

The Sun is
RISING
on renewable
energy technologies:

A call for
YOUTH INVOLVEMENT
in community and
educational opportunities!

GLOBAL
SHIFT

BURNING
FOSSIL
FUELS

MIGRATION

SEVERE
CLIMATE
CHANGES

POLLUTION

NEGATIVE
IMPACT

INDUSTRIAL
DEVELOPMENT



In many townships and rural areas, basic sanitation and roofing for classrooms and halls are central issues



We find ourselves on the verge of global shifts such as migration, severe climate change and many other challenges resultant from industrial ‘development’ through the pollution and overall harmful effects to our environment caused by such. In addition to this, ‘development’ displaces and exploits peoples particularly, but not limited to, the poor and working classes in Africa, the Middle East, Asia and Latin America. As world leaders and global industries deliberate over the containment of the burning of fossil fuels for energy, it is at the community level that ‘ordinary’ people bear the brunt of the negative impacts of older technologies. Our public education systems, while overburdened already, carry the possibilities for fostering and supporting creative and practical thinking towards the development and application of renewable energy technologies towards a more sustainable and locally self-reliant future.

On a personal level, I have been involved and passionate about the sciences for as long as I remember; as a result of this – along with encouragement from my parents and teachers - I went on to further my education through the Electrical Engineering department of the University of Cape

- Town. What I discovered there and beyond changed my perspectives on the role of science and technology in our society and in particular the central position of education institutions, such as schools. Young people can and should be agents in agitating for learning and teaching spaces that respond to our contexts and our basic needs as a collective. Moreover, I recognise the importance in students, teachers and community leaders in actively intervening together and not to simply wait for progress to be filtered down from government, private businesses or well-meaning NGOs. While all of these parties may form crucial parts of the solution, it remains the people who experience the problems themselves who must remain at the heart of the process of building a more secure future.

- In the post-1994 era, in many schools, much like my former high school, it has become the norm for the social sciences such as history education to decline in popularity among students to the extent that it is no longer offered up to matric level. In a number of school environments, as encouraged by the national government, a strong focus on STEM (science, engineering, mathematics and engineering) subjects is encouraged as a pathway to a ‘better life’ with more secure job prospects. The danger of this approach is that instead of creating space for young people to become aware and critical of their social context and history and using that information to enhance interest and practical enquiry into the sciences, young people are sold a one dimensional story that offers vague references to technology and entrepreneurship as one size fits all solutions to all our problems. A few questions could then be: how can we introduce the use of renewable technologies that encourage active practices of engaging with social contexts and local histories into our education system; how do we embed the ‘problem’ to be solved in its reality; and, how do we think of ways of expanding curriculum and the school classroom itself as a site of community learning and problem solving?

- Among the many hard truths behind our extensive public and private schooling system lie the physical inequalities in the very infrastructure available in different schools. In many townships and rural areas,



basic sanitation and roofing for classrooms and halls are central issues and therefore when we discuss the positive opportunities for introducing practical and educational aspects of renewable energy technology we must acknowledge that the applications will vary considerably across the vastly unequal terrain of South Africa.

With youth unemployment (15-34) in South Africa exceeding 54% in recent figures for 2016 (<http://www.tradingeconomics.com/south-africa/youth-unemployment-rate>), the urgency for engaging with practical post-school conversations is growing by the day. It is worrying that within the schooling and to some extent the mainstream university programmes, entrepreneurship is still being promoted as the pathway to employment or 'employability' for young South Africans, in spite of the overwhelming imbalance of the distribution of wealth, amongst others, within the population. It is problematic for us as young people to only conceive of our futures through the eyes of business and profits. We must demand that from the earliest levels of our schooling we are exposed to different models such as solidaristic cooperatives and other localised schemes that enable us to resolve our own problems, while encouraging communalism and collective participation in ways that we begin to reclaim control of public land, institutions and resources. More specifically, how can we start and support on-going efforts to teach engineering and science that are not simply pathways to high paying jobs but are meaningful tools to practically build our communities? If we don't, who will?

If we look across the ocean to our brothers and sisters in Madagascar we see programmes not dissimilar to some of our own established by NGOs to electrify

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rural schools through solar technologies (http://www.unesco.org/new/en/brasilia/about-this-office/single-view/news/solar_electrification_program_of_rural_schools_in_madagascar/). The programme, aided by UNESCO, worked with numerous partners to electrify five rural schools in as many different regions of the

- country. This project used partnerships with researchers
- and employed local staff for the maintenance of solar
- equipment, which included practical upskilling among
- local workers. As we begin to broaden the scope of
- what is possible as young people, we should encourage
- ourselves to investigate what other examples of similar
- systems in contexts like our own have been used, and
- what kinds of partners could support such projects
- from idea to reality. Universities and technical colleges
- should not operate as factories for private multinational
- businesses, but instead be able to answer the growingly
- important questions of how to use knowledge to
- resolve social problems.
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- Age should not limit your desire or passion to
- transform your environment. I encourage you to work
- with other students of different age groups, speak to
- your teachers and elders and visit your local technical
- colleges and universities. All of these institutions
- are public and belong to you and your community;
- engage with them on how to work together to build
- towards a sustainable energy conscious future bringing
- renewable energy out of the hands of the elite and into
- the classrooms, community clinics and homes that we
- occupy and share with each other.

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ENERGY AND WATER SECTOR EDUCATION AND TRAINING AUTHORITY

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