries?

Yes, energy is electricity, and this is what Regen SW is all about - promoting renewable forms of electricity (and heat) production. But energy isn't just electricity and heat, is it? If you're a slight hippie like me, energy is a vibe you can feel that people and animals give off. Do these things link in to energy production? These people and animals after all most likely rely on forms produced by these structures.

Anyway, my ontological confusion aside, we all know (or I hope we do) that oil is going to run out. Nuff said. And we can frack all we want, but eventually that will also run out. Apparently it's almost entirely likely that in the next ten or fifteen years the UK will have power blackouts due to a lack of energy supply. Worrying?

Energy production is a dark thriller unfolding in front of our eyes on our snazzy iPads, as we place another Amazon order, delivered to our door by a battery powered drone.

This is where I get into the question of what can art do or what should it try to do? Again

a pretty large subject and one that can take up a person's whole career with the result being a few academic texts seen by just the people that helped make them. So I won't dwell on it.

My role in this post as researcher has been to compile as much of relevance to the crossover between art and energy as I can. Creating an ongoing archive that can be used for further ventures as well as being a general resource pool for anyone concerned. Along the way, much like a journey in a hybrid taxi around Exeter, I found myself wondering through the dynamics of what I've uncovered. What formed them? Are they of value? If I feel excited by them is this just showing up my utopian desire or is it a guttural acknowledgement of common sense brought into form?

Are renewables such as wind power, hydro power, and solar power the future? Is it all happy and cheery to look at them as our savior? What is wrong with thinking like this? Should a research project like this look into the darker sides of these technologies (everything has a shadow)? Where does nuclear fusion sit in this context? Is it there to be justified propaganda for renewables or should it be questioning them in the same way it does fossil fuels?

How can the arts justifiably engage with a subject/thing as large, serious, and political as this? This is where we could end up getting into whether you're a righty or a lefty (personally I've lost a sense of what these are), or whether you agree with population growth, or how humans are ruining nature and it's all futile.

Do the arts need to simply act on the level of the Transition movements sweeping through localities across the globe? Is this where they can change viewpoints, encourage action, and raise awareness?

Is the subject/thing of energy something to celebrate or something to find of concern?

This research has crystallized more questions for me than it has given answers. I walked into the work with a cloudy, intuitive interest in how these two disciplines combine. As an overall experience it feels almost like walking into some cave in South America that you'd see on a BBC documentary, without a torch. At first it's a case of fumbling your way through, trying to form some sort of bearing, smelling new smells, hearing new noises, whilst being very aware you're treading small steps in a vast space you will never comprehend. Eventually your position becomes clearer, you realize how far you've probably come, but also as your eyes adjust and your vision becomes more acute, you begin to see the complexity of the structure you now inhabit. What you do next is unclear, but the views you're now getting from seeing the giant stalactite structures (my metaphor for the energy production systems and their larger contexts) is both mesmerizing and worrying, given they form the ceiling above you and the uneven floor below you.

The arts can make us feel and see things in ways that reason and factual data cannot. Whether through our eyes, our ears, or our emotions, the arts allow us ways into topics that would otherwise

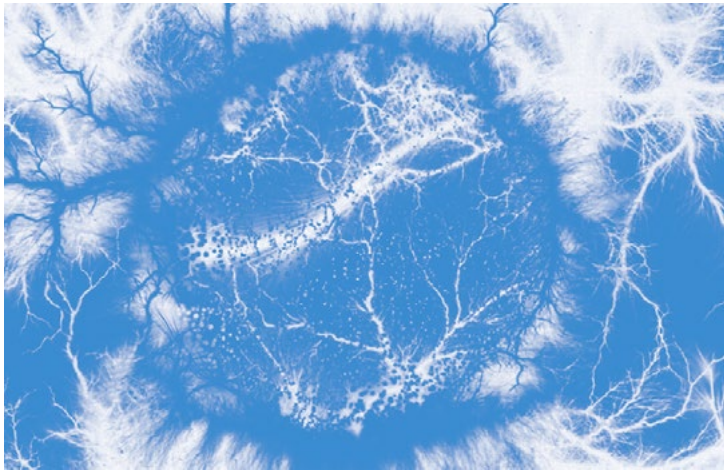
be hard to grasp. Given the heavily-charged topic that energy can be, this can only be a good thing.

Now that I've thrown some ambiguous metaphors your way and put forward some questions that will stick with me long after having gathered all this interesting work in one place, I will leave you to take it in.

Nick Davies
Artist/Researcher

P.S. Although there's alot of projects and work in this document, this is just the cherry glazed tip of the iceberg, there are even more to be found on the Regen SW website.

Energie! A Film, Thorsten Fleisch



For 'Energie!' an uncontrolled high voltage discharge of 30,000 volts exposed multiple sheets of photographic paper, which were then arranged in time to create new visual systems of electron organization. This was then made into a film allowing viewers to see the behaviour of electricity in an up close and intimate way - physics-based voyeurism through a microscope. The film has so far won fifteen awards from institutions all over Europe.

www.fleischfilm.com

LOCATION: GERMANY

YEAR: 2010

ARTFORM: FILM

ARTFORM: CONTEMPORARY ART

YEAR: ONGOING

LOCATION: WORLDWIDE

Untitled (2005-14), Roger Hiorns

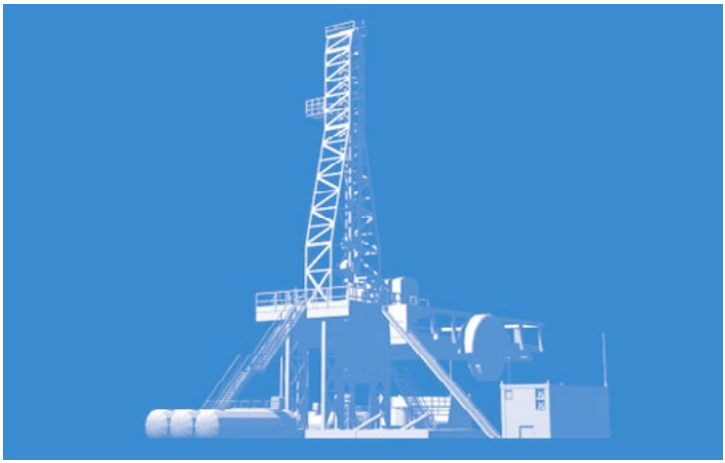
Roger Hiorns is an artist who affects transformations on found objects, social encounters and urban situations. Fictional scenarios are made real, fire emerges from storm drains, perfume permeates metal surfaces, and crystals colonize industrial objects, or as in 'Untitled (2005-2014)' a naked youth contemplates a fire.

