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Delegate: Defne Kent

Position Paper

Globally, the frequency and severity of extreme temperature events has increased since the middle of the 20th century. Patterns of change in extreme rainfall events may change with region. Because of the big size of the country, Australia has serveral different climate zones. In the northern part of Australia, summers are hot and humid, winters are quite hot and dry, while in the southern parts, summers are warm and cool, and winters are cold and rainy. The seasons are the opposite of those in the Northern Hemisphere-when it's summer in the north, it's winter south of the equator. December and January are the warmest months in Australia, and July and August are the coldest. As of 2017, Australia is a relatively small producer of biofuels. It constitutes 0.2% of world bioethanol production and 0.1% of world biodiesel production. In 2016-17, biofuels contributed only 0.5% of the total liquid and gaseous transport fuel energy mix in Australia. Australia's primary energy consumption is 40% coal, 34% oil and 22% gas. Coal accounts for about 75 percent of Australia's electricity production, gas for 16 percent, hydro for 5 percent and wind for 2 percent.

This sixth State of the Climate report draws on the latest climate research, encompassing observations, analyses and projections to describe year-to-year changes in Australia’s climate. The report is a synthesis of the science informing our understanding of climate in Australia and includes new information about Australia’s climate of the past, present and future. The science informs a range of economic, environmental and social decision-making by governments, industries and communities. The Victorian Government partnered with CSIRO’s Climate Science Centre to do new high resolution climate modelling and incorporate these into an updated set of climate projections for Victoria. The project developed a comprehensive set of 5 km datasets for use in impact/risk assessment. The datasets are accompanied by a set of products designed to build the capacity of state and local government, business and the community to understand and apply climate change data and information. Now we have international goals to keep global warming below 2°C and aim to keep it below 1.5°C since the pre-industrial era, there is interest in what these 'global warming levels' mean for Australia. This new website section gives projections of changes in temperature and rainfall in Australia for global warming levels at 1.5, 2, 3 and 4 °C, and provides the background and wider context to understand global warming levels, where the world is towards these levels, what we have already experienced in Australia. Weather will have an increasing impact on our energy system as the climate changes. It is important that the National Electricity Market is resilient to these risks. In response, the Australian Government provided $6.1 million over three years for the Electricity Sector Climate Information (ESCI) project. The project has delivered improved climate and weather information to support electricity sector resilience to climate change and extreme weather events.

As a result of the ESCI project, climate risk - including risk related to future weather - can now be integrated more confidently into sector planning and risk modelling using a standard process. The ESCI project is a collaboration between CSIRO, the Bureau of Meteorology and the Australian Energy Market Operator. The Department of Industry, Science, Energy and Resources provided funding for the project. We hope to have discussions on these issues with other delegates during the conference.