### Energy trilemma project

### This project aims to measure how much the media discusses the ‘energy trilemma’: three crucial components of our global energy system. These are the topics of accessibility, security, and sustainability.

### We’ve collected a large number of news articles about the COP conferences. We’re using automatic computational linguistics methods to summarise how much discussion is occurring for each of the three areas. However, we’re not sure whether the computational methods align well with human judgements. That’s where you come in.

### You’ll read a short news article, then give your opinion about how much each part of the trilemma was discussed. We’ll then use this data to check that the computational method is behaving sensibly.

### The first task is for you to understand what the three aspects of the trilemma are, so that you can recognise them. There’s a short introduction to the topics on the next page.

### Next, pick one of the articles to read. When you’ve read it, open up the ratings excel file. You can provide your judgement about how much the article discussed each component. Type in a score from 0 (did not discuss) to 10 (discussed a lot) for each article. Some articles might not discuss one of the components at all, while in others there may be a balance. Looking at many articles together, we’re guessing that there will be a general balance, but we could be wrong. Don’t worry about it too much – we want to know your overall impression of each article.

### Remember to log your hours, and ask Sean if anything is not clear ([RobersS55@cardiff.ac.uk](mailto:RobersS55@cardiff.ac.uk)).

### The energy trilemma

### We use energy to power our phones and TVs, to heat our houses, cook our food, and transport us by car, train and plane. The energy trilemma is about addressing three often conflicting challenges related to providing energy: ensuring energy security, providing energy accessibility, and achieving environmental sustainability.

### Sustainability

Environmental Sustainability of energy systems represents the transition of a country’s energy system towards mitigating and avoiding potential environmental harm and climate change impacts. The dimension focuses on productivity and efficiency of generation, transmission and distribution, decarbonisation, and air quality.

Globally, we draw most of our energy from oil, coal, and natural gas. These fossil fuels account for 80% of the world’s energy mix. These sources of energy have negative effects on our planet by releasing greenhouse gases into the atmosphere and are a huge contributor to the climate crisis. Sustainable energy focuses on meeting the energy demands of today without negatively impacting future generations. Hydro, solar, and wind power are all considered more sustainable sources of energy as they come from renewable sources. Other low-carbon options, such as nuclear power, may be a big part of our energy mix in the future but there are still ongoing debates about its sustainability when it comes to nuclear waste.

**Security**

Security refers to whether we are able to access enough energy when and where we need it. This means being able to have uninterrupted availability of energy. In the short term this could mean an energy system that is able to respond to sudden changes in supply and demand. For example, energy demand in the UK spikes around 7am and again, between 4 and 7pm which is usually when people get up in the morning and when they return home from school or work!

Another aspect of energy security is security in the long term. With fossil fuels like oil, gas and coal, there is a limited supply and eventually these sources of energy will run out. Using renewable energy sources like wind, solar and hydro power can improve energy security in the long term.

### Accessibility

### Accessibility relates to a country’s ability to provide universal access to reliable, affordable, and abundant energy for domestic and commercial use. The dimension captures basic access to electricity and clean cooking fuels and technologies, access to prosperity-enabling levels of energy consumption, and affordability of electricity, gas, and fuel.

We need energy to live our every day lives: to heat our homes, run our cars and public transport and power the lights in buildings. It is important that the energy that we use is affordable and accessible to everyone. According to the International Energy Agency’s 2020 report, solar power is the cheapest source of electricity in history, with wind power not too far behind. This is partly down to more efficient solar plants and wind turbines to allow for better energy generation.

We can also improve energy affordability by making more energy efficient products. Gadgets that take less energy to power can help drive down energy costs by lessening demand.