THE GLASGOW SCHOOL OF ART

Painting the Sustainable Landscape

Dr Marianne Greated



Damn Lines, 2020
Marianne Greated
120 x 120cm, Acrylic and gesso on board

Project Details

Contents

Project Details	2 - 3
Research Question	4
Aims and Objectives	5
Context	6 - 10
Methods	11 – 13
Contribution to the Filed	14
Project 1: Heritage of Hydro Power	15 - 19
Project 2: Coastal Power	20 - 33
Project 3: Renewables in Landscape	34 – 54
Related Outputs	55 – 58
Dissemination	59 – 73

Project Details

Painting the Sustainable Landscape

This practice-based output comprises three projects undertaken from 2014 to 2020:

1. *Heritage of Hydro Power*	2 paintings and 1 group of soundscapes
2. *Coastal Power*	11 paintings
3. *Renewables in the Landscape*	20 paintings

Project Details

Heritage of Hydro Power

Collaborator: Professor Clive Greated, The University of Edinburgh

Funders:
Lottery Heritage (**£10,000**)
Historic Scotland

Partners:
Orkney International Science Festival
Community Development Trust
Kirkwall Grammar School

Coastal Power

Collaborators:
The University of Edinburgh
The University of Aberdeen

Funders:
Scottish Government
Engineering and Physical Sciences Research Council
The University of Edinburgh

Renewables in the Landscape

Collaborators:
Prof KPJ Reddy, Indian Institute of Science (IISC); H.N.S. Centre

Funders:
Joint Global Challenges Fund
The Glasgow School of Art ODA RDF fund (**£5,900**)

Related Partners

Shetland Museum

Reading Landscape
GSA Research Group

Sumburgh Lighthouse Artist Residency Programme

Research Question

How does painting practice respond to sustainability in our environment?

- How can painting document the contemporary landscape?
- How can sustainability and renewables be represented through painting?
- How can painting engage with issues around sustainability and the climate emergency?

Aims and Objectives

AIM

To apply painting practices to document the contemporary landscape

AIM

To develop strategies to engage with sustainability and renewables as a painting practitioner

AIM

To extend languages of landscape painting, within the context of expanded painting

OBJECTIVE

Document the contemporary landscape through background research and site visits

Consider the impact of power generation on the land

OBJECTIVE

Build on my ongoing research into the contemporary landscape, renewables and visual representations of these

Work collaboratively and/or across disciplines to address sustainability

Connect with key individuals in the field

OBJECTIVE

Utilise expanded painting to develop new ways of representing our contemporary landscapes

Develop landscape painting that focusses on sustainability

Context



Introduction

This output evidences artistic research which explores and responds to sustainability within the contemporary landscape. Utilising a painting practice, the research documents, analyses and debates our environment and the effect of power on the land, particularly in relation to renewable energy. The research considers how the environment is represented in contemporary painting and how landscape painting can respond to sustainability.

The research explores how the landscape has been altered, or visually marked, by industry and power generation. Through the development of bodies of painting, it explores how different forms of old or new technologies have transformed our landscapes.

The practice based research has been developed from selected sites. In Scotland those have predominantly been on Orkney and Shetland, supported by an artist residency period at Sumburgh Lighthouse (Shetland), and participation in the GSA research group, Reading Landscape. The research also extends internationally, particularly to India, where there is a long-term collaborator, Prof KPJ Reddy, of the Indian Institute of Science (IISC). There are many other collaborations and partnerships with artists and scientists with that have fed into this body of research, notably Chitrakala Parishath Art School, Bangalore, Dalian University of Technology, Tsinghua/LAFA and the Heat and Mass Transfer Institute Minsk as well as locally through UK based collaborators such as the University of Edinburgh and colleagues at the Glasgow School of Art.

Human impact on the land has been explored through collaborative research projects, studio-based research, contextual research, community engagement, site visits, onsite research and exhibitions. In fact, public exhibition has been a key factor in the development of the research and not only its dissemination. Exhibition provides transformative moments in realising and coalescing the artistic outputs in installation form.

Under this research thematic sit three related and overlapping research projects: *Heritage of Hydro*; *Coastal Power*; and *Representations of Sustainability*. These collaborative research projects have engaged with other artistic researchers, scientists and engineers, and have utilised both artistic and scientific research into renewables to develop this area of investigation.

Context

Renewables

The UN's Intergovernmental Panel on Climate Change warns that 85% of the world's energy consumption should be met by renewables by 2050 to avoid the worst impacts of climate change. Glasgow is hosting COP26, the UNs Climate Change Conference in November 2021, making this research particularly timely and potentially impactful. A conviction that art has the ability to challenge current thinking on climate change underpins this research.

Scotland is currently an exporter of electricity, with renewable energy growing significantly in the last decade. The Scottish Government is aiming toward zero carbon living by 2045 (see Scottish Government's National Planning Framework 2020, NPF4 or the Scottish Governments Climate Change Plan 2018 – 2032).

The visual impact of wind power is a major consideration in the development of wind farms, with many being rejected for that reason. Therefore, **the aesthetics of renewable energy has serious implications for Government, the public and industry**. There is considerable research and public policy regarding the visual impact of wind turbines (on and off shore). See Scottish Natural Heritage's *Siting and Designing Wind Farms in the Landscape Guidance,* 2017 or UK Government Planning Practice guidance for renewable or low carbon energy:

https://www.nature.scot/sites/default/files/2017-11/Siting%20and%20designing%20windfarms%20in%20the%20landscape%20-%20version%203a.pdf

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/225689/Planning_Practice_Guidance_for_Renewable_and_Low_Carbon_Energy.pdf

Contextual investigation into the design of renewables in the landscape includes research by Simon Bell and landscape architect Caroline Stanton.

Scotland is particularly well placed to engage with renewables due to its natural landscape, geographical location with extensive coastline and weather patterns e.g. micro hydro schemes are a growing area of research and investment due to the high potential for it within Scotland, where there is a precedent in waterpower, evident throughout the country, through large industrial watermills such as at New Lanark and Blair Athol or the 500 or so disused small 'click mills' scattered across Orkney. Scotland has strong natural resources needed for wave and tidal power due to its coastal geography such as the Pentland Firth, which is due to have Europe's biggest tidal turbine array:

https://www.power-technology.com/projects/pentland-firth-tidal-power-plant-Scotland)

As such, Scotland is home to key sites for research into renewables and several companies and organisations are pioneering developments in this area. Much of this body of research has focussed on the geographical areas of Shetland and Orkney due to the potential of renewables as well as the pioneering research that is developing there.

The sonic soundscape around wind farms and hydro plants is also important as the sound generated by wind turbines is a major factor in curtailing the development of new schemes both in Britain and India (G Arieukkodi et al., *Wind turbine Noise; A pilot study in India*, Current Science Vol 111, No 3, 2016). Opponents often characterise the swishing sound turbines produce as noise pollution and much research therefore targets noise reduction. This is equally important in the design of offshore renewable energy devices as underwater sounds have an environmental impact. Interest in this has led to a number of sound works related to bubbles and water movement.

Context

Background to Artistic Research

This body of work builds on a twenty-year investigation into human impact on the land. Industrialisation of the marine landscape is evident in previous research projects such as *Coast and Coastal Power* (collaborations with University of Edinburgh, funded by British Council, EPSRC, Royal Society of Edinburgh, Danish Institute and others). For this I developed paintings related to the changing coastline (such as oil, tidal energy, nuclear power, sea defences). Paintings and sound works were created from power stations such as Drax (coal powered), Torness (nuclear power) and Sellafield (nuclear reprocessing/decommissioning) and the work was exhibited in related venues (Hull Maritime Museum or North Sea Museum Denmark). *SOUND in a Man-Made Environment* (collaboration with The University of Edinburgh, funded by EPSRC, The Scottish Executive, the Royal Commission for the Exhibition of 1851) explored sound within the environment, in particular noise pollution, resulting in painting and sound installations, as a form of expanded painting. The *SOUND* exhibition launched at the Scottish Parliament Edinburgh in 2006 and has been seen by over 100,000 internationally (including at Venkatappa Art Gallery India; The Palace of the Republic Art Gallery Belarus; and the UK National Physical Laboratory).

Arts Ecological Turn

The survey exhibition *Yes Naturally, How Art Saves the World* (Gemeentemuseum, The Hague, 2013) explores art's role within the ecological debate and evidences the increasing number of artists who want to work and collaborate to make this world a better place. In Greg Lindquist's exhibition *Social Ecologies* (2015), landscape is presented as a mythologised and reimagined example of the complex relationship between humans and the natural world. In his *Brooklyn Rail* essay Lindquist questions the role of the artist and asserts that understanding the relationships between human and our environment is key to solutions :

https://brooklynrail.org/2015/11/editorsmessage/social-ecologies

Artists working with renewables in our landscape include Nayan Kulkarni, whose work *Blade* (2017) brought a wind turbine blade onto the streets of Hull. Dalziel and Scullion have worked with renewables in the land for many years,, including a bill board project debating wind turbines (2005) and input to a wind farm, *Wind Forest 4* (2026). Olafur Elliason, has worked with various renewables in is art and cross disciplinary projects, most notably solar power in his *Little Sun* (2012) his project which has provided solar lights across the world.

Other key exhibitions that address the themes of sustainability and ecology include *Fragile Ecologies* (1992), *Radical Nature: Art and Architecture for a Changing Planet* (The Barbican, 2009), *Dark Optimism*, (MoMA PS1, 2013), *Yes Naturally, How Art Saves the World* (2013-15), *Anthropocene* (National Gallery of Canada, 2018-21) and *The Coming World: Ecology as the New Politics 2030–2100* (Moscow's Garage Museum of Contemporary Art, 2019).

Context

Landscape Painting

Building on the traditions of landscape painting, in relation to a long history of documenting man-made interventions (e.g. the drills in Gainsborough's *Mr and Mrs Andrews,* 1750), and contributing to a body of work on environmental sustainability by contemporary artists such as Liu Xiadong, Agnes Denes and David Thorpe, this research considers the aesthetics of renewables; part of humanity's evolving relationship to the land.

Historic examples of painting foregrounding human interventions in the land include steam trains in Turner's *Rain, Steam and Speed* (1944) or the mill in Constable's *The Hay Wain* (1951). Despite these examples there has been a tendency for landscape painting to represent only certain types of landscapes; as remote, untouched wilderness, idealised in the collective imagination.

This research represents the land as an active, developing entity, which reflects and engages with contemporary debates. Marks and scars on the land created by human impact become integral to it. This research asserts landscape painting as a reflection of our contemporary relationship to the land in relation to sustainability and climate change. The work sits within the genre of landscape painting, however, it presents a renewed perspective of both our environment and landscape painting itself. Moving beyond observation, this research involves directly engaging with the land and its uses, through research collaborations, community engagement and site-specific working.

