

Gender in science, innovation, technology and engineering

FACT SHEET: ENERGY

Access to energy has repeatedly been shown to be a critical factor in enabling economic growth and development and relieving poverty. Similarly, the links between poverty and gender are well defined. But attempts to close the circle between energy and gender have received relatively little analytical focus, and even less attention in practice. A recent study found that countries with greater energy access have greater gender equality, regardless of their overall poverty levels¹. There is therefore a need for greater exploration of the gender dimensions of energy in both research and policymaking.

ENERGY FOR EDUCATION & ECONOMIC ACTIVITY

In the developed world, the introduction of electric appliances such as washing machines and dishwashers freed up women's time and allowed them to enter the workforce in greater numbers. The same is true in the developing world – electricity reduces the amount of time women spend performing household duties and enables them to participate in microenterprises and other economic activities. In rural areas of Brazil, access to energy and ownership of a washing machine were seen for both women and men to correlate to 10% and 33% higher incomes, respectively; in South Africa, electrification contributed to a 9.5% increase in women's employment; and in rural Nicaragua, women were 23% more likely to work outside the home when they had electricity¹. Improved energy also reduces the workload of girls and allows them to attend school in greater numbers, in part because reliable lighting during evening hours allows them to spend more time studying.

In one Brazilian study, girls in rural areas with electricity were

59%

more likely to graduate from primary school¹.



ENERGY AND HEALTH

Different energy sources have differential health impacts on women, men, girls and boys. Many recent energy initiatives have focused on large-scale technologies and areas, while overlooking rural areas where women make up the majority of the population. Household energy in these rural areas is generated largely through the burning of biomass. Biomass is the primary fuel source for 40% of the world's population, although most methods of burning biomass – in traditional three-stone fires, mud or other stoves lacking chimneys or hoods – are known to cause major health problems as well as to be environmentally damaging. According to the World Health Organization, more than 1.45 million premature deaths are caused every year as a result of air pollution caused by burning biomass

indoors³, more than are caused by malaria or tuberculosis; and girls bear the brunt of these respiratory impacts as they spent greater time indoors. Reliable lighting can also improve girls' and women's safety when traveling at night, which in turn allows them to participate in a greater range of educational and economic activities.

"We believe that women should be transformed from passive victims into active forces of good to bring changes in their lives and the communities in which they live." – Grameen Shakti founder Dipal Barua

WOMEN IN ENERGY DEVELOPMENT

Engaging women as active agents of improved energy initiatives can make these efforts more successful as well as contribute to the economic empowerment of women; Grameen technology centers in Bangladesh and the Barefoot College in India, for example, have trained women as technicians and engineers, teaching them to build, install

and maintain solar energy sources. In countries all over the world, involving women in the design of more efficient and safer biomass cookstoves has also resulted in greatly improved and more sustainable methods of cooking. Women's roles should be fully considered in every aspect of energy development, from the planning stages of energy access programmes to implementation, to their needs and concerns as end-users of energy. Applying a gender lens to energy policy will help to ensure not only that the benefits of improved energy accrue to both men and women equally, but that proposed energy strategies are efficacious and sustainable.

Sources: 1. O'Dell, Kathleen, Sophia Peters and Kate Wharton. "Women, Energy and Economic Empowerment," *The Atlantic* 2015. 2. IEA, "World Energy Outlook 2014." 3. IEA, "World Energy Outlook 2010." Photo Credit: Helen Graham on Flickr, CC-BY-NC-SA http://bit.ly/1zh2b1z.