

GLOBAL
SHIFT

BURNING
FOSSIL
FUELS

MIGRATION

SEVERE
CLIMATE
CHANGES

POLLUTION

NEGATIVE
IMPACT

INDUSTRIAL
DEVELOPMENT

PRIMARY

education and
renewable energy



The increasingly unavoidable impacts of climate change caused by the widespread pollution created by the legacy of the industrial revolution, have led to droughts and seasonal weather shifts that have disproportionately affected the poor and the working class in general. Superimpose this on present day SA where the state's ability to provide basic services is seriously hampered. Disinvestment in public services, entrenched corruption, financial austerity measures and slow economic growth have all impacted on the provision of decent housing and quality education and healthcare. These challenges arrive alongside revolutionary innovations in renewable energy technologies which reduce the cost and increases the efficiency of their use, from small scale generation to large scale power plants, particularly with the use of solar photovoltaic cells and wind turbines. What remains a challenge for countries like South Africa is how to best respond to these global changes in light of our local constraints by prioritising a focus on those who remain marginalized in society.

Primary education is at the forefront in the struggle to address historical and contemporary drivers of

inequality. If we are to begin developing alternative curricula, urgent support and resources are needed to address poor and profoundly unequal infrastructure, overcrowding in classrooms, overloaded and underpaid educators. With this said, calls for increased focus on nutrition and restructuring of the

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- processes that operate the national feeding schemes, alongside the infrastructure challenges posed by inadequate water and sanitation systems in township and rural schools, present an opportunity to integrate new environmentally conscious technologies. In order to get full benefit from such a process cross-sectoral efforts are going to be essential to ensure that for example solar panels installed in rural primary schools do not become white elephants that only a handful of personnel on the premises understand. Their inclusion into the school environment must accompany learning opportunities for teachers and students alike.

- If we are to look forward and face the difficult challenges in the future it is critical to expose young people to learning spaces where problem solving is in active conversation with engaging with the societal and environmental impacts of the systems we use in our institutions. An example for where this may practically take place lies in the existing models, infrastructure and state support for school and community gardens. Bio-waste from plant matter and vegetable peels from these small-scale gardens can be used in fairly simple biofuel digester systems that can provide small amounts of Biofuels which can be used in cooking stoves for use in school feeding schemes or donated to local community centers. Working with the local agricultural sector, where possible could also expand the production of the biofuels to be used for other purposes. Solar systems have experienced some of the most dramatic innovations of the renewable energy systems available. They provide off-grid energy generation solutions that could work for schools, community centers, clinics,





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particularly in rural areas. Regardless of the technology, its appropriateness/usefulness contextually will require the promotion of critical thinking on energy in general. We cannot revert to evangelising specific technologies as one size fits all solutions to the problems faced by exploitation of fossil fuels. Pedagogical tools such as cartons, posters and carefully conceptualised activities could be used to support young students to examine, explore and question where and why different systems are used in different contexts.

Working together with public facilities such as libraries, educational tours and local generation plants, or even talks with Municipal utility offices, could help introduce ideas about energy, where it comes from and what it's used for in a way that is relatable to the everyday experiences of the students and educators.

At the Early Childhood development level, the children most affected by poor access to basic services and infrastructure are often cared for by educators who are themselves embattled in the struggle for living. The significance of raising this critical issue cannot be understated as there is an essential need to combat ideas that simply imposing technology-driven 'modern' education innovations will resolve all the problems of inequality in our society. The use of renewable energy systems and technology more broadly should be pushed to form a complementary and constructive role in education and not be used to displace or de-emphasize the ongoing struggles in a climate where public spending is under strain and state level corruption

- and policies financial austerity policies continue to reproduce tensions over the share of shrinking pie in our increasingly unequal context. Instead these are perhaps opportune moments to support efforts to upskill and develop teachers, and ECD educators in particular, alongside a call for increasing resources for capacity, development and livelihood. The aim being the creation of conditions for engaging with new developments in areas like renewable energy can be taken on in constructive ways.
- In the primary education space the increasing popularity of renewable energy systems offers two broad benefits, as I see it, that warrant further discussion and reflection. On the one hand, it creates space for rethinking our approaches to infrastructural challenges facing institutions. On the other hand, the realities of inequality in SA compel us to think more carefully about how we introduce ideas around energy, and how these are connected to other basic needs in our society. What also remains clear is that the pedagogical and infrastructural opportunities and challenges presented by these new developments require intensified support for educators and demand a re-engagement with the form and function of the public education system as a whole.

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ENERGY AND WATER SECTOR EDUCATION AND TRAINING AUTHORITY

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