Examples of painting that respond to environment challenges and human impact on the land include Liu Xiadong's panel paintings such as *Qing Zang Railroad* (2007), presenting the building of new transport systems or *Three Gorges: Newly Displaces Population*, showing the effect of the world's largest hydroelectric dam. Agnes Denes has been tackling climate issues for several decades through her environmental art performative actions as well as her drawings as a pioneer of land art. David Thorpe's landscapes address environmental issues less directly, however, his urban landscapes, often portray a dystopian fiction of human impact. Carol Rhodes' landscapes utilise her own formed aerial view of the land, uncovering the human impact on land through creating imagined landscapes.

Expanded Painting

This output attempts to develop painting in the expanded field. Although not the explicit focus, an analysis and engagement with painting forms part of the research development and outcomes. The use of sound and the development of immersive painting installations has been the subject of related research outputs e.g. 'Painting in Extreme Environments' (2017), *Journal of Visual Art Practice*, 18 (1). pp. 64-80. This article explores paintings where the subject matter is the sustainable landscape, however its primary focus is an investigation of how painting operates within its own environment.

This output explores the parameters of painting, including how paintings are made and installed and testing the role of sound in recording and exploring the land. Utilising sound within a painting practice has at times been an outcome of the research and at other times, a method to gather primary research.

The panorama as an aspect of immersive expanded painting is a key theme within this research. This was particularly evident in the engagement with Sumburgh Lighthouse, which was identified as a potential residency venue due to its panoramic viewing room and location. Panoramas are examples of a specific immersive and historical approach to recording, documenting and re-contextualising the landscape. They have historical significance in Scotland, as the first panorama was a drawing of Edinburgh by Robert Barker showing the city as a working industrial centre with the coastline behind.

Context

The research question is addressed across the three projects this output comprises:

Project 1: *Heritage of Hydro Power*
This project examines the history and heritage of hydropower in the Scottish landscape, analysing the long traditions of renewable energy within Scotland, asserting that renewables are already a part of the landscape of Scotland. Through both sound and painting, the traces of historic hydro in relation to contemporary renewables are recontextualised, resulting in a body of painting and sound works.

Project 2: *Coastal Power*
This body of work is a development of research that has spanned over two decades and focusses on the evidence of power generation and distribution on the landscape. This research explores power generation in many coastal environments, as related to site-specific research projects and collaborations with scientists and artists.

Project 3: *Renewables in the Landscape*
This project theme is informed by Projects 1 and 2 and investigates how painting responds to sustainability. The work explores and represents how sustainable power production is impacting, evolving and changing the landscape. This research focusses on examples of renewables in site specific locations, namely in parts of Scotland and India, where there is research developing on visual representations of the sustainable landscape.

These projects often overlap or in places are enmeshed as the research has often led to similar questions and findings.



Site visit to discussed mill, Orkney

Methods

The methodology for this research is formed of practice-based, collaborative and action research approaches, and includes the following methods:

1. Site visits

The research has developed from specific sites that are relevant to the research questions, including geographical sites, historical sites, power stations, renewables sites or research laboratories. Developing a deep understanding of a site's context by conducting field work is key. Sites include:

- Hydro and solar plants in India.
- Small micro-hydro sites in Scotland
- Large waterwheels sites such as at New Lanark, and traditional click mills, such as Dounby Click Mill, the only working horizontal water wheel in Orkney.

2. Gathering visual and audio material

Gathering visual and audio material in the form of drawings, video, sound recording and photography, provides the primary research material, which in turn provides starting points for developing and making artwork in the studio and feeds into other research outputs. Generating primary research is an ongoing process which can take place at all times, however, it is punctuated by key development points, often centred on specific sites or areas of interest.

- A one month residency in Sumburgh Lighthouse, Shetland (2016) enabled a focussed period of developing primary research, which comprised: an extensive body of site drawings; sound recordings of specific sites; ambient sound recordings, documentary photography and recordings and videos of sites; and interviews with key individuals.
- A research trip to India included: site visits to produce photographic, sound and video recordings and on-site drawings; collaborations with researchers; community outreach activities and workshops; talks to disseminate research; and curating an exhibition with local artists.

3. Contextual research

Archival research and literature surveys provide early insights into areas of interest and play an important role in understanding the wider context, such as research on renewables. Surveys of relevant artworks engaging with sustainability and exhibition and conference attendance have also been key to ensuring an informed knowledge base.



Making work in panoramic studio in Sumburgh Lighthouse, Shetland

Methods

4. Working with communities

Engaging with various community groups or the public has allowed for a deeper engagement with the land and its uses and a better understanding of the wider social and community impact.

- In Orkney, I developed the community outreach workshop, *Our Sustainable Environment* (2017). Activities included visiting the first community wind-turbine in Europe and interviewing the Westray Community Development Trust.
- I led an outreach event and talk at Kirkwall Grammar School as part of Orkney International Science Festival and developed a related project.
- I interviewed and filmed community group, North Yell Development Group, Shetland.
- In India, I worked with local artists, tutors and schools to develop a project and exhibitions. Research was advanced through talks, workshops and visits in connection with the H.N.S.Centre, India (2018).

5. Collaborating with scientists

Throughout this research period, I have collaborated with scientists (e.g. Prof KPJ Reddy from the Indian Institute of Science; Prof Clive Greated, University of Edinburgh), which took the form of sharing ideas and processes, developing activities together and joint research dissemination events.

- *The Heritage of Hydro, Wind and Tidal Power in Scotland* is a collaboration with University of Edinburgh.
- *Coastal Power* is a funded collaboration with partners from University of Edinburgh and University of Aberdeen.
- The India project came through long term collaboration with the researcher at Indian Institute of Science and links with H.N.S.Centre.

There have also been visits to various research centres to investigate contextual issues.

- North Atlantic Fisheries College Marine Centre.
- St Abbs Marine Station.
- European Marine Energy Centre (EMEC) in Orkney.

6. Engaging with industry

I have engaged with organisations developing renewable power, which has led to research in these areas. These include wave and tidal power, notably: Scotrenewables; Nova Innovations; and blade manufacturer, Shetland Composites..

- Connected with micro-hydro innovators such as Baby Hydro.

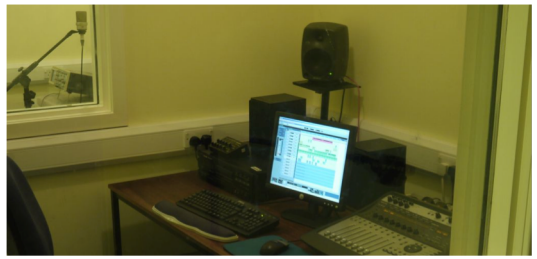


Methods

7. Studio development

In the studio, primary research is developed into research outputs, through drawing, painting and sound practices. Where artwork has been created *in situ*, it returns to the studio for further development.

- There are a range of studios including the painting studio, residency studio and sound studio. These operate differently, with the painting studio being the main place where artwork is developed over time. Residency and sound studios are temporary and used for specific focused activities.
- Experimental installations provide an opportunity to bring diverse aspects of practice together and test out ideas.





8. Reflection and feedback

Giving lectures, presentations and sharing research enables a reflection on feedback and outcomes which creates an iterative research process.

9. Exhibition and Presentation

Exhibition provides an opportunity to bring the work together, often for the first time. It provides an opportunity to disseminate findings to the field and garner feedback. Exhibitions take place in various spaces including galleries, museums and other public spaces.

10. Networks

Being part of local, national and international networks supports the development of the research and clarifies its position within the field:

- Worked with European League of Institutes for the Arts (ELIA)
- Links to Indian Institute of Science, Dalian University of Technology, Chitrakala Parishath Art School Bangalore and the Heat and Mass Transfer Institute
- Active member of Reading Landscape research group, GSA. Have participated in research trips, events, exhibition, symposium.
- International science networks such Pan European Explorathon programme, Orkney Science Festival. Developed connections at the National Physical Laboratory
- GSA link for the Regional Painting Network led by MMU, helped to develop painting dialogue and practice in a post-disciplinary context. Supported the Teaching Painting group in their work with GSA.
- Links with EMEC as well as manufacturers of wave turbines such as Scotrenewable, Nova Innovations and Shetland Composites.

Contribution to the field

This output contributes to research on contemporary landscape, particularly in relation to Scotland, by demonstrating the role that visual representation can play in mediating discussions and reconsiderations of the visual impact of renewable and sustainable energy resources.

In particular, this output contributes new approaches to landscape painting in the 21st century, that address sustainability in the environment. Contributions can be summarised as follows:

- Challenging and even changing perceptions about the visual impact of renewables
- Enabling debate on, and increased awareness of, climate change
- Creating new languages within landscape painting
- Developing expanded painting to encompass different forms of landscape painting



Panel Stretch, 2018
Marianne Greated
120 x 120cm, Acrylic and gesso on board

THE GLASGOW SCHOOL OF ART

Project 1

Heritage Hydro Power

Context

Heritage Hydro

This research explores the history and heritage of hydro, wind and tidal power in Scotland and its visual impact on the landscape. It aims to raise awareness of hydro, tidal and wind power through various forms of research including archival, liaising with community groups and investigating current hydro projects, all of which lead to the development of artwork and exhibitions.

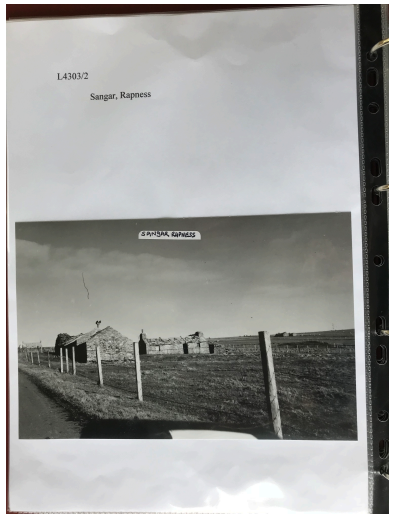
Scotland has a long heritage in hydro, wind and tidal power and through its location and geography has resources which are almost unparalleled in the western world. The early industrial revolution was powered mainly by water wheels, but there were also many wind mills and a smaller number of tide mills. In Scotland thousands of water wheels were built to power industry and the first windmill to generate electricity was built in Scotland. In Lewis it is estimated that in the 19th Century there were about 200 small horizontal water wheels (Norse Mills) and there were a similar number in Orkney and Shetland (Click Mills). Tide mills were also constructed at a number of locations e.g. Kirkwall, Burnt Island and Canmore.

Orkney and Shetland are key points for the development of new energy supplies in Scotland and are at the forefront of developments in marine renewables e.g. Scotrenewables and the European Marine Energy Centre. In dialogue with these organisations, I have produced artwork which has been exhibited at Pier Arts Centre, Orkney Museum and Shetland Museum.

I am a partner on a collaborative project, *Heritage of Hydro, Wind and Tidal in Scotland*, with The University of Edinburgh (10K Lottery Heritage funding), which has involved 6 research trips to Orkney and 4 to Shetland as well as key renewable sites in Scotland, such as Eigg, an island that is self-sustaining through renewables, or the many historic larger water wheels such as at New Lanark. As well as visual research of the landscape I undertook activities including visiting the first community wind-turbine in Europe, meeting with and interviewing the Community Development Trust, visiting potential venues for exhibitions, an outreach event and talk at Kirkwall Grammar School as part of the Orkney International Science Festival, developing a related project with the school.

