Incorporating Climate Change into EIA of Water Projects

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Abstract: Water supply infrastructure and flood defenses have long lead times for development, as well as life spans that extend for many decades. This means that decisions about development or infrastructure changes need to account for the impact of climate change over the lifespan of the structure. In the UK, climate change impacts have been included in flood and water resources planning for more than a decade. This paper explores the methods used for climate change impact assessment and how these are used in making decisions. Water supply plans are developed by private water companies following guidance from regulators, with the objective of achieving an acceptable balance between supply and demand through the planning horizon of 25 years. Climate change is taken into account in both forecasts of supply and demand for water. Flood planning makes an allowance for a nationally consistent increase in peak floods; this allowance is designed to be precautionary over the life of the defense. New developments in climate change modeling give finer spatial resolution and provide probabilistic estimates of change: these provide further opportunities to consider the uncertainties associated with climate change, encouraging flexible solutions that can be phased or accelerated as further information becomes available.

Summary: Decisions about water supply development and flood infrastructure must account for the impact of long-term climate change. In the UK, climate change impacts have been included in flood and water resources planning for more than a decade. This paper explores the methods used for climate change impact assessment and decision-making.