The piece is always situational, only taking place maybe once a day in the gallery space in which it is shown. The work typically invites volunteer art students from local art institutions to take the place of the naked male. Untitled (2005-2014) is a work that Hiorns has called 'a collaboration of choreography and objects'.

This is a work combining the energetic force of fire with the metabolic force of the human. The youth and the fire are usually sat on a public bench or motor engine, objects symbolizing the globalizing force of mass production.

Other work by Hiorns includes a light bulb covered in semen and an abandoned flat covered in copper sulphate crystals.

Fracking Futures, HeHe, Liverpool



As a part of Turning FACT Inside Out in 2013, HeHe were commissioned in collaboration with The Arts Catalyst to turn the gallery space into an industrial landscape mimicking the controversial process of fracking. Fracking is short for 'hydraulic fracturing', a process of extracting gas by pumping a highly pressurised mixture of water, sand and chemicals underground. The gallery blurb stated:

> "Great care has been taken to ensure this process is safe and poses no threat to local ground water or the atmosphere... Initial explorations have already found that the 1,200 sqm licence area directly beneath FACT consists of Holywell shale and might hold at least 20 trillion cubic feet of gas. This energy will be used to ensure the future operation of FACT and the energy created will be exported directly to the local community."

HeHe aimed to highlight the importance and relevance of the debates surrounding the process, which are not only significant environmentally, but also economically. The installation refrained from making clear-cut judgements in favour of offering an experiential platform for discussion.

www.hehe.org.free.fr

LOCATION: LIVERPOOL

YEAR: 2013

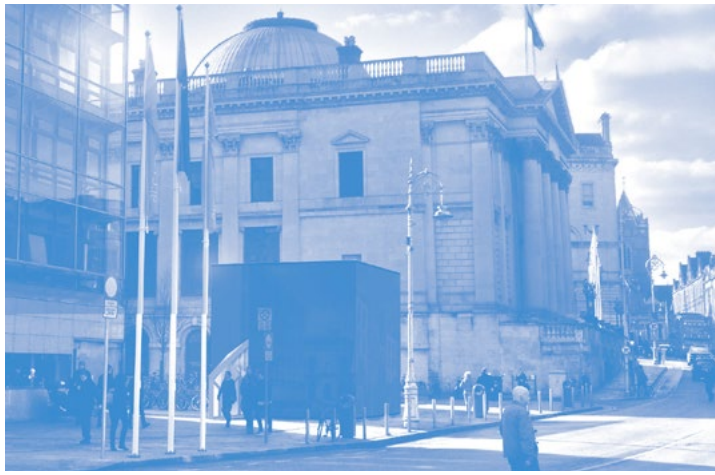
ARTFORM: CONTEMPORARY ART

LOCATION: DUBLIN

YEAR: 2014

ARTFORM: ARCHITECTURE

The Ten Cube, Dublin



'The Ten Cube' is a physical representation of how much oil Ireland is consuming every 10 minutes. The construction, by Declan Scullion, is part of the NWE Ace project that's aiming to demonstrate and promote the increased use of renewable energy among local authorities, businesses and citizens across north west Europe.

The Ten Cube is the winning design of the Imagine Energy competition that NEW Ace ran in partnership with Dublin City Council. A slick black glass curtain wall encases the structure, forming a cube almost six metres in size. Inside the cube, the latest technology displays a range of information about renewable energy to the public. It also features an LED display on one of the outside walls, communicating information to the passing public. The roof contains photovoltaic panels to power the LED display. The cube itself can expand to become a prime location for public events and exhibitions.

www.declanscullionarchitects.com

Wave Hub Series, Kurt Jackson

During 2009/10 West Cornwall based landscape painter Kurt Jackson spent 12 months documenting key stages of the development of the Wave Hub 10 miles off the coast of Hayle. Kurt had been following this work for four years before approaching Wave Hub in 2007 to ask if he could spend time with them during the project's unfolding. Kurt says about the work:

> "I was always excited by both the artistic potential of Wave Hub and the renewable energy agenda behind it, and I'm really pleased with the body of work it has inspired. My own house is carbon neutral and in the past I've also worked as an artist on an offshore windfarm for NPower, so it's a subject close to my heart."

The wave hub project has four berths available for groups of wave energy devices and has a capacity of 20MW, equivalent to the electricity needs of more than 7,000 homes.

www.kurtjackson.com

ARTFORM: FINE ART

YEAR: 2009–2011

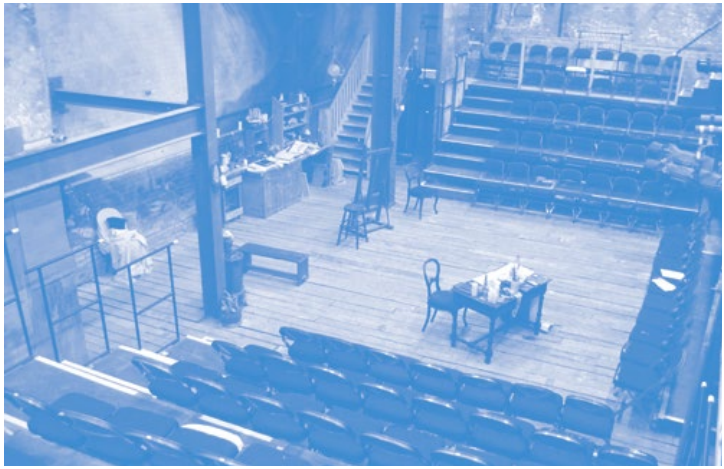
LOCATION: CORNWALL

LOCATION: LONDON

YEAR: 2012

ARTFORM: ARCHITECTURE

Arcola Theatre



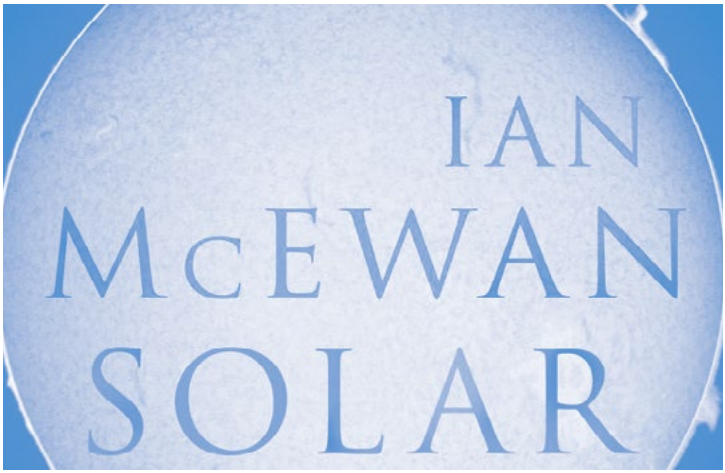
Arcola's goal of becoming the world's first carbon neutral theatre involves a lot of work with their part of the Colourworks Building.