Research Outputs

Project 1 comprises 3 research outputs: 2 paintings and a group of soundscapes.



Above and Below, Images from the archives of wind turbines at Sangar, Rapness, Shetland

Left Disused Click Mill, Shetland





Research Output



These images are responses to the historic click mills that pepper the Scottish landscape. They are particularly common in Orkney and Shetland, however you can find them throughout Scotland.



Mill, 2014
Marianne Greated
60 x 60cm, Acrylic and gesso on board

Research Output



Click , 2014
Marianne Greated
60 x 60cm, Acrylic and gesso on board

Research Output

Soundscapes have been shown either separately or alongside my paintings. In this project these have been recorded live through binaural microphone and played back through headphones.

I have created a number of sound pieces, created from found sound, which should be exhibited in contrast or alongside one another. For example, I contrasted sounds above the water with those beneath by using binaural recordings of the sea and underwater soundscapes that I generated using a hydrophone. The underwater sounds came from different size bubbles. This is consistent with a realistic situation with, for example, a Scotrenewables tidal stream turbine where bubbles are generated both by cavitation around the rotating rotor blades and by air entrainment generated by surface interaction.

I have utilised this research for my exhibition *What Lies Beneath* shown at the Miller House Museum Cromarty, 2015. I used similar soundscapes and recordings of the sea and water bubbles in *Unearthed*, a 4-day research event led by NERC and where I collaborated with The University of Edinburgh. This was a major research event sharing cutting edge environmental research with other academics, industry and the public.

Through this research, I have developed ongoing links with EMEC as well as manufacturers of wave turbines such as Scotrenewable, Nova Innovations and Shetland Composites. This was shared at the NERC event in 2018.

Please open and listen to the following audio files on the USB stick now:

Greated_7534_Painting_Sustainable _Audio_1.mp3
Greated_7534_Painting_Sustainable _Audio_2.mp3
Greated_7534_Painting_Sustainable _Audio_3.mp3
Greated_7534_Painting_Sustainable _Audio_4.mp3



Binaural recording Colour convention Blue left: Red right





Various sound works including Wind and Flow
Marianne Greated
Soundscapes presented on dummy heads or sound seat with headphones

THE GLASGOW SCHOOL OF ART

Project 2

Coastal Power

Context

Coastal Power

This project has stemmed from previous research addressing power production and industrialisation of the marine landscape, including an investigation of the changing coastline due to fishing, harbours, oil industry, wave/tidal energy production, nuclear power as well as sea defenses.

This body of research focusses on specific aspects of power production on the coast, analysing its impact on the landscape. To unlock this the work explores the markers of power production on the land, **the visual manifestation of power** as observed and documented through site visits. As such, I have identified a number of themes:

- Oil production
- Power lines in the land
- Solar energy
- Wind energy
- Wave and Tidal (mostly addressed in Project 3)

Collaborator on sustainable energy project, *Coastal Power* with the University of Edinburgh and the University of Aberdeen, 2013 to 2016. Funded by Scottish Government, EPSRC, University of Edinburgh.

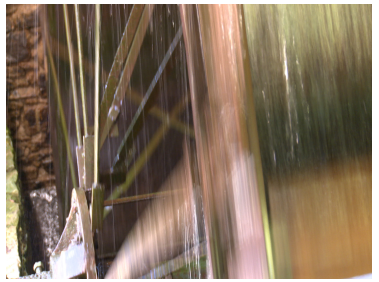
Sumburgh Lighthouse Residency

In 2016 undertook a one-month long residency in Sumburgh Lighthouse, Shetland, during which I investigated how this landscape has responded to industrialization and creation of power. I explored the landscape, through developing visual/audio material in the land. I engaged with a number of local artists as well as surveying key research into landscape and sustainability and renewables in the area.

Shetland is a key hub for oil production in the north sea as well as having great potential for wave and tidal power. During the residency I utilised the surrounding area, investigating how the remote landscape has changed and responded to industrialization and creation of power and oil.

Research Outputs

Project 2 comprises 11 outputs, all of which are paintings





Research Output



The Horn, 2017
Marianne Greated
40 x 30 cm Acrylic and gesso on board

This is a fog horn designed by Lord Kelvin. This fog horn relates to the sound work I have been undertaking, in particular the recoding of coastal sounds and power generation. I was able to see the workings of the fog horn and recorded it sounding.

This exploration of the Kelvin fog horn also relates to the specific research undertaken in regards to Kelvin and power generation in the land, leading to a series of drawings which were published in a book on Kelvin.

Methods



Rain or Fog, 2016
Marianne Greated
50 x 70cm, Watercolour on paper

Research Output



Radar, 2016
Marianne Greated
40 x 30 cm Acrylic on board

Research Output



Painting of Sullom Voe Oil terminal. This is a key oil terminals in the UK, processing oil and gas from fields in the North Sea before it is shipped worldwide by tanker.

Rain (Sullom Voe), 2016
Marianne Greated
70 x 50cm, Watercolour on paper

Research Output



Fence (Sullom Voe), 2016 Marianne Greated
70 x 50cm, Watercolour on paper

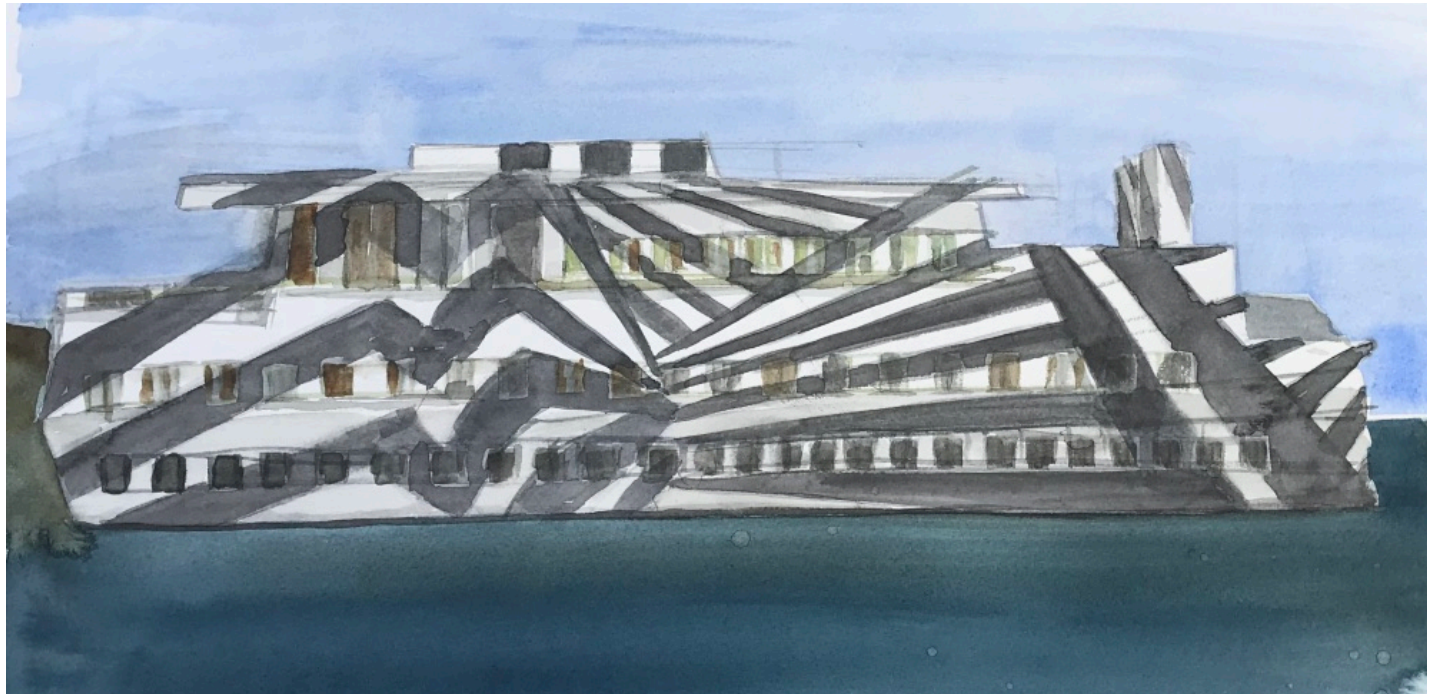
Research Output



Oil tanker shipping oil from Shetland to the rest of the UK or worldwide.

Untitled, 2016
Marianne Greated
Watercolour and acrylic on paper

Research Output



Accommodation vessel which houses oil rig workers in the Lerwick harbor.

Untitled, 2016
Marianne Greated
Watercolour and ink on paper

Research Output



Electricity pylons, power cables and power stations have been investigated and recorded, as markers on the land.

Pylons 2, 2016
Marianne Greated
Watercolour on paper

Research Output



Untitled, 2016
Marianne Greated
Watercolour and acrylic on paper

Research Output



Untitled, 2016
Marianne Greated
Watercolour and acrylic on paper

Research Output



Untitled, 2016
Marianne Greated
70 x 50cm, Watercolour on paper

Research Output



Lines, 2016
Marianne Greated
45 x 35cm, Watercolour on paper

THE GLASGOW SCHOOL OF ART

Project 3

Renewables in the Landscape

Context

Painting the Sustainable Landscape

This project evidences my research on renewables within the landscape, in particular, hydropower, wave and tidal power and solar power. It addresses the main research question by creating a language of landscape painting that reflects and engages with current debates about land use, power generation and the climate emergency.

This body of work is the culmination of this research thematic, with Projects 1 and 2 feeding directly into the paintings in Project 3. Please note that some outputs are developed from earlier projects.

Fine Art Renewable Project

This research explores renewables within the Indian landscape. It is widely accepted that more of the world's future energy will come from renewable resources, the impact of which is particularly relevant to developing countries. Principle areas of development in India are wind, micro-hydro and solar but these have a major visual impact on the environment which is a key factor in limiting their development (Pedersen et al., *Visual and Acoustic Impact of Wind Turbine Farms on Residents*, Project WINDFARM Perception 2008). Protection of the environment is important for India's long-term development strategy (M Ahluwalia et al., *A More Sustainable Energy Strategy for India*, Policy Paper, Grantham Research Institute, 2016).

I collaborated with Professor KPJ Reddy (The Indian Institute of Science), building on a related project on environmental noise from 2008. To develop this work I undertook a research trip to Southern India in Jul/Aug 2018. I was based at the HNS Centre, near Bangalore

This involved site visits, gathering visual/sound research, meeting/collaborating with researchers. I set up an art exhibition in the enclave and carried out related events including a related community project, working with local artists/tutors to extend reach of the research. I developed a new body of paintings from the visual research gathered which have been shown in Glasgow and a touring exhibition to four venues in China.

