

## Language and Energy - Introduction

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In this introductory talk I'm going to briefly explain why we should be including energy within the remit of the Centre for Endangered Languages, Cultures and Ecosystems.

At first sight it might be regarded as something in the domain of engineering, and not a topic for linguists and ecologists to trouble themselves with. But energy is fundamental to many aspects of human life and livelihoods - so much so that it is often regarded as a major driver of human culture and civilisation. Ecologically, energy wielded by humans is a significant transforming agent of ecosystems, and indeed the planet's climate.

It is remarkable that energy wasn't included in the eight Millennium Development Goals established in the year 2000 to be met by 2015, even though it could be argued that energy underpinned many of the other goals - such as those on poverty, gender equality, child health, environmental sustainability and global partnerships for development.

However, energy did make it into the 2015 Sustainable Development Goals as SDG 7, which is defined as:

"Ensure access to affordable, reliable, sustainable and modern energy for all"

In these introductory remarks I would like to 'unpack' SDG 7 a little bit and briefly bring together the concepts of 'language' and 'energy'.

Firstly, let us think about 'access to affordable, reliable, sustainable and modern energy' and the types of technologies involved.

To an engineer working in a Ministry of Energy, the language of 'modern energy' usually means electricity delivered through a grid transmission system, perhaps generated by turbines in a large hydropower dam. Hydropower is regarded as 'renewable' energy.

If there are natural gas deposits, then the generation is by gas turbines. Gas is regarded as a 'low carbon emissions fossil fuel'. If there are coal deposits, then generation is in an 'efficient' coal fired plant; and if you want to make nuclear weapons, then generation is in an 'advanced' nuclear reactor.

This type of 'modern energy' requires huge upfront capital costs – hundreds of millions of dollars – and a massive coordination of technical expertise to design and construct.

Politically this type of project is popular – it involves a lot of government contracts with private sector construction firms, massive loans from development banks or donors, and the prestige of delivering a large piece of infrastructure that can be given a name.

However, experience shows that there some problems with this type of approach to meeting SDG 7.

Firstly, the concentration of money can give rise to corruption, sometimes on an eye-watering scale.

Secondly, delivery of electricity using long-distance transmission lines really makes this type of modern energy only suitable for energy intensive industries such as mining, smelting and cement manufacture, and for powering cities. Rural areas don't have the density of wealthy end-users to make grid extensions viable.

Thirdly, a system of tariffs needs to be put in place for people to pay for the electricity and so centralised administrative infrastructure and collection mechanisms need to be created.

Fourthly, time and again this type of generation and delivery system has proven to be unreliable with frequent power interruptions in both brown-outs and black-outs. In some countries this has led to the creation of new words, for example in Ghana 'Dumsor' means 'off-on' from two separate words in Asante Twi: dum ('to turn off or quench') and so ('to turn on or to kindle').

So, if you are a corrupt official, a multi-lateral lending bank, an overseas development agency looking for political influence, or a major mining operation, then this type of 'modern energy' is for you. For the rest of us it doesn't really suit our needs. I don't need a nuclear power station to charge my mobile phone, power my laptop or light my desk lamp.

Recent advances in low-cost technologies, such as solar power, small-scale gasifier engines, micro-hydro, batteries, mini-grids and biogas, mean that alternatives to 'big power solutions' are possible for households and communities. We will hear about these alternatives in today's talk by Sandra and in the film clip from Marie to demonstrate that it is possible to work with communities to:

"Ensure access to affordable, reliable, sustainable and modern energy for all"

From a language perspective this is a very interesting and novel area of research.

The language of traditional large scale energy infrastructure is technical and generally incomprehensible to someone who has not spent years learning it. It requires in-depth understanding of complex electrical and construction engineering. Similarly, financing this type of energy infrastructure, from huge bank loans to tariff structures, needs people fluent in the language of economics.

For large-scale infrastructure, local communities don't need to know this language. It only needs to be spoken by the high-priests of energy architecture. A household only needs to know words like 'light-switch', 'plug' and 'fuse'.

But when the technology of energy generation, transmission and use moves into communities, a whole new language has to be created, assimilated and adapted.

This is something that is now happening globally, and to the best of my knowledge, no one is researching it.

We will start today's seminar with a short clip from the film 'La Energia de los Pueblos by Marie Combe. We will then invite Sandra Rátiva Gaona to give a talk on 'Energy autonomy for the defense of the territory. An initiative from cooperativism in Sierra norte de Puebla'