The major renovation work carried out in 2012 was an opportunity to make the building more sustainable by installing innovative technologies and reusing materials. The renovation installed solar PV sanels, a biomass boiler, under floor heating, and DC micro-grids enabling user friendly grid building and customisation. his was all done whilst reusing £10k worth of materials from the original building.

Along with these pioeneering initiatives, the Arcola staff are branching out into new areas of energy generation. Ben Todd, the executive director, is also managing director of Arcola Energy, a rapdily growing UK company in the hydrogen fuel cell sector, particularly active in the automotive, portable power and education sectors.

www.arcolatheatre.com

Solar, Ian McEwan



Solar is a novel by Ian McEwan, first published in 2010 by Jonathan Cape, an imprint of Random House. It's a satire about a jaded Nobel-winning physicist whose dysfunctional personal life and cynical ambition see him pursuing a solar-energy based solution for climate change. The novel is primarily a work of fiction but draws heavily on references to real science and modern history.

The trip Michael Beard makes in the book to the Norwegian Arctic island of Spitsbergen is based on a 2005 trip McEwan made with art and climate change organisation, Cape Farewell. The group of artists and scientists McEwan travelled with included Antony Gormley and Rachel Whiteread.

The book gives a dark human insight into the renewables industry, not from the point of view of politics, but rather about how progressive science and technology are not necessarily in tandem with social or emotional progress.

LOCATION: N/A

YEAR: 2010

ARTFORM: FICTION

LOCATION: MANCHESTER

YEAR: 1955

ARTFORM: FINE ART

'Industrial Landscape', 1955, LS Lowry

Lowry was a painter of the north west landscape. Where most artists during his time were heading down to the south west or Venice in search of 'natural light', Lowry was stalking the streets of Manchester. 'Industrial Landscape' is typical of the panoramic cityscapes Lowry painted throughout his career. It is an imaginary composition, but within it Lowry appropriated real places.

The image presents a generalised impression of the urban environment, dominated by smoking chimneys, factories, roads, bridges and industrial wasteland all fuelled by fossil fuels. As if to emphasise the human presence in this overwhelming, blackened city, Lowry focuses on a small street in the foreground, almost inviting the viewer to join the small group of people going about their business.

Lowry is an artist who exemplifies the industrial aspect of the economic boom around the development of consumerism, showing the dense living quarters, the gloomy conditions, but also the warmth of the public, and the energy that both fuelled it and created it.

Solar: Man of the Atom

Solar is an American fictional comic book superhero created by writer Paul S. Newman and artist Matt Murphy. The character first appeared in Doctor Solar, Man of the Atom #1 in 1962 by Gold Key Comics.

Dr. Solar is a trained scientist, specializing in nuclear physics. Due to being irradiated Dr Solar became, in effect, a living nuclear battery. No longer dependent on food and water – in fact, no longer having either a heartbeat or a human metabolism – he obtains the energy he needs by exposing himself to nuclear radiation.

After absorbing such radiation, especially in large amounts, his skin turns green. It is often several hours before his skin color returns to normal, especially if he has absorbed a larger amount of energy than normal. As a result, he has to wear clothing impregnated with cadmium and lead, and wear specially made dark glasses to protect his coworkers from radiation poisoning.

LOCATION: USA

YEAR: 1962

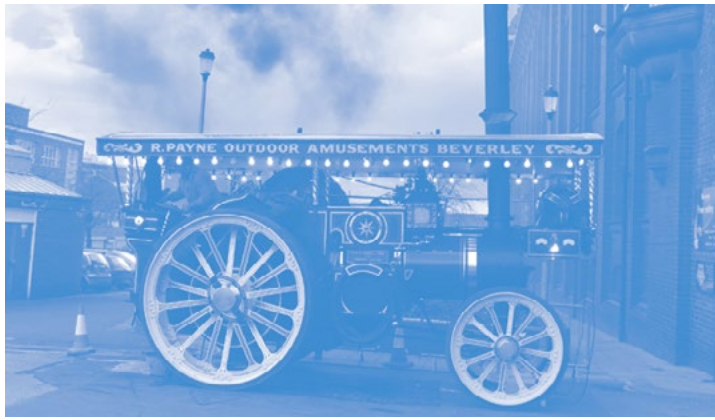
ARTFORM: GRAPHIC ARTS

LOCATION: NEWCASTLE

YEAR: 2010

ARTFORM: MULTIMEDIA

Coal-Fired Computers, YoHa



'Coal-Fired Computers' was produced by YoHa, commissioned by AV Festival 10, and produced in partnership with Discovery Museum, Isis Arts, and The Calouste Gulbenkian Foundation. It comprises of an 18-ton showman's steam engine powering a computer with 2.5 ton of coal. Black lungs inflate every time a database record of miners' lung disease is shown on the computer monitors.

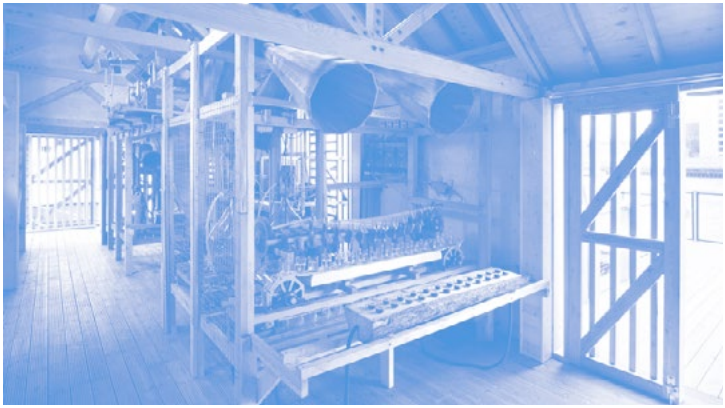
According to the World Health Organisation, 318,000 deaths occur annually from chronic bronchitis and emphysema caused by exposure to coal dust.

Coal fired energy is integral to the production of the 300,000,000 computers made each year. 81% of the energy used in a computer's life cycle is expended in the manufacturing process, now taking place in countries with high levels of coal consumption.