Joint Global Challenges Fund through GSA's ODA RDF fund. Fine Art Renewables Collaboration with India 2017. 5.9K

Research Outputs

Project 3 comprises 20 outputs, all of which are paintings



Harangi Dam, India

Research Output



Turbine Wind, 2016
Marianne Greated
50 x 70cm, Watercolour on paper

Research Output



There are a number of works focused on solar energy. This painting shows solar panes distributed amongst the land.

Solar Panels, 2016
Marianne Greated
80 x 60cm, Watercolour and acrylic on paper

Research Output



Panorama (1&2), 2016
Marianne Greated
80 x 30cm, Acrylic on paper

Research Output



The Coup I (solar), 2018
Marianne Greated
60 x 60 cm Acrylic on board

Research Output



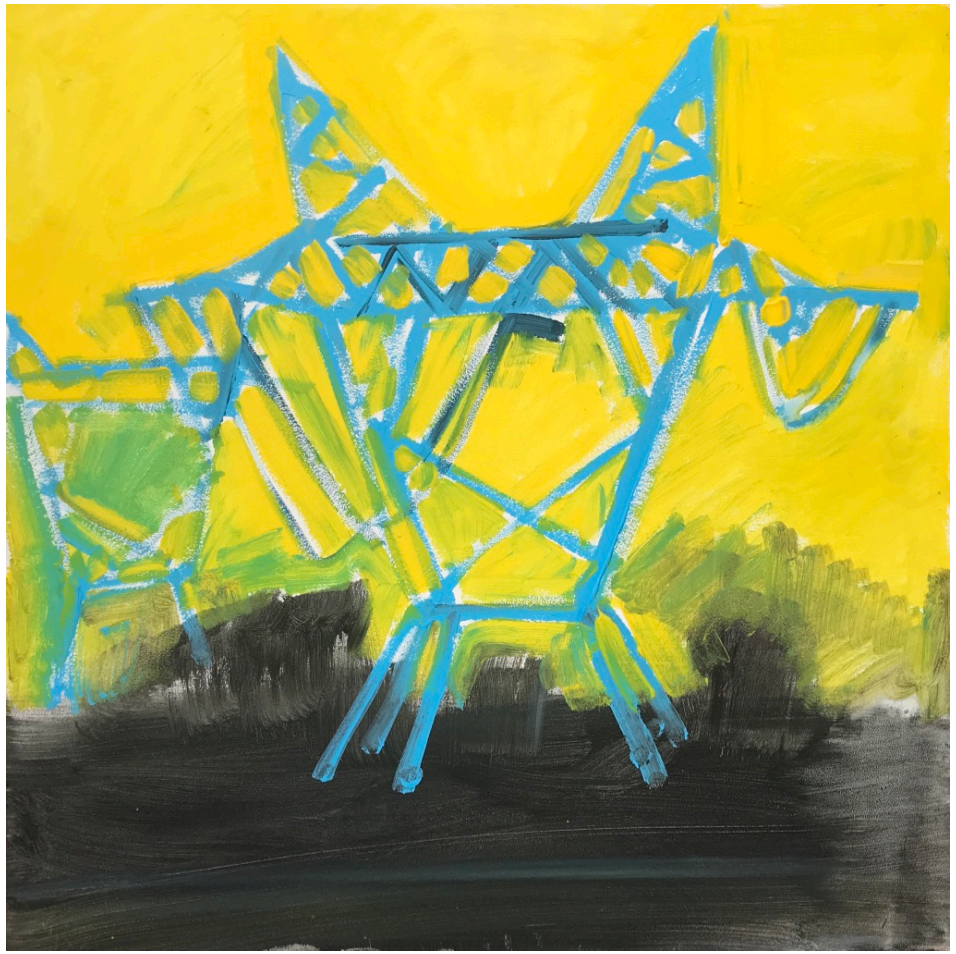
The Coup II (solar), 2018
Marianne Greated
60 x 60 cm Acrylic on board

Research Output



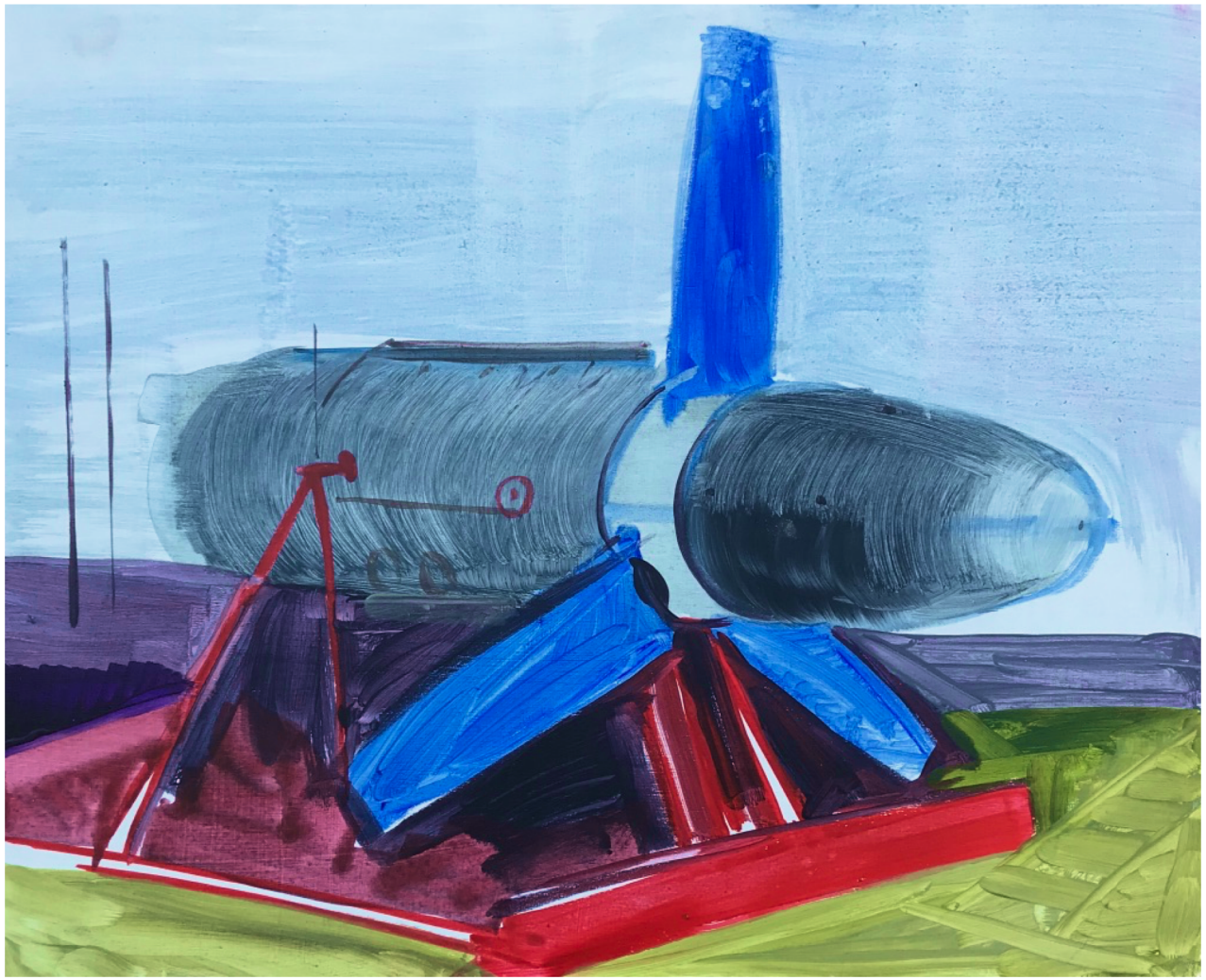
Pylons (walking), 2018
Marianne Greated
60 x 60 cm Acrylic on board

Research Output



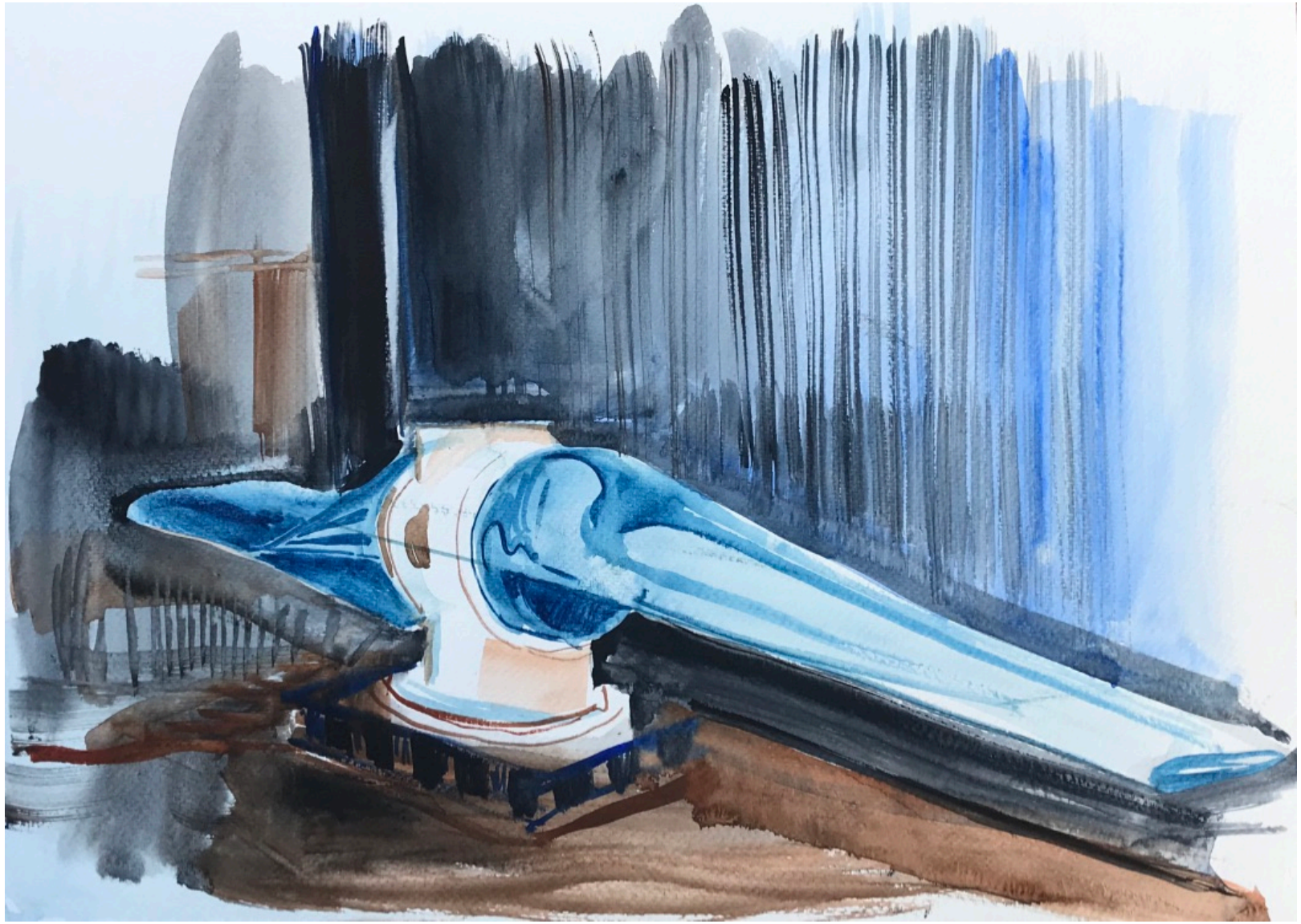
The Monsters, 2018
Marianne Greated
60 x 60 cm Acrylic on board

