

Waterpower and Mitigation of Climate Change

The presentation starts with brief statements about climate change and mitigation, and by emphasizing the role and benefits of hydroelectric development as a tool in the fight against climate change.

The presentation continues by introducing a high level conceptual model to help explain the energy policy changes being currently undertaken in Ontario, in Canada and the World in favor of developing sustainable renewable energy sources including hydroelectric generation. The model accounts for both local and global environmental and social impacts. It allows explaining past and current decisions related to hydroelectric development.

In the past, large-scale regional and global impacts such as acid rain, smog and climate change were neglected resulting in the excessive development of generating facilities based on the use of fossil fuels that have significant negative impacts on climate change. Development of hydroelectric sites, especially of medium and large generating stations with reservoirs, was abandoned to a large extent world-wide. Negative impacts on people, flora and fauna in areas to be flooded were used to justify such decisions.

Now, many governments came to the conclusion that the positive global effects of hydroelectric development, in terms of replacing carbon based power production, outweighs the downside impacts of local environmental and social concerns. International banks have also subscribed to this change, and are now financing many medium and large, capital intensive, hydroelectric developments. This change has resulted in the current world-wide renaissance of hydroelectric development. The presentation summarizes major waterpower developments in Canada and the World. It also provides examples of new Canadian and Ontario policies, legislations and initiatives that facilitate waterpower development.

The presentation concludes with recommendations related to hydroelectric development in Canada.