Coal Fired Computers brings together these disparate elements into an artwork, allowing us to reflect on the complexities that have created and maintained power, the crisis of fuelling that power and its subsequent health residues.

www.yoha.co.uk/cfc

Flow, Owl Project & Ed Carter, Newcastle



Flow, by Owl Project and Ed Carter was a floating tidemill -come-musical intrument on the River Tyne, generating its own power using a tidal water wheel. The mill housed electro acoustic musical machinery and instruments, which responded to the constantly changing environment of the river, generating sound and data that could be manipulated by it's visitors.

The work blends the contemporary with the traditional, combining sculpture, hand crafted wooden instruments, architecture, precision engineering ,and electronic music.

A collaboration between Owl Project and Ed Carter (working with architect Nicky Kirk), the free-to-board artwork was located on the Newcastle Gateshead Quayside throughout the summer of 2012 as part of Artists Laking the Lead, one of twelve public art commissions funded by the UK Arts Councils to celebrate the London 2012 Olympics. It received over 40,000 visitors during this period.

www.flowmill.org

LOCATION: NEWCASTLE

YEAR: 2012

ARTFORM: MULTIMEDIA

Ancient Sunlight, Exeter

LOCATION: EXETER

YEAR: 2012–2015

ARTFORM: PARTICIPATORY

Ancient Sunlight is a three year project feeding off and into all of Kaleider's work between 2012 and 2015.

Ancient Sunlight will be a book and a show created with local school children, seven universities, the Met Office, a symphony orchestra, at least two robotics artists, five robots, one dramaturge, several animateurs, one publisher, and a Children's Literature Festival.

To begin the project, Kaleider spent three days with designers, writers, musicians and technicians. It was a chance to dream and imagine what Ancient Sunlight might become and how to tackle the question "what would we do with the world's last barrel of oil?"

www.kaleider.com

Inescapable Limits, Thomas Ball

Thomas Ball is a documentary photographer based in London. One of his ongoing projects called 'Inescapable Limits' looks at the increased use of unconventional 'dirty' energy sources (such as tar sand and lignite/brown coal) as well as excessive energy consumption from contexts across the globe. These include the oil-driven economic growth and living standards in Dubai, through to the long term, ongoing protest in Bellanaboy in County Mayo, Ireland against Royal Dutch Shell building the Corrib Gas Pipeline through Corrib Village.

Coming from a perspective of environmental protest, Ball's photographs give a stark, honest portrayal of how we are utilizing our environment in the short term to fuel our high-energy demands and the ways in which this is playing out.

www.thomasballphoto.com

LOCATION: LONDON

YEAR: ONGOING

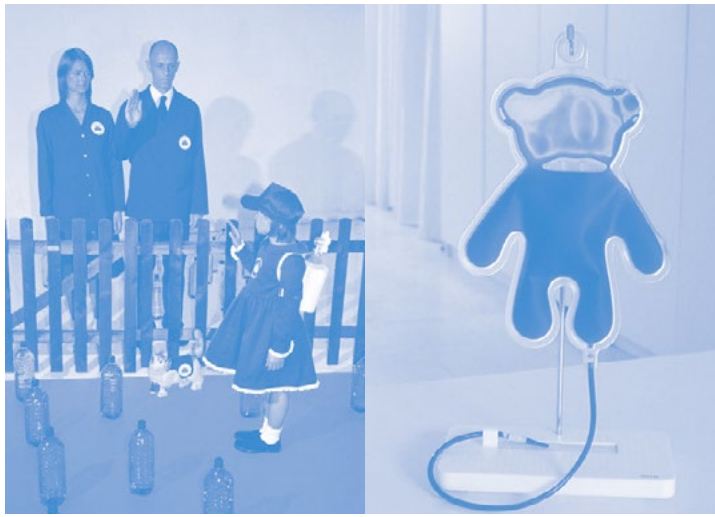
ARTFORM: PHOTOGRAPHY

ARTFORM: DESIGN/ART

YEAR: 2004

LOCATION: LONDON

What is Your Energy Future? Dunne & Raby



The gallery is aimed at children aged between 7 and 14 and was commissioned by the Science Museum exploring different energy futures. Dunne & Raby chose to design a collection of hypothetical products to explore the ethical, cultural and social impact of different energy futures. Photographic scenarios were used to communicate a set of values driven by social as well as technological changes - value fictions rather than science fictions.

The scenarios include: domestic hydrogen production and child labour with specially designed family uniforms and corporate logos; bio-fuel created from human waste; and meat-based microbial fuel cells. Each scenario is based on a real technology and simply asks what would happen if this became the main form of energy in the not too distant future.

www.dunneandraby.co.uk

Christo & Jeane-Claude's Mastaba, Abu Dahbi

Aimed at being the first permanenet, large-scale artwork by this influential environmental artist duo, The Mastaba, a project for Abu Dhabi, was conceived in 1977. If realized it will be the largest sculpture in the world, made from 410,000 multi-colored oil barrels.

The shape and name of the Mastaba has an ancient familiarity to the people of the region as a structure used in Egyptian times. They were usually made out of mud bricks and the name Mastaba translates to mean "House for Eternity". It will be 492 feet high, 738 feet deep at the 60 degree slanted walls and 984 feet wide at the vertical walls. The proposed area is inland, in Al Gharbia (Western Region) approximately 100 miles south of the city of Abu Dhabi.

In 2008 four teams were brought in to conduct feasibility studies. All of whom have agreed it is structurally feasible. The artists have since moved on to commission a socio-economic benefit analysis by Price Waterhouse Coopers in 2012.

www.christojeanneclaude.net

LOCATION: ABU DABHI

YEAR: ONGOING

ARTFORM: PUBLIC ART

LOCATION: MILAN

YEAR: 2013

ARTFORM: EXHIBITION

ENERGY: Oil and Post Oil Architecture and Grids, Milan

ENERGY was three exhibitions in one to recount sixty years in the history of Italy, and elsewhere, with a "visionary" view of the future, through the current burning issue: the impact of energy on architecture and the landscape, from the oil boom to renewables. It presented over 80 historic drawings and projects, three master photographers and seven architectural firms of international repute for an itinerary in three steps - past, present and future.

The exhibition proved so popular that it's duration was extended by an additional two months. The exhibition itself was the first to be fully curated by the in-house team at MAXXI and placed a firm emphasis on the Italian context in regards to energy production. A comprehensive catalogue including many essays was published to accompany the exhibition giving it a further legacy upon the closing of the show itself and another income stream for the gallery.

www.fondazionemaxxi.it

Art Meets Energy Consumption, Finland

Pixelache and Helsingin Energia collaborated to produce artworks to focus attention on collective energy consumption in the Helsinki area. The resulting artworks were located in public space in Helsinki and were also presented as online projects in order to raise awareness to this topic.