Research Output



Untitled, 2016
Marianne Greated
40 x 30cm, Acrylic on board

Research Output



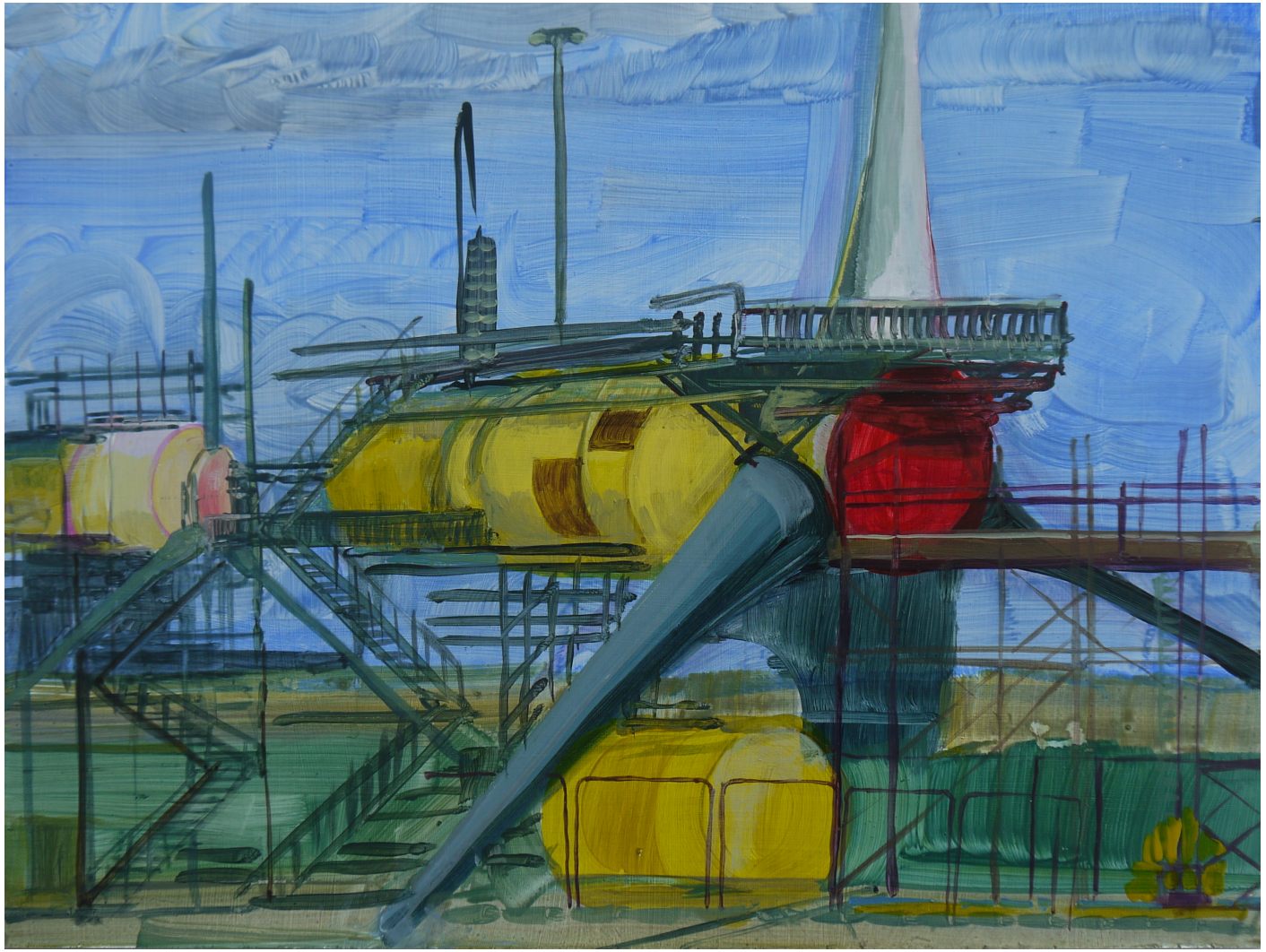
Untitled, 2016
Marianne Greated
70 x 50cm, Watercolour on paper

Research Output



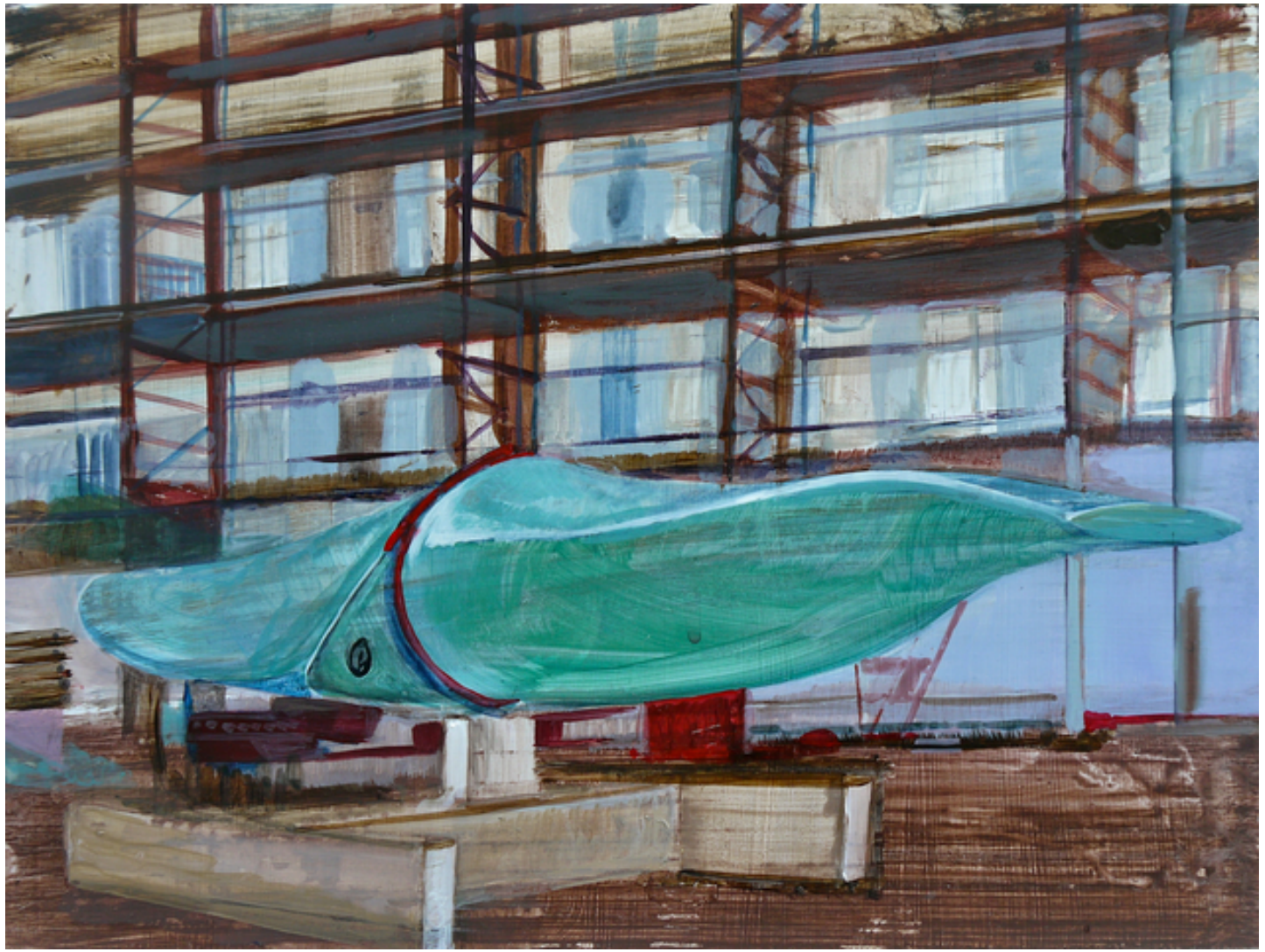
Untitled (blades), 2017
Marianne Greated
40 x 30 cm Acrylic and gesso on board

Research Output



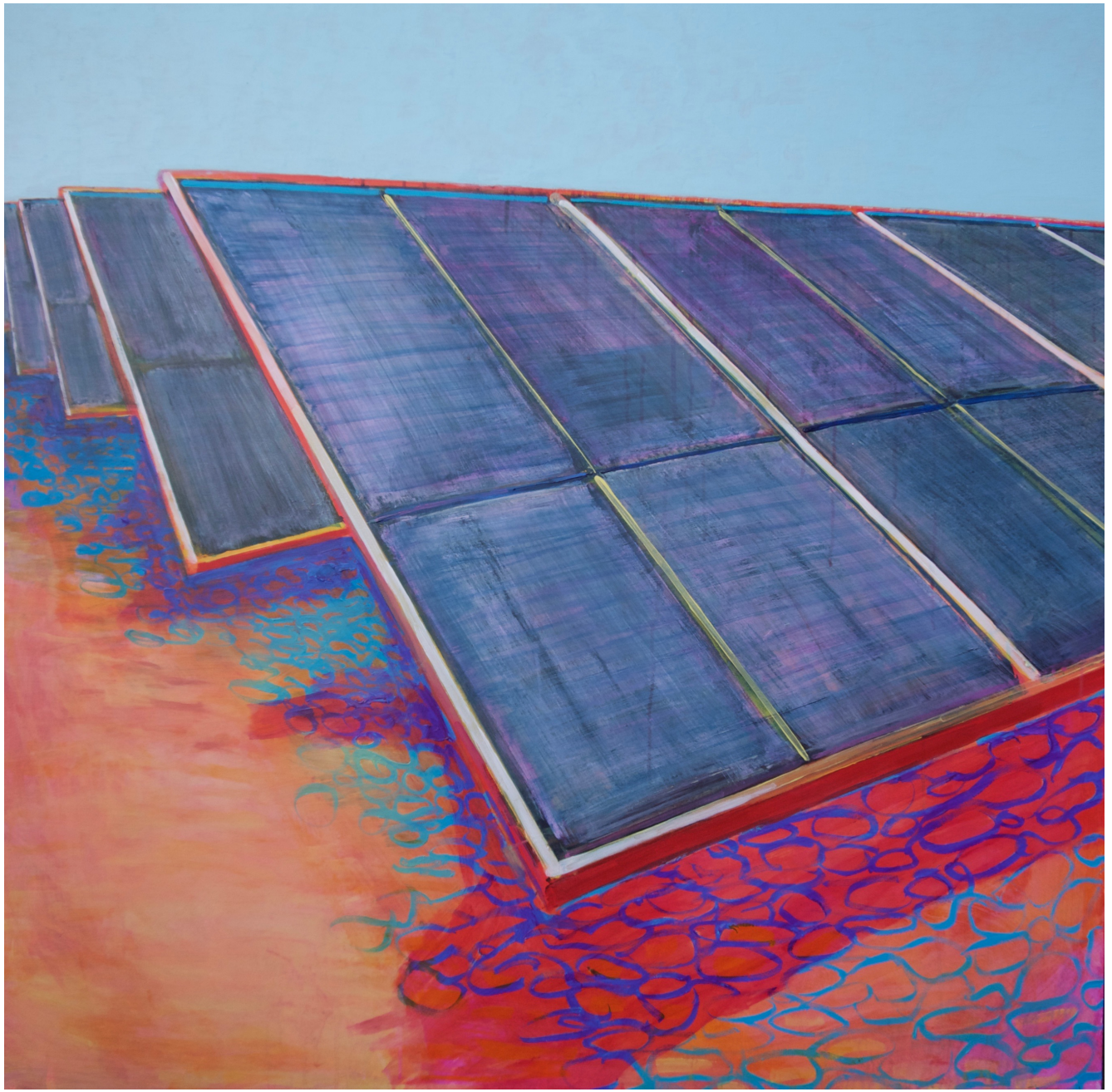
The Dock, 2016
Marianne Greated
40 x 30 cm Acrylic and gesso on board

