

World's biggest borer to dig Niagara tunnel

A Canadian hydroelectric project to divert water along a huge tunnel from the Niagara Falls will be completed by the world's most powerful hard-rock boring machine. The 10.4km tunnel, which will be dug up to 140 metres under the city of Niagara Falls, is expected to take three years to complete

TUNNEL BORING MACHINE

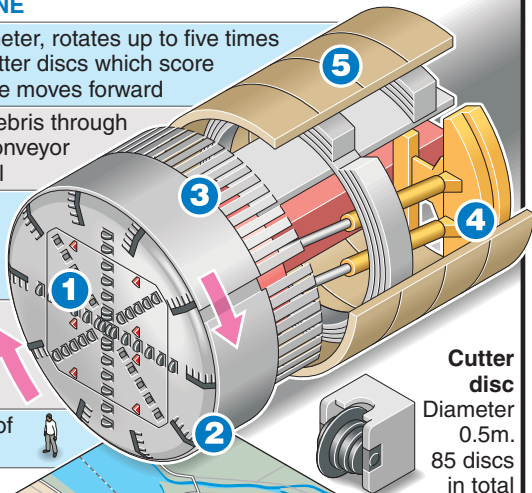
1 Cutterhead: 14.4m diameter, rotates up to five times per minute. Studded with cutter discs which score and fracture rock as machine moves forward

2 Muck buckets: Scoop debris through holes in cutterhead, on to conveyor belt and back through tunnel

3 Shield: Houses drive motors for cutterhead and protects workers installing tunnel support system

4 Grippers: Push against tunnel sides while massive hydraulic rams thrust rotating cutterhead forward

5 Tunnel lining: Waterproof concrete layer 60cm thick



PROJECT OVERVIEW



Sir Adam Beck generating station