In the first round of the project artists were invited to submit proposals for artworks. The proposals were made public in October 2009 so that citizens of Helsinki, energy consumption experts, and the electronic art community could give feedback on them. The project jury chose two artworks to be realised during 2010/2011: Power Flower by Andy Best and an untitled project by Miska Knapek.

www.pixelache.ac/art-and-energy

LOCATION: FINLAND

YEAR: 2010/11

ARTFORM: PUBLIC ART

ARTFORM: COMMUNITY-ENGAGED

YEAR: 2013

LOCATION: BRISTOL

Christmas Tree Second Chance, Bristol

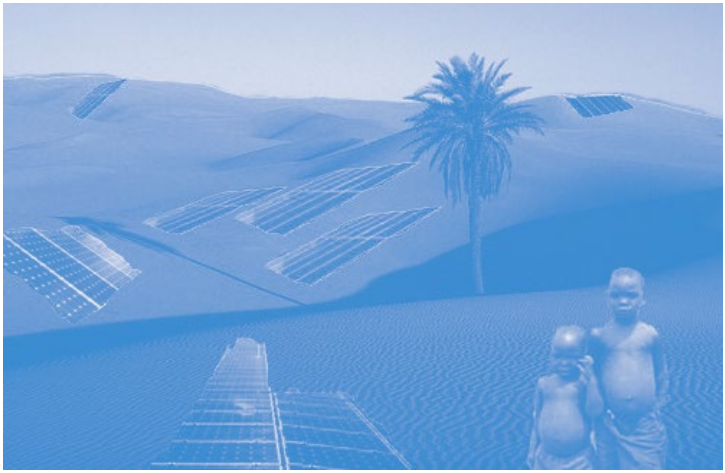
Second Chance, a community project thought up by a group of artists, was designed to make people think about recycling. Used christmas trees brought along by local residents were built up into a forest created in the Harbourside and were eventually shredded in a chipper. The wood chippings were put to use by the council in heating schools using biomass boilers as well as for landscaping the city's parks. People were also invited to take away a bag of chippings for their gardens.

These activities helped to muster a new sense of community and alternative modes of exchange, proposing a new tradition in tandem with our annual consumption of christmas trees.

The idea of the forest originated in Prague, where it has been running for years in the square outside the Czech national theatre.

www.mayk.org.uk

Feeling the Pressure, North Wales



This was an open exhibition at Rhyl Arts Centre with a cash prize funded by TEGNI and North Wales HydroPower (two North Wales based renewables companies). This was the second of two exhibitions funded by these firms at this venue with cash prize donations within the space of two years.

The exhibitions were an open call out for work based around the idea of renewable energies and the second exhibition showed over 20 artist and gained regional press coverage.

LOCATION: NORTH WALES

YEAR: 2012

ARTFORM: EXHIBITION

ARTFORM: PUBLIC ART

YEAR: 2004

LOCATION: VARIOUS

Life Pulse, by Michael Pinsky

Developed for Archilab in 2004, Life Pulse modifies public lighting to make it react to the individual. By embracing lighting columns, the passerby creates an illuminated composition. The lampposts are programmed to respond to the human touch by emitting light at the frequency of the person's heartbeat.

Life Pulse makes the rhythm of the town follow the life of each individual, inverting the traditional relationship between urban dwellers and their environment. The columns encourage a moment of encounter where participants reveal their innermost workings. Through the ritualistic process of setting their own heartbeat in light the users conjoin with the sculpture to create a kinetic form; part human, part technological.

The project has been installed in a range of locations including Darlington, UK and Orleans, France.

www.michaelpinsky.com

Tabernas Desert Run, Simon Starling

On the 9th September 2004, Starling travelled 41 miles across the Tabernas Desert on an improvised, fuel cell powered, electric bicycle. The bicycle was driven by a 900 watt electric motor that was in turn powered by electricity produced in a portable fuel cell fitted into its frame, generating power using only compressed bottled hydrogen and oxygen from the desert air.

The only waste product from the moped's desert crossing was pure water of which 600ml was captured in a water bottle mounted below the fuel cell. Starling has used the captured water to produce a 'botanical' painting of an Opuntia cactus. The painting of this most 'ergonomic' of plants refers back to the site of the journey.

Starlingss works often take feedback looping systems and entropic processes (important aspects of renewable energy production) as a central theme.

LOCATION: ALMERIA

YEAR: 2004

ARTFORM: CONTEMPORARY ART

Platform, London

ARTS
ACTIVISM
EDUCATION
RESEARCH

Platform combines art, activism, education and research in one organisation. This approach enables them to create unique projects driven by the need for social and ecological justice. Platform's current campaigns focus on the social, economic and environmental impacts of the global oil industry. Their education courses, exhibitions, art events and book projects promote radical new ideas that inspire change.

Platform operates through collective decision-making. Their team includes campaigners, artists and researchers who act together and with networks to achieve long-term, systemic goals. Examples of their past projects include investigations into the politics of Natural Gas from North Africa for the UK and European Grids, and a series of infographics exploring and exposing the amount of funding received by major cultural institutions from fossil fuel organizations.

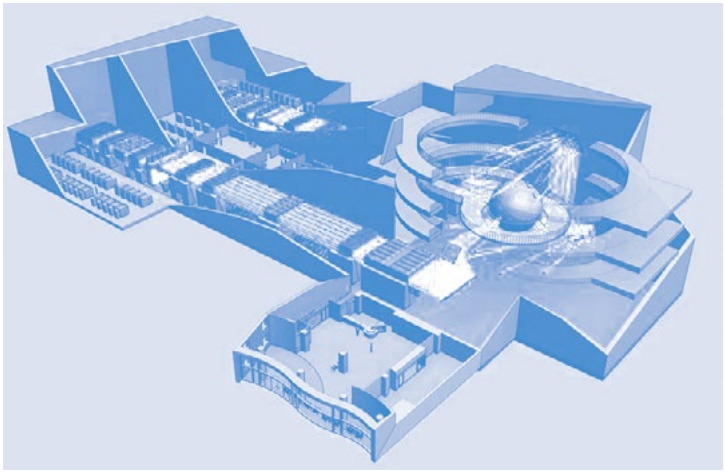
www.platformlondon.org

LOCATION: LONDON

YEAR: ONGOING

ARTFORM: ART/ACTIVISM

Fusion NOW! More Light, More Power, More People, London



FUSION NOW! asked what art and society might look like if we thought positively about a world based on more energy, not less. Bringing together artists, social and scientific commentators, FUSION NOW! took as it's starting point the rapidly developing science of nuclear fusion.