Research Output



Blade, 2016/7
Marianne Greated
40 x 30 cm Acrylic and gesso on board

Research Output



Solar Sea, 2018
Marianne Greated
120 x 120 cm, Acrylic and gesso on board

Research Output



Cables Out (yellow), 2018
Marianne Greated
120 x 120 cm, Acrylic and gesso on board

Research Output



Sunset Song, 2018
Marianne Greated
120 x 120cm, Acrylic and gesso on board

Research Output



Panel Stretch, 2018
Marianne Greated
120 x 120cm, Acrylic and gesso on board

Research Output



Solar Drifters, 2019
Marianne Greated
120 x 120cm, Acrylic, ink and gesso on board

Research Output



Pertaining to the Sun, 2019/20
Marianne Greated
120 x 120cm, Acrylic, ink and gesso on board

Research Output



Damn Lines, 2020
Marianne Greated
120 x 120cm, Acrylic and gesso on board

THE GLASGOW SCHOOL OF ART

Related Outputs

Research Output

Related research outputs: Kelvin Drawings

Drawings commissioned and published in book Collins, M.W., Dougal, R.C., Koenig, C., Ruddock, I.S. (eds.), Kelvin, Thermodynamics and the Natural World, WIT Press, 2016.
http://www.witpress.com/books/978-1-84564-149-8
http://radar.gsa.ac.uk/4319/

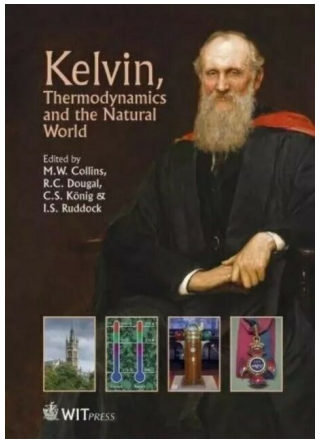
Through my working relationships with the scientific community, namely Brunel University and the University of Edinburgh, I was invited to develop a series of drawings for a book, *Kelvin, Thermodynamics and the Natural World* (2016) in collaboration with editors at Brunel University, Maxwell Foundation and Strathclyde University. Born in Glasgow Lord Kelvin was a significant mathematicians and physicist, developing thermodynamics and inventing the Marine Compass, therefore at the forefront of research into energy and power creation.

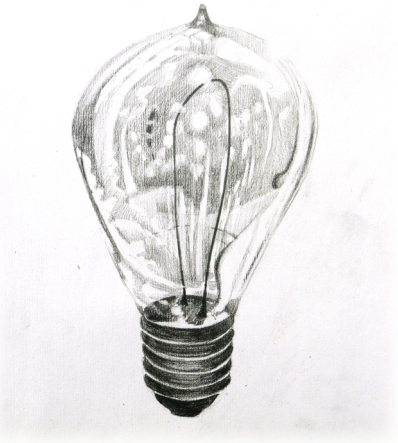
A series of 12 drawings were developed, focussing on key power generation discoveries related to Kelvin. This work extends my research into the visualisation of power generation and relates to the painting and sound work at Sumburgh Lighthouse, incorporating the Kelvin Fog Horn.





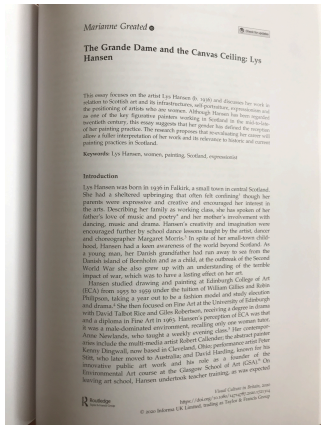
Series of 12 drawings responding to Kelvin's research, 2015
Marianne Greated
Various sizes, pencil and pastel on paper





Research Output





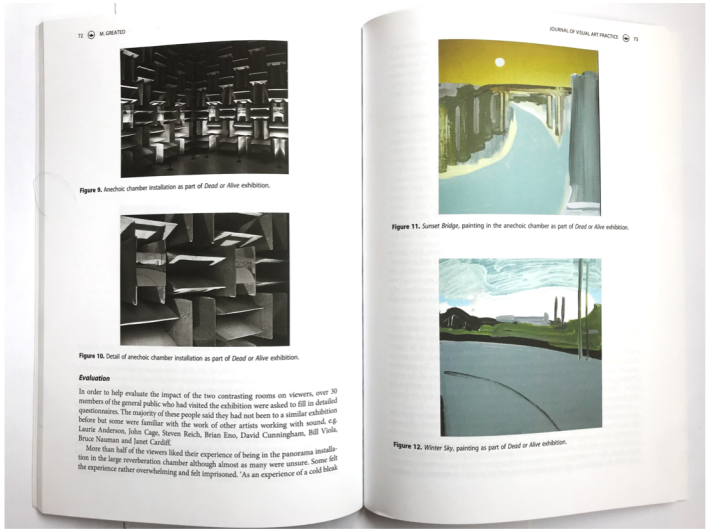
Related research outputs: Women Painting in Scotland

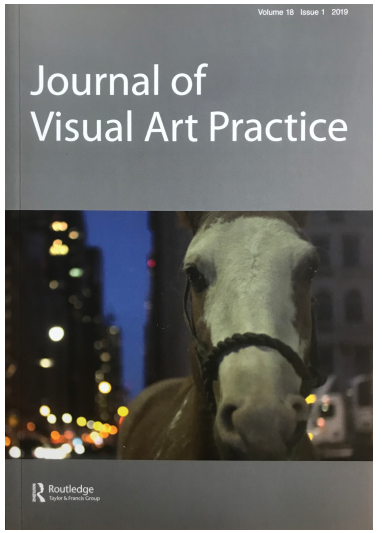
Journal Paper Greated, M., 'The Grande Dame and the Glass Ceiling: Lys Hansen,' *Visual Culture in Britain*, 21:1, 73-97, 2020 (DOI: 10.1080/14714787.2020.1721314).
https://www.tandfonline.com/doi/full/10.1080/14714787.2020.1721314 http://radar.gsa.ac.uk/7194/
This paper focuses on the artist Lys Hansen (b. 1936) and discusses her work in relation to Scottish art and its infrastructures, self-portraiture, expressionism and the positioning of artists who are women. The research proposes that re-evaluating her career will allow a fuller interpretation of her work and its relevance to historic and current painting practices in Scotland.

Co-Editor Special Issue Journal Greated, M. and Thompson, S., 'Introduction: Women Painting: Scottish Art 1940,' *Visual Culture in Britain*, 21:1, 2020.
https://www.tandfonline.com/toc/rvcb20/21/1 http://radar.gsa.ac.uk/7450/
A co-edited special issue of journal *Visual Culture in Britain*, published by Taylor & Francis, focusing on painting by women in Scotland in the mid-twentieth century. The edited collection reflects upon and examines an under-examined body of practice in the history of Scottish art, presenting thematic essays and detailed case studies of specific artists. Contributors include: Joanne Tatham & Tom O'Sullivan (Royal College of Art; Northumbria University); Debi Banerjee (Edinburgh Sculpture Workshop); Deborah Jackson (Edinburgh College of Art), Jenny Brownrigg (GSA); Kyla McDonald (GSA) along with articles by the two editors, Susannah Thompson and Marianne Greated (GSA).

Magazine Mini-Series Thompson, Susannah and Greated, Marianne (2020) *Women Painting: Scottish Art 1940-1980 (MAP magazine* mini-series). *MAP Magazine*, 56. ISSN 2633-8009
https://mapmagazine.co.uk/women-painting-scottish-art-1940-1980 http://radar.gsa.ac.uk/7291/
As part of the Women Painting: Scottish Art 1940-1980 project, we have worked with *MAP* to commission and publish/re-publish a series of texts which relate to the larger project as part of an ongoing MAP mini-series on this theme. The first edition includes a short essay by critic Lauren Dyer-Amazeen on the work of Edinburgh painter Mardi Barrie, two poems written in response to the work of Joan Eardley, by Edwin Morgan and Daisy Lafarge, respectively, and an introduction by Susannah Thompson and Marianne Greated.

Research Output





Related research outputs – Painting in Extreme Environments

Journal Paper Greated, Marianne, (2017) 'Painting in Extreme Environments,' *Journal of Visual Art Practice*, 18 (1). pp. 64-80. ISSN 1470-2029
https://www.tandfonline.com/doi/full/10.1080/14702029.2017.1402502 http://radar.gsa.ac.uk/5641/

This paper investigates how painting and sound work together in the context of painting installations, explored through experiments and public exhibitions of paintings in the extreme sonic environments of anechoic and reverberation chambers. This research is based on practice-based research into the landscape, however, focuses on how the painting installations expand painting practices.

I investigated the implications of introducing sound to the painting arena and how this can transform the parameters of the painting, altering the painting through format and setting and how it is is positioned within post-disciplinary practice. The impact of the sound environment on the viewer, the addition of sound or light, masking of the sound, naturally reverberant or anechoic spaces. I worked with a number of scientific laboratories, mainly the acoustics laboratories at the University of Edinburgh and those at the National Physical Laboratory.

Dissemination

Dissemination





Exhibition

Kraft
Pier Arts Centre, Orkney, 2014
Kraft was a solo exhibition in Pier Arts Centre, Orkney, a leading gallery of international standing. It included paintings focused on sustainable landscape with emphasis on renewable energies. It was in connection with the Orkney International Science Festival which is attended by key international researchers from all disciplines, with significant interest in sustainability. I gave a public talk about the research and exhibition. Orkney is a major hub for renewable energy development and I have links with Scotrenewables and EMEC based there.







