



Geezer Power:  
the Active Energy project

Lorraine Leeson

## Active Energy 2007-20

Loraine Leeson

[www.active-energy-london.org](http://www.active-energy-london.org)

*This twelve-year project began as a response to Queen Mary University research into older people's experience failing to inform development of new technologies. Through this I met The Geezers, a men's group at AgeUK Bow, who wished to work with tidal power. With the help of engineers and further fundraising we have developed and tested a prototype turbine for the Thames, held two exhibitions, worked with young people to produce a wind turbine for an AgeUK roof, contributed to three university research projects, conducted numerous joint presentations, collaborated with a seniors' group in Pittsburgh, and produced floating water wheels to provide aeration for rivers, the latest installed in 2019 in the Queen Elizabeth Olympic Park.*



Active Energy - a socially situated art project

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### Artistic Dimension

The practice in which I have been engaged throughout my career has been one of using the arts to help knowledge developed at community level reach the public domain in a way that it can enter public discourse and decision-making. A situated art practice is one which is able to engage in the politics of specific circumstance, and extend out from there. This echoes a process outlined by Nabeel Hamdi<sup>1</sup> on the way that changes starts

from where one is, and developed from there can rival the sweeping political changes of those holding political power. Chantal Mouffe<sup>2</sup> has furthermore described how the political erupts in very different places and not only through democratic structures, while Gene Ray and Gregory Sholette<sup>3</sup> highlighted a similar need for cultural activism to shift its emphasis to recognise a new social order that is calling for a do-it-yourself form of tactics. **Active Energy** is a do-it-yourself approach to bringing new ideas regarding the environment and ecology into the public domain through creative process. Art cannot change society *per se*, but it is particularly effective at consolidating, celebrating and communicating ideas. Through the prototypes we are creating on this project and the processes of engagement through which they come into being, we hope demonstrate and draw attention to these ideas.

**Active Energy** began with a six-week artist commission to respond to research on the democratisation of technology<sup>4</sup>. Through this I met The Geezers, a self-named group of senior working class men, who gather each week at an AgeUK centre to counter loneliness and isolation. In response to my question as to what technology they would most like to see to support themselves or their community, they unexpectedly chose tidal power. This was due to the fact that older people in their community often cannot afford to heat their homes, and yet they were living close to the Thames, a tidal river that in previous centuries had provided power for London's riverside communities. Twelve years on, and the project is just coming to conclusion. The group enlisted professional engineers, investigated how turbines might function on the Thames Barrier, developed designs in a university prototyping laboratory, tested a small-scale turbine in the Thames opposite the Houses of Parliament and installed two stream wheels to drive aerators for fish in the Lower





Lea - a river in which The Geezers used to fish as boys, but where wildlife now struggles to survive. Along the way we have run renewable energy workshops for a secondary school and college, produced a wind-driven lightwork for an AgeUK meeting centre, convinced their sheltered accommodation provider to consider alternative sources of power for its new buildings, held exhibitions in the UK and US, contributed to university research, presented at conferences, and supported a seniors' group in Pittsburgh to initiate their own project about issues relevant to their lives.

Why is this art, rather than engineering or community development? This is a question that the *Active Energy* team asked itself as the project evolved. Experience I have gained from collaborative working has demonstrated that each party will probably have its own agenda. In the case of *Active Energy* the Geezers purpose has clearly been to improve the lives of East London's older population; the engineer we enlisted has been particularly focused on the challenge of constructing working prototypes of 'socially accessible micropower generators' that have readily accessible parts and open hardware'; the social scientist from the original research project was primarily interested in 'citizen-led innovation and the project's co-design process'. All parties were nevertheless agreed that the project

would not exist if it were not facilitated by an artist. From my standpoint this is due to the fact that, unlike other disciplines, art has no other remit than the construction of meaning, a purpose that guides the totality of the process to achieve its potential. As with any kind of art, the experience of my role has been to bring together the elements that presented themselves, adding others as necessary, and to 'hold' the work with this unwieldy alliance until something began to take shape, not knowing what would emerge. This could be said of making a painting, and is nothing more than the creative process applied to a different set of factors. As with most socially engaged art *Active Energy* is as much about process as product in the trajectory of 'dialogical aesthetics', that has been so well articulated by Grant Kester<sup>5</sup>. *Active Energy* is as much 'art' as the photo-montage work I used to make for the streets, realised though a participatory and collaborative process.

#### Relevance to Environmental Issues

*Active Energy* has addressed two major environmental issues during its unplanned evolution. The first has been the urgent question of renewable energy, and the second the equally pressing issue of the ecology of our rivers.



Both were identified by a group of senior men, initially concerned that they and many of their peers could not heat their homes, or indeed even afford the energy prices that were making sheltered accommodation unaffordable for them. They later turned their attention to the state of the Thames tributary that flows through their community, which had provided them with leisure, work and sustenance since their youth.