Energy was presented as a symbolic, cosmological, or aesthetic force. Elsewhere, the politics of energy and their relationship to the legacies of Utopian modernism were addressed, as well as the contemporary political dimensions of energy, as a key issue in how wealth, work and social division operate.

The exhibition took place at the Rokeby Gallery in London, a commercial gallery that aims to make sales from culturally innovative artwork.

www.rokebygallery.com

LOCATION: LONDON

YEAR: 2007

ARTFORM: EXHIBITION

Archiving Oil, Neville Gabie, Bristol

Archiving Oil is a collaborative project which was borne out of Neville Gabie's residency with the Cabot Institute at Bristol University. The ongoing project seeks to create an archive of our relationship with and dependence on an oil based economy.

In the first instance people within the university and the wider community were invited to contribute an object, text, sound, image of their own personal experience of living within an oil economy. These contributions were exhibited alongside four films by Neville Gabie in the basement stores and rock archive of the Earth Sciences department. A small publication with texts by several academics was printed to accompany the three night event.

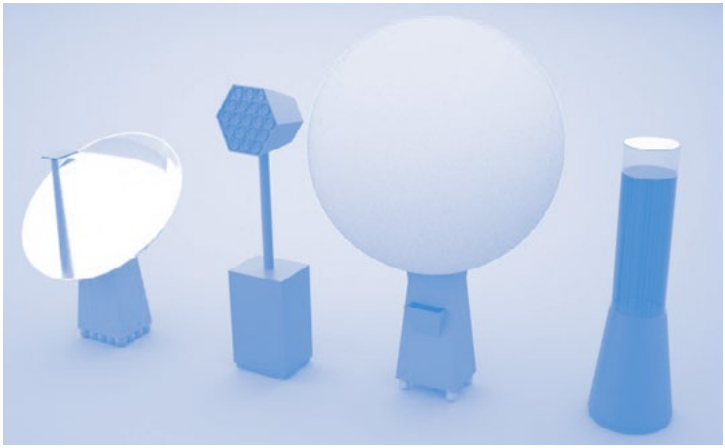
www.nevillegabie.com

LOCATION: BRISTOL

YEAR: 2013

ARTFORM: RESEARCH-LED

King's Cross Filling Station, London



"Petrol filling stations will be rendered redundant by electric vehicles. We thought about recreating the filling station of the future."

In August 2012 Super/Collider were invited to take part in the KXFS Science Weekend at King's Cross Filling Station: a repurposed petrol station. For their commission they produced four installation centre-pieces.

One was a solar collector, which focuses the Sun's energy to heat liquid salt and provide power. Another was a high altitude wind turbine that could "stretch into the stratosphere and tap into the Gulf Stream". The third was a biobag, a vast balloon placed above landfill sites to collect the methane seeping out. The fourth was an algae tank, which could be used to generate biofuel and oxygen for urbanites.

All act as "artistic representations" of alternative energy harvesting. Along with the installation the weekend framed a series of talks from artists and experts (including Arcola Energy) and was sponsored by Vauxhall's Ampera, a hybrid passenger car.

www.super-collider.com

LOCATION: LONDON

YEAR: 2012

ARTFORM: INSTALLATION

LOCATION: USA

YEAR: ONGOING

ARTFORM: LAND ART

The Lightning Field, Walter De Maria, Western New Mexico

Commissioned and maintained by Dia Art Foundation since 1977, The Lightning Field by the American sculptor Walter De Maria, is a work of land art situated in a remote area of the high desert of western New Mexico. It is comprised of 400 polished stainless steel poles installed in a grid array measuring one mile by one kilometer.

The poles - two inches in diameter and averaging 20 feet and 7½ inches in height - are spaced 220 feet apart and have solid pointed tips that define a horizontal plane. These poles act as pylons attracting lightning strikes.

A sculpture to be walked in as well as viewed, Dia offer visitors overnight visits during the months of May through October each year, with the best times to view lightning strikes being between July and August. Visitors (only six at a time as decreed by the artist) spend the night in a refurbished but spare cabin at the edge of the field observing the work from an infinite number of angles.

www.diaart.org

Roadmap 2050, by Rem Koolhaus

Roadmap 2050 is an artwork/plan combining the belief that drastic intervention is required to mitigate climate change, with a desire to give meaning and power to the European Union. Commissioned by the European Climate Foundation, a philanthropic body dedicated to promoting policies that reduce greenhouse gas emissions, and it aims to show how the EU can achieve an incredible-seeming target of an 80% reduction in carbon emissions by 2050.

The proposal's starting point is the fact that renewable energy sources such as wind and sunshine are available in different quantities in different places. For example – wind is abundant in Britain, and sun is abundant in Spain.

The big idea is to create a power network across the continent linking all these sources, which could then compensate for each other. If it was windless in Britain but sunny in Spain, power could travel from them to us, and vice versa.

ARTFORM: CONTEMPORARY ART
YEAR: 2010
LOCATION: N/A

LOCATION: NEWCASTLE

YEAR: 2010

ARTFORM: FESTIVAL

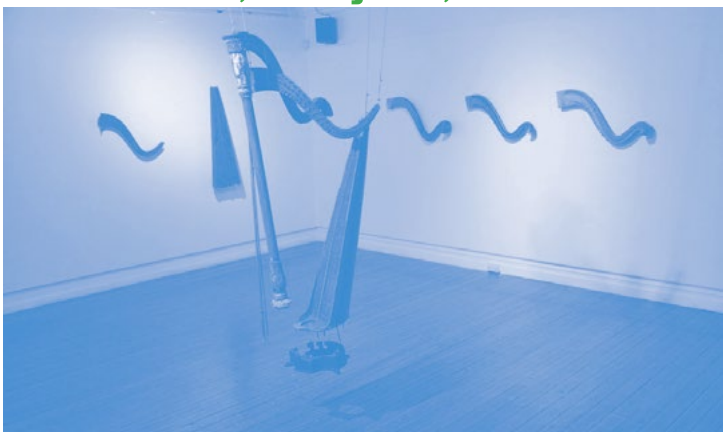
AV Festival 10: Energy, Newcastle

The curatorial theme of AV Festival 10 was energy: "a universal force that connects, transforms and renews life". The festival explored energy from scientific, technological, environmental and spiritual perspectives. New commissions included a coal-fired computer, a film tracking the movement of the sun, and compositions based on the energy of our rivers.