Dissemination

Exhibition

Revolutions
Shetland Museum and Archive, Lerwick, 2015

This exhibition explored the changing landscape and representations of place through painting. The paintings were a response to renewable energy sources within the landscape such as water power and micro-hydro. Alongside the exhibition there were models and a video in collaboration with the University of Edinburgh regarding micro-hydro in Scotland. The exhibition was part of a Historic Scotland funded project *Heritage of Hydropower*.











Dissemination

Exhibition

What Lies Beneath

Hugh Miller's Birthplace & Museum, Cromarty, 2015

The research in this exhibition explored the soundscapes above and beneath the sea through binaural recordings taken above the surface and hydrophone recordings of bubbles under water creating underwater soundscapes. Bubble sounds are a dominant feature of the natural sub-surface soundscape, smaller bubbles generating higher pitched sounds and larger ones lower frequency sounds.

This was presented at an acoustics-focused research event as part of Pan-European Explorathon days, where findings were shared with a range of European researchers as well as public from rural Scotland.







Dissemination

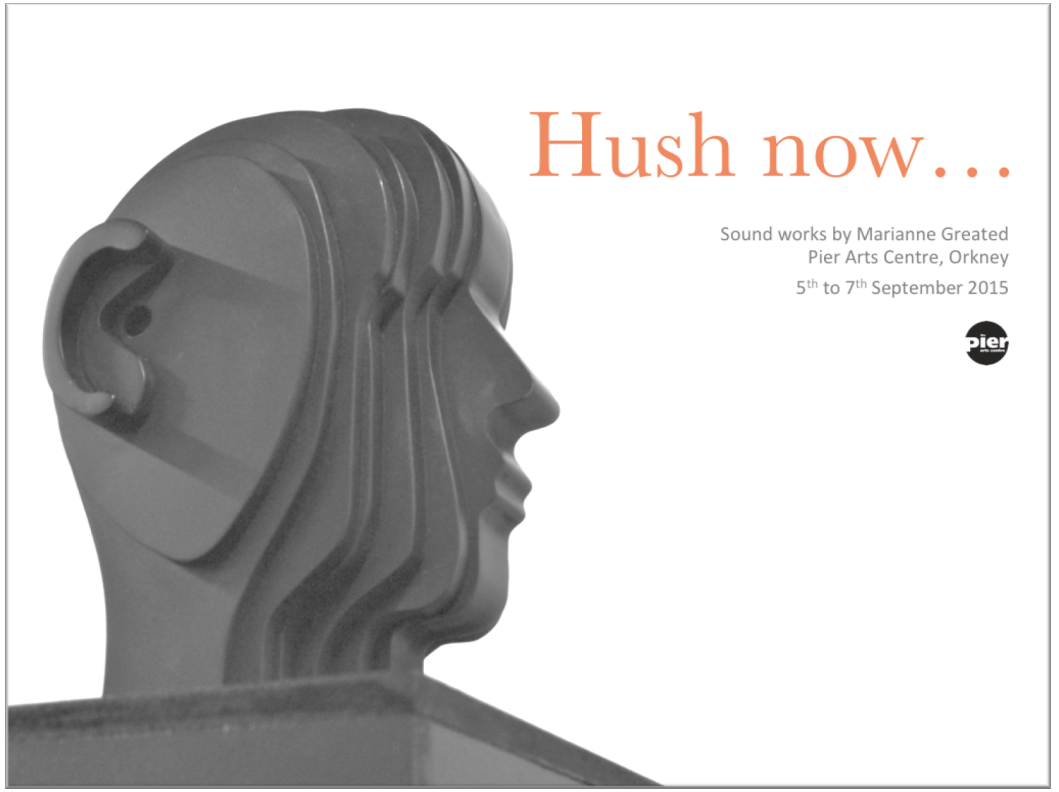
Exhibition

Hush Now
Pier Arts Centre, Orkney, 2015

The exhibition *Hush Now* was shown in the Pier Gallery Stromness in 2015 as part of the Orkney Science Festival. It explored different concepts in sound perception and featured binaural sonic images contrasting natural and man-made soundscapes. The natural soundscape probes the changing formants of speech throughout the life cycle. In contrast was the Sound Seat where one could listen to the sound of a wind turbine as heard by a person close up to the machine. As the recording were made with binaural microphones the sonic images are highly three-dimensional in character.







Dissemination

Exhibition and Artist Talk

In Residence
Sumburgh Lighthouse, 2016

This exhibition was a result of an Artist Residency at Sumburgh Lighthouse and included a series of drawings and paintings created in Shetland exploring human impact on the environment.

There was an accompanying Artist Talk open to the public where I discussed the research.







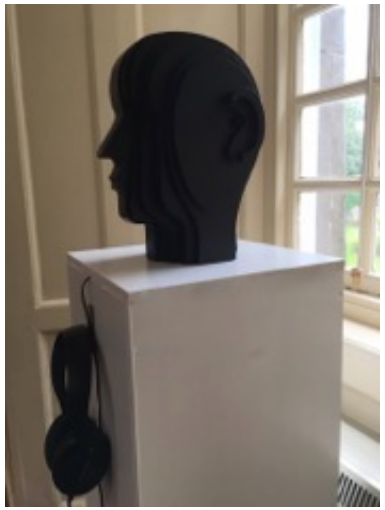




Various Untitled, 2016
Marianne Greated
90 x 70cm, Pastel on paper

Dissemination

Exhibition and Talks



Wind, oh.
Orkney Museum, 2017

This exhibition focussed on the sonic aspects of renewable energy in the Scottish landscape. Two aligned but contrasting soundscapes were presented, one based on wind power and the other on water power. Both utilised binaural recording and playback and were presented on dummy heads with headphones which were placed on plinths, set within the context of the museum.

Accompanying the exhibition were two invited talks, one public talk, Sound, Kraft and Vision, at the Pier Arts Centre, Stromness, and the other at Kirkwall Grammar School. The exhibition and talks were in connection with the Orkney International Science Festival.





Dissemination

Exhibition

Artists who make Music/Musicians who make Art

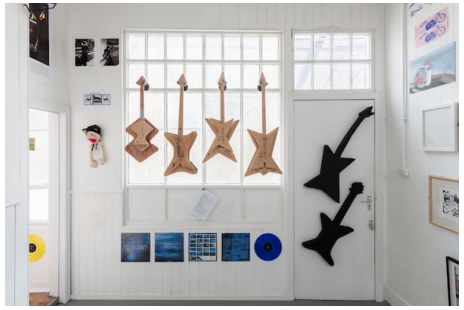
Queens Park Railway Club, Glasgow
February/March 2018

Work in selected group exhibition curated by Ross Sinclair, exploring the relationship and shared methodologies between visual art and music:

The Horn (2017) painting (see p.22)

Bubble Tech sound piece (see p.19, audio file 4).







Please open and listen to the following audio file on the USB stick now:

Greated_7534_Painting_Sustainable _Audio_4.mp3

Dissemination

Exhibition

In the Land
H.N.S.Centre, Gauribidnur India, 2018

I curated an exhibition as culmination of the *Fine Art Renewables with India* research project. The exhibition included six artists including local artists, showing a range of recent work including painting, print and drawing. As a response to our changing landscape my work in this exhibition was three paintings of Scottish landscapes, all relating to the consumption of energy. These were developed from the Lighthouse Residency, UK in 2016.



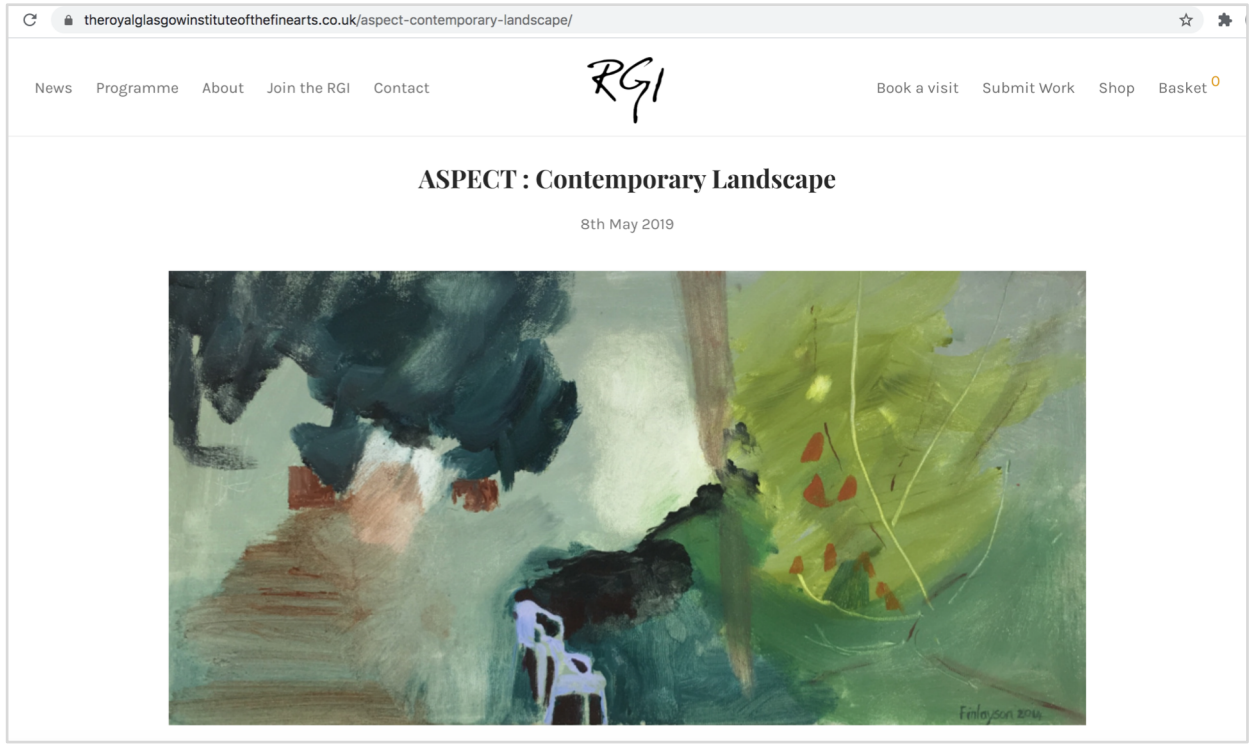


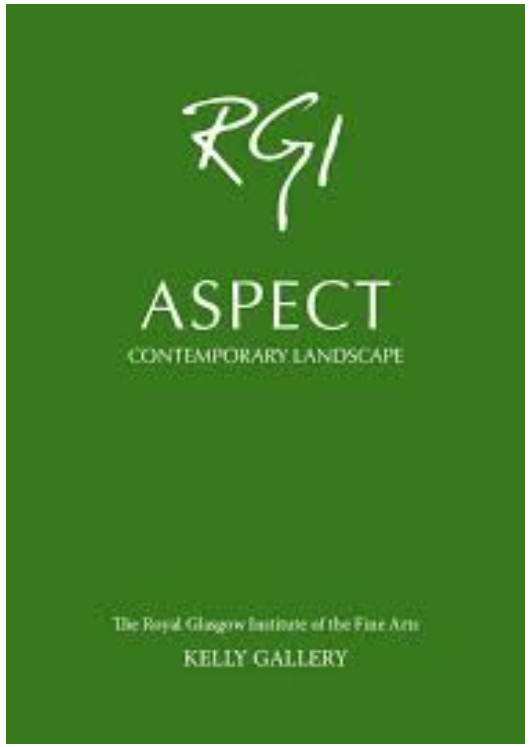


Dissemination

Exhibition

Aspect, Royal Glasgow Institute, Glasgow, 2019
Selected exhibition of contemporary landscape painting. One painting was exhibited from Project 2 *Coastal Power* series.