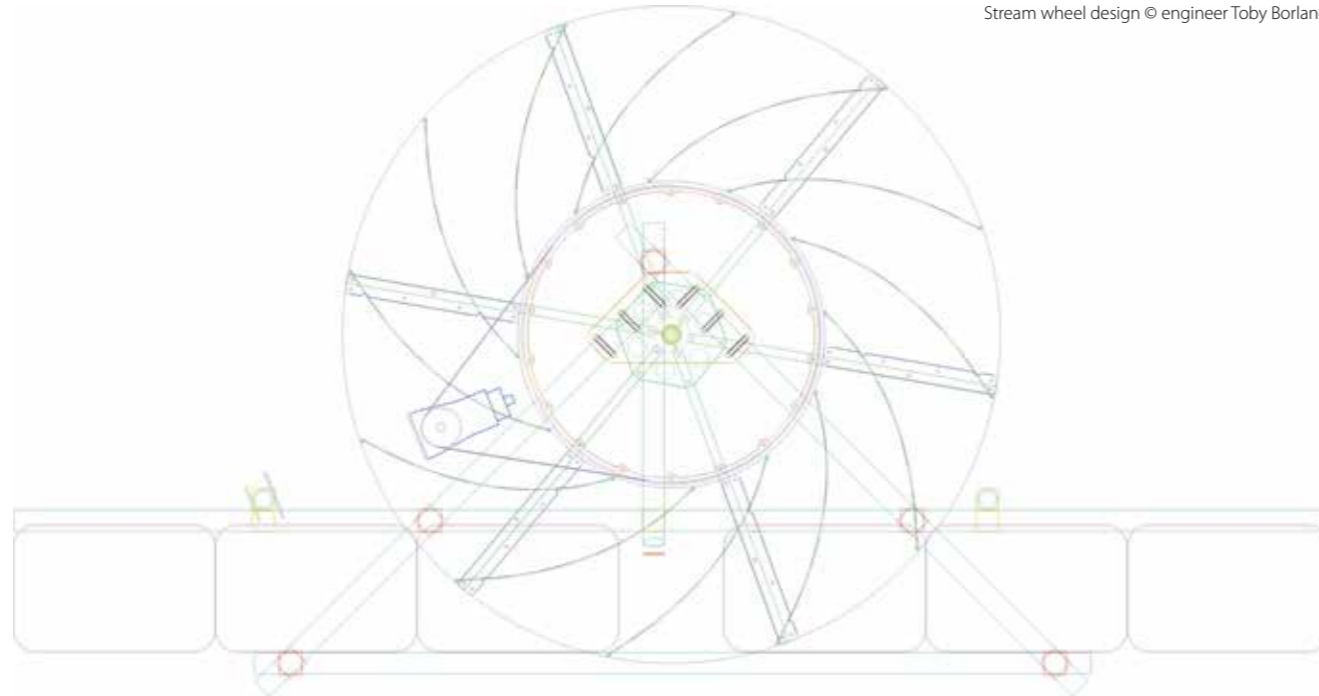
We started out by visiting the nearby Three Mills heritage site to learn how the water wheels of this historic mill had once been used to turn stones for grinding grain. Then, through a contact at University of East London I met its Director of Sustainability, who advised us further. It seemed that funding for tidal technology had been severely reduced in the 1980s, with later development of renewable power sources focused mainly on wind energy. There were no readily available designs for turbines that could respond to the river's ebb and flow and so, under his guidance, the group organised community transport to look at locally sited wind turbines that could most easily be adapted for underwater use. A visit to the Thames Barrier also revealed a suitable ready-made barrage for potential turbine installation. From visual materials



gathered in our research I was able to create a large-scale photomontage of how turbines might function in this location. The group's new knowledge coupled with their understanding of its potential benefits for the lives of local people also made them highly effective advocates of the argument for sustainability. For the exhibition that concluded the initial artist residency, I therefore conducted video interviews with The Geezers to accompany the photo-visualisation, which were projected at a large scale to lend a weight of authority to the views of the speakers. The impact of this installation on gallery visitors was reflected in significant local press coverage. Despite little experience of public speaking, eight members of the group presented the project to great acclaim at *On the Margins of Technology*, the symposium that accompanied the exhibition. This attention was ironically much to do with the very nature of the group's senior status, which caught people's imaginations, turning on its head their initially marginalised position.

After the exhibition I found a small amount of funding to equip The Geezers with a laptop and other equipment that would allow its members to learn the skills to conduct online research and share their findings. Group

Stream wheel design © engineer Toby Borland



members were enormously engaged in the potential of their idea, which tapped into their existing skills and interests. Unprompted, they began to draft new turbine designs and debated how these would work. Engineering expertise presented itself in the form of Toby Borland, a highly creative mechanical engineer who ran a prototyping laboratory at University of East London, and Professor Stephen Dodds, renowned for his development of the control system for the European Space Commission. Both gave freely of their time and knowledge out of interest in the project. SPACE arts organisation, which had managed the original arts commission, re-joined the project for similar reasons, raising funds to support intergenerational work with a local school as well as continuation of the Geezers' work on tidal energy.