The festival included twenty-four exhibitions, twenty performances, fifteen screenings, fourteen talks, three symposia, two residencies and a café. Over ten-days there were 70,860 visits, an increase of 65% from 2008. The festival contributed £480k of gross value added to the local economy, and achieved £1.25 of economic output per pound invested. AV Festival 10 won a Silver Award at the North East Tourism Awards.

www.avfestival.co.uk

All Art is, is Rhythm, Newcastle



All Art is, is Rhythm was a group exhibition at the Hatton Gallery, curated by AV Festival 10, presenting six contemporary artist rooms, including three new commissions, on the theme of energy and sound. The title is based on a quote from Kurt Schwitters, an artist who created the mual Merzbarn, part of which is now housed in the Hatton Gallery.

Sculptural objects were brought to life by electrical, mechanical and human energy, uniting technology with the forces of nature. Featuring Rhodri Davies, Alec Finlay, Felix Hess, Pe Lang, Liliane Lijn and Charlemagne Palestine.

One example of the work shown was Sky-Wheels, a commissioned work for the AV Festival by Alec Finlay. This was a field of sixteen model wind turbines featuring poems by the artist on their colourful kinetic blades. The wide range of media used in the works allowed many ways in to experiencing the themes around energy and it's role in the arts in an open sense.

www.twmuseums.org.uk/hatton-gallery

LOCATION: NEWCASTLE

YEAR: 2010

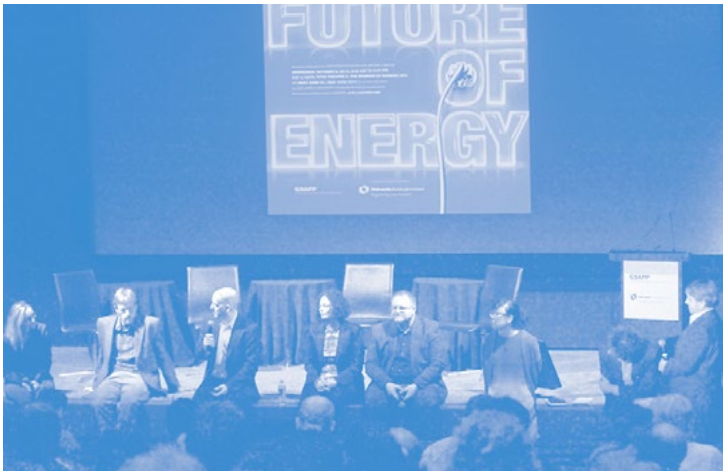
ARTFORM: EXHIBITION

ARTFORM: SYMPOSIUM

YEAR: 2013

LOCATION: NEW YORK

The Future of Energy at MOMA New York



What role should economic policy and technological innovation play in our thinking about energy? How will we test out and scale up new solutions? What are the interdependencies between energy-efficient buildings, urban infrastructure, and natural ecosystems? In this daylong conversation, leading thinkers and practitioners grappled with these and other pressing questions related to the future of energy.

They described their work with passive cooling systems, free-flow tidal power, offshore algae farms, abandoned petrochemical sites, geothermal energy, and the relationship of energy to the developing world. They also explored how major shifts in technology can trickle down, and how incremental and personal changes can scale up. Finally, they presented new applications and definitions related to energy, and consider how these developments today may lay the foundation for imagining change in realms of energy production and consumption tomorrow.

Hybrid Muscle, R&Sie(n), Thailand

This was the construction of a work and exhibition space that would generate its own electricity and thus be "unplugged" from the power grid. It was produced to house an artist film festival with the plan of it then becoming used by the local community. It was a private commission. The scenario was:

1) A construction of an animal "engine" driven by the muscle power of a pachyderm. Storage of the mechanical energy through the lifting of a two-tonne steel counterweight. Transformation of the mechanical energy into electrical energy. To power ten light bulbs, a laptop, and some cell phones.

2) Natural ventilation through the quivering of the façade leafs made of sheets of elastomer that work in the same way as temporary shelters made of teak leaves.

www.new-territories.com

LOCATION: THAILAND

YEAR: 2003

ARTFORM: ARHCITECTURE/ART

LOCATION: SHEFFIELD

YEAR: 2008

ARTFORM: INTERACTICE ART

Echoes of Blackburn Meadows, Sheffield

Echoes of Blackburn Meadows (EBM) is a sonic art-walk, which uses the acts of listening and walking to explore memories of the former Blackburn Meadows Power Station from 1921 to the present day.

Following the demolition of the last physical remains of the power station – two cooling towers – during the summer of 2008, EBM sought to re-animate the wider and more dynamic landscapes of electrical production. EBM uses solar power transmitters to broadcast sounds via a short-range FM frequency, demonstrating the possibilities of renewable sources of energy. The project was funded by Arts Council England.

Echoes of Blackburn Meadows is a great example of how experiential modes of practice within the arts can educate, celebrate, and illustrate important aspects of our culture. The project brings the labour of past energy production into the present and helps us to understand how things have developed to where we are now.

www.sheffieldelectricity.com

Oil and Water Do Not Mix, Anthony Burrill

In 2010 Burrill made a screen-printed poster with oil gathered from a trip to the Gulf of Mexico oil disaster. Proceeds from the sale of the print were donated to the Coalition to Restore Coastal Louisiana, a non-profit organization dedicated to restoring the Gulf of Mexico's coastal wetlands.

The project was conceived and produced in collaboration with Happiness Brussels (2010). As well as raising awareness of this man-made disaster, the project also raised funds to help clean up the spill.

www.anthonyburrill.com

LOCATION: VARIOUS

YEAR: 2010

ARTFORM: PRINTMAKING

Lives of Energy, Rick Prelinger, USA

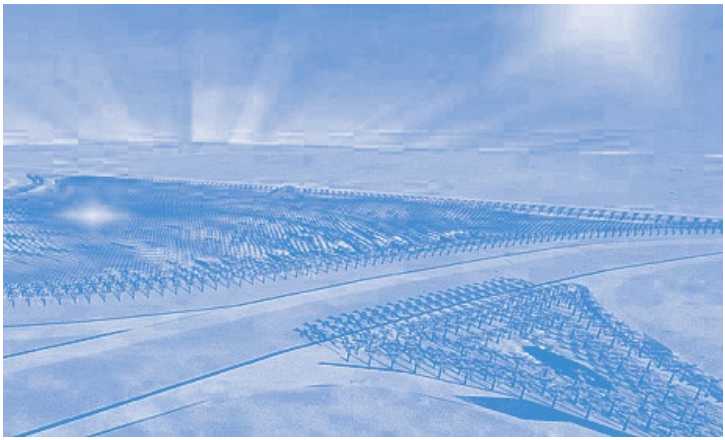
A new feature-length montage film by Rick Prelinger, founder of the world famous Prelinger Archives, made especially for AV Festival 10. The film is compiled from fast-paced sequences of archive material creating a new story about the importance of energy in our lives today.