Dissemination

Exhibition

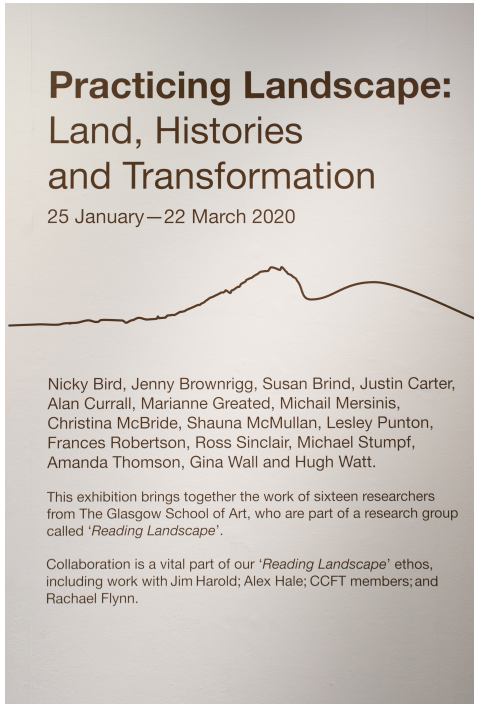
Practicing Landscape: Land, Histories and Transformation
The Lighthouse Glasgow 2020

Gallery 1,

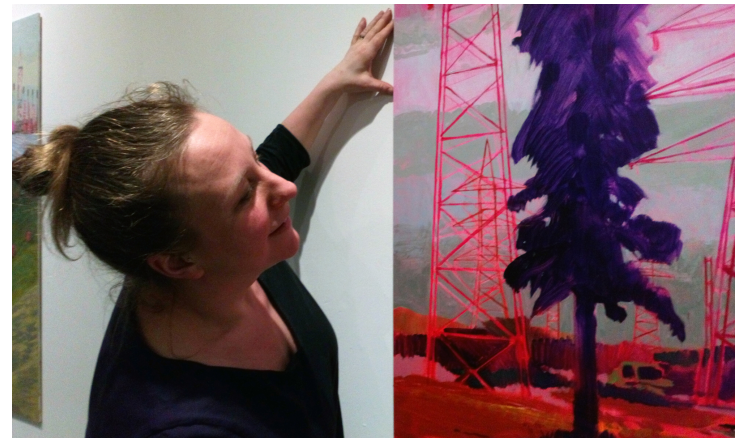
This exhibition brought together the work of sixteen researchers, from the GSA Reading Landscape research group. I exhibited a series of three paintings.

A website was developed and a related symposium *Practicing Landscape: Land, Histories and Transformation* took place November/December 2020.









Dissemination



Exhibition

Sharing a View: Contemporary Art from Glasgow
Luxun Academy of Fine Art, Shenyang, Tsinghua University, Beijing, Guangzhou Academy of Fine Art, Guangzhou and Sichuan Institute of Fine Art, Chongqing China, 2020 - 2021

This exhibition featured GSA Fine Art staff in a major exhibitions, shown in four different locations in China. I exhibited a series of four paintings. A catalogue was published to accompany the exhibition, with colour images of these paintings.







Dissemination

Lectures and Events

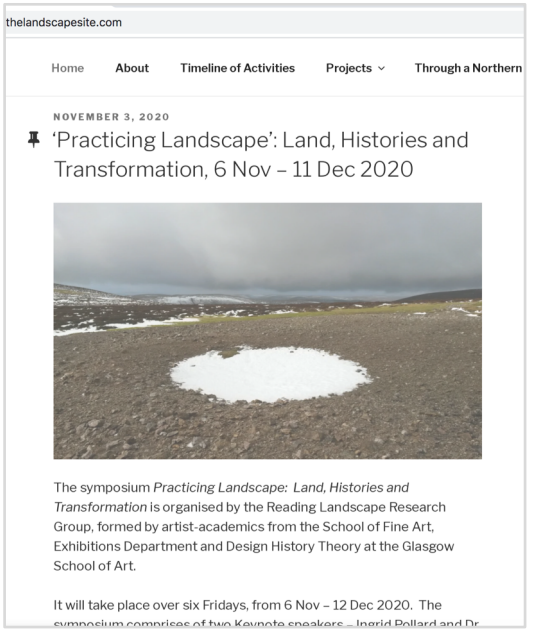
Respondent to Keynote Speaker, Dr Louise Purbrick, Nov 2020, Contentious Landscape Session
Practicing Landscape: Land, Histories and Transformation Symposium, online

Lecture, 'The Nature of Place,' Oct 2019, *Mackintosh School of Architecture Friday Event*, Glasgow

Public Lecture, 'Marianne Greated,' 2017, Pier Arts Centre, Orkney

Artist's Talk, 'In Residence,' 2016, Sumburgh Lighthouse, Shetland

Public Lecture, 'Wheels of Fortune,' 2014, in relation to *Kraft* exhibition, Orkney International Science Festival, Stromness









Dissemination

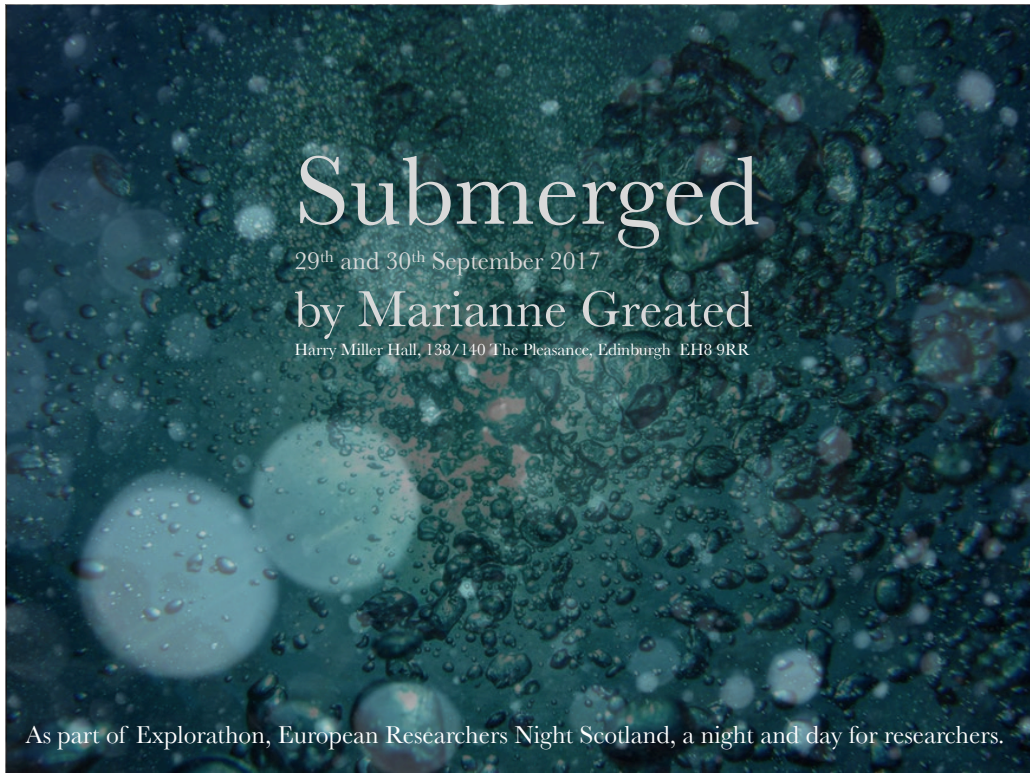
Research Events and Networks

Ocean Soundscapes
Unearthed, 17-20 November 2017, Dynamic Earth, Edinburgh
Research sharing event by Natural Environment Research Council (NERC). Presented with Prof CA Greated. Mini exhibition of artwork was shown including two soundscapes and contextual information.

Submerged
Exploration, European Researchers Night Scotland, 29-30 September 2017, The Pleasance, Edinburgh
Pan European events to share academic research with the public. Mini exhibition of artwork was shown including two soundscapes and contextual information

***Energy Emporium*, Glasgow, May 2017 presence in the Energy T Project**

Within the Spectrum
Colour Collection, Interdisciplinary Poster Event, October 2015, The University of Edinburgh
An interdisciplinary Humanity and the Arts event at The University of Edinburgh



Dissemination







India Renewables Project

Influence

Key researchers, local artists and policy makers visited and supported this project. Meetings took place with a number of influential individuals to discuss the research project, including the Minister of Agriculture, N.H. Shivas Shankar Reddy. I interviewed Project Engineer Raja Shekhar at Asian Fab Tel Ltd Solar Power Plant, Gowribidnur.

Links were developed with Karnataka Chitrakala Parishath, the Government Art College in Bangalore, with President Dr.B.L Shankar and General Secretary. I liaised with various artists during this project including Srinivasa Reddy.

There was considerable press for the project including newspaper articles with photo in 5 newspapers including TV coverage of opening on 9News

Community Outreach

I undertook extensive outreach at the HNS Centre with the local community including seven schools (public and private), teachers and local artists. This took the form of art workshops including drawing in the land and visits to nearby renewable sites. The final exhibition was in the city's Cultural Centre for the Iindependence Day celebrations.

President of the District, H.V. Manjunath and Head of Education conducted the opening ceremony for the Community exhibition





Our Sustainable Environment
April 2018

During this project we will explore the area around the Centre to activate our awareness of our sustainable environment and to record our surroundings. We will apply a variety of art processes including small and large scale drawing, printmaking, working with sound and displaying work. Collaboration will be a key theme during the week and we will work through a number of individual as well as group activities, including a visit to a local solar plant.


ಉದಯವಾಣಿ

ವೈಜ್ಞಾನಿಕ ಚಿಂತನೆಗೆ ವಿಜ್ಞಾನ ಕೇಂದ್ರ ಸ್ಥಾಪನೆ

ಜಿಪಂ ಅಧ್ಯಕ್ಷ ಹೊಸೂರು ಮಂಜುನಾಥ್ ಅಭಿಪ್ರಾಯ