Through this collaboration I facilitated engineer Toby Borland to lead the school workshops, assisted by Stephen Dodds, while previously isolated older men from the Geezers Club now found themselves mentoring underachieving boys. At the school's request the work focused on wind power, and so the young people learned about aerodynamics and tested their designs in a makeshift wind tunnel. The best design was then used for a wind-driven lightwork for the roof of the AgeUK centre, which rotated to spell out 'geezerpower'.

Meanwhile design work on a tidal turbine continued with ongoing support from engineer Toby Borland. The Geezers developed designs at University of East London's prototyping laboratory, trying them out in a specialist water tank. A suitable riverside site that could support the

final prototype chosen had to be found in the Thames, and the owner of a barge that functioned as a bar close to the Houses of Parliament offered use of his vessel. Although the testing demonstrated more work to be done, the process of development identified the device as the first small-scale turbine suitable for use on tidal rivers. Its production from low-cost and recycled materials made the design eminently adaptable for use in situations where cost would be an issue such as in developing countries. All the designs were created to be open source and posted on the Active Energy website<sup>6</sup> for others to access.

### Developing turbine designs

Development of the turbine also led to an additional, parallel, two-year project with the owner of the barge where the turbine was tested. This explored the dearth of wildlife habitat along the river's urban reaches, where historic marshlands had been transformed into shored-up concrete banks to enable sufficient depth for river traffic. Lambeth Floating Marsh<sup>7</sup> experimented with the construction of reed beds along the hull of a Thames barge to provide an experimental environment where microorganisms and invertebrates could breed and support the





river's food chain. Images of these organisms were then projected along the embankment to bring the issues to public attention.

Following this, through involvement in the Arts and Humanities Research Council (AHRC) funded *Towards Hydrocitizenship*<sup>8</sup> research project, we found resources to extend our remit to address further issues affecting the tidal reaches of the Lea Valley as it joins the Thames. We did this in partnership with Thames 21, an organisation that works with communities across Greater London to improve its watercourses for people and wildlife.

#### River Lea pollution


Under certain weather conditions sewers overflow into the River Lea and the bacteria from the effluent feeds microorganisms, which then take up the oxygen in the water so that fish suffocate. Through workshops with Toby Borland, the engineer who has stayed with the project since its early days, we together worked out a plan to use the river's flow to drive an aerator that would pump oxygen into the water. An excellent site for this proved to be close to the nearby historic Three Mills, knowledge of which had in part informed our understanding of the power of water at the commencement of the project. Since the tidal range at this location is quite extensive, and at its lowest ebb less than a metre in depth, we arrived at the idea of a floating water wheel, rather than a turbine, that could rise and fall with the tide. Due to the permissions required for placing objects in this part of the river, it was only possible to try out the wheel for a six week period, during which time it functioned well. This wheel has now been duplicated for the Waterworks River in Queen Elizabeth Olympic Park to see how well it would work in a

different location while extending access for educational purposes.

*Active Energy* typifies the organic way in which such projects can develop and gain longevity when they are rooted in community and not subject to overarching commissioning constraints. Despite frequently lacking the benefits of advance funding, work such as this is able to respond to need and opportunity. While its central aim has been to support the senior citizens of East London through inexpensively produced sustainable energy, *Active Energy* has been able to extend its remit to encompass urgent ecological issues and disseminate the knowledge gained to a wider constituency.

*This chapter includes extracts from my previous writing in Art:Process:Change: Inside a Socially Situated Practice, Routledge, 2017 and 'Water Power' in Water, meaning and creativity: understanding human-water relationships, ed. Jones, K. and Roberts, Routledge, 2018.*

#### Notes

1. Hamdi, Nabeel. 2004. *Small Changes*. London and Sterling VA: Earthscan.
2. Mouffe, Chantal. 2005. *On the Political*. Oxford and New York: Routledge :39.
3. Ray, Gene and Gregory Sholette. 2008. "Whither Tactical Media". *Third Text* 22 (5): 519-524. London: Routledge.
4. Democratising Technology (DemTech - [www.demtech.qmul.ac.uk](http://www.demtech.qmul.ac.uk)) was a UK research project that involved a number of community groups to ask whether together a generative, open-ended form of engagement with digital technology could be produced and brought to bear on the design of our society and its tools. It worked with participants' values and aspirations for the future, using arts development methods as a transformational tool.
5. Grant Kester, 2004, *Conversation Pieces: Community and Communication in Modern Art* Berkely, Los Angeles and London: University of California Press.
6.  <http://www.active-energy-london.org>
7. <http://lambethfloatingmarsh.org.uk>
8. <http://www.hydrocitizenship.com>