LOCATION: USE

YEAR: 2010

ARTFORM: FILM

Land Art Generator Initiative, UAE



LAGI brings together artists, architects, scientists, landscape architects, engineers, and others in a first of its kind collaboration. The goal of the Land Art Generator Initiative is to design and construct public art installations that combine aesthetics with utility-scale clean energy generation. The works serve to inspire and educate while providing renewable power to thousands of homes around the world.

Since 2010 LAGI have been undertaking design competitions across the globe every two years. The first of these in 2010, was held in the United Arab Emirates and was sponsored by Masdar, a renewable energy company based in UAE. The first prize was won by the artist team of Robert Flottemesch, Jen DeNike, Johanna Ballhaus, and Adrian P. De Luca. LAGI have also released a free guide to renewable energies available from their website.

www.landartgenerator.org

ARTFORM: PUBLIC ART

YEAR: ONGOING

LOCATION: VARIOUS

ARTFORM: ART/PRODUCT DESIGN

YEAR: ONGOING

LOCATION: VARIOUS

Little Sun, Olafur Eliasson

Little Sun is an attractive, high-quality solar-powered LED lamp developed by artist Olafur Eliasson and engineer Frederik Ottese. It is a social business focused on getting clean, reliable, affordable light to the 1.6 billion people worldwide without access to electricity and aims to be a 'global project connecting the world through sharing light'.

In order to power their distribution system as well as keep prices low for off-grid Little Sun users, they sell Little Suns for a higher price in areas of the world that have electricity.

Additionally they work with on-grid retail partners who agree to take a reduced profit-margin from sales of Little Suns to support the project. They also raise additional funds through special Little Sun projects and events around the world.

www.littlesun.com

Dreaming Place, Anna Keleher and Claire Coté

Dreaming Place is an experimental project by Anna Keleher (Devon) and Claire Coté (New Mexico), prompted by the investigation of 'dúlra' – ecosystem; 'dúchas' – heritage; 'aisling' – dream. Based on an ancient Celtic tradition in which the land remembers everything, the project explores "dreams of place" and how lands speak through dreamers. The project has two main forms of outreach: the Radio Dreaming program and the Dreaming Pod.

The Dreaming Pod is an off-grid space for dreaming, their aim is to create an experiential, participatory aethetic space where artwork and participant blur. The trailer is equipped with batteries that can be charged with solar power or powered from excess energy while driving. It is insulated and covered with a non-rusting aluminum skin. It has a low hitch weight, low maintenance and showcases prehistoric, historic + contemporary off-grid technologies. The Pod's towing van is outfiitted with "De Verde hybrid hydrogen technology" for zero particle emissions and reduced fuel consumption.

www.dreamingplaceproject.wordpress.com

LOCATION: VARIOUS

YEAR: ONGOING

ARTFORM: PARTICIPATORY ART

LOCATION: LONDON

YEAR: 2012

ARTFORM: ART/ACTIVISM

The Gift, Liberate the Tate, London

On 7 July 2012 Liberate Tate installed a 16.5 metre, one and a half tonne wind turbine blade in Tate Modern's Turbine Hall in a guerrilla performance by over 100 members of the art collective. The artwork, called The Gift, was submitted to be part of Tate's permanent collection as a gift to the nation 'given for the benefit of the public' under the provisions of the Museums and Galleries Act 1992, the Act from which Tate's mission is drawn.

In the weeks after the performance the public call for Tate to accept the artwork on behalf of the nation grew. Over 1000 people signed a Tate Member-initiated petition 'Bring the wind turbine blade back into the Turbine Hall' calling on Tate Trustees "to accept the artwork as part of Tate's permanent collection".

Liberate Tate is an art collective exploring the role of creative intervention in social change. The group aims to "free art from oil" with a primary focus on the art museum Tate ending its corporate sponsorship with BP.

Sunlight Symphony, Alexis Kirke, Plymouth

Created as a part of Peninsula Arts Contemporary Music Festival in 2010, Sunlight Symphony turned a seven-story building into a musical instrument, placing light sensors in windows. Eight pieces were composed, one for each sensor, such that when they played together they augmented and interfered with each other in mysterious or exciting ways. A piece started playing when light detected in its part of the building reached sufficient intensity; the volume increasing as light intensity increased. As the sun rose over Plymouth and struck the building, the symphony of sounds began, pieces interlacing into a symphony of sound which reached its peak when the whole of the building side was bathed in sunlight.

The project was created by Alexis Kirke and Technologist Tim Hodgson and was housed within Plymouth University's Levinsky Building. Dr Andrew Eccleston, a fellow of the Royal Meteorological Society, assisted through the provision of information about the movement of the sun and cloud activity around the building.

LOCATION: PLYMOUTH

YEAR: 2010

ARTFORM: SOUND ART

ARTFORM: PARTICIPATORY ART

YEAR: 2014

LOCATION: EXETER

Tell A Story, Encounters at REM 2014, Devon

Encounters specialise in designing participatory arts projects & interventions that inspire creativity, dialogue & change between people of all ages & backgrounds. They have worked creatively with thousands of people in arts, environmental, community and regeneration contexts inviting people to re-look at who and how we are in the world at this time of crisis and opportunity and together to explore new more sustainable stories to live by on individual, local city wide and global levels.

At Regen SW's 2014 Renewable Energy Marketplace, Encounters offered a place for people to share ideas and personal stories around our relationship to energy. There were facilitated by Encounters Creative Director Ruth Ben-Tovim and were housed in and around the Place Dreamer Pod created with fellow artist Anna Keleher.

Inside Place-Dreamer Pod's wood and alluminium hull was a cosy listening space for off-gird dreaming. Under its rear hatch was a collection of props to spark conversations around renewable energy and sustainable lifestyles.

Regen SW Arts and Energy

A ongoing body of research around arts engagement with the topic of energy

Commissioned by Regen SW, 2014

Introduction by Chloe Uden
Edited by Chloe Uden & Nick Davies
Design & Research by Nick Davies

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