

# Act now to prevent global flooding

**C**limate change is no longer a distant problem. It is happening. And we only have a few decades to make the dramatic changes needed to avoid impacts that could be devastating (Carrington, 2016).

This is the declaration of some of the world's leading climate scientists.

## A Flooded World

In March, nineteen climate scientists released a new study that indicates that climate change is happening much more quickly than previously predicted. This study, which combined modern observations, modelling, and the examination of geological formations created thousands of years ago, is predicting that global sea levels could rise by several meters within 50 to 150 years if greenhouse gas



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emissions continue to grow (Hansen et al., 2016). The lead author, former NASA researcher James Hansen, maintains that this multi-meter increase in sea levels could occur even if we manage to limit global temperature increases to the 2 degree C target set by the United Nations Framework on Climate Change

(UNFCCC) (Milman, 2016). He and his colleagues are pushing for a more aggressive target.

Another study, released in February, predicted that 20 per cent of the world's population will have to migrate away from coasts swamped by rising oceans unless we can halt climate change in the very near future (Clark et al., 2016). Under this scenario, cities such as New York, London, Rio de Janeiro, Cairo, Calcutta, Jakarta and Shanghai would all be submerged (Carrington, 2016). These changes, which would be devastating at a social and economic level, are expected to last for thousands of years (Hansen et al., 2016; Clark et al., 2016).

These researchers are making a clarion call; they are calling for immediate action to save the world for future generations. They say

that this future may still be avoided if fossil fuel emissions are rapidly phased out and agricultural and forestry practices are improved (Hansen et al., 2016). But time is running out.

## Action Needed in Canada

To keep the global temperature increase below 1.5 degrees C (relative to pre-industrial times), the International Panel on Climate Change has indicated that greenhouse gas emissions must be cut by 70 to 95 per cent by 2050 relative to 2010 (IPCC, 2015).

In 2010, Canada emitted 707 megatonnes (1 million tonnes or MT) of greenhouse gases; 23 per cent from the oil and gas industry, 24 per cent from the transportation sector, 14 per cent from the electricity sector, 12 per cent from buildings, 11 per cent from energy intensive industries, 10 per cent from the agricultural sector, and seven per cent from waste and other sectors (Canada, 2016). In order to meet our obligations to slow climate change, we will need to transform our society. We will need to cut our reliance on fossil fuels. We will have to revolutionize our transportation sector and redesign our communities to support walking, cycling, and public transit. We will need to invest in renewable energies, increase the energy efficiency of our buildings and industries, and change the practices in our agricultural sector.

While the electricity sector is responsible for only 14 per cent of all Canada's emissions, it is seen as the sector from which reductions can be made most quickly. Since 2005, Ontario has reduced its emissions by close to 20 per cent. Almost all of these reductions can be attributed to the closing of its six coal-fired power plants (Canada, 2016). In 2015, Alberta announced its decision to accelerate the closure of its coal-fired power plants. By doing so, it can cut its emissions by 17 per cent by 2030 and reduce Canada's total emissions by six per cent, while producing air quality-related health benefits worth \$300 million per year for its residents (Pembina et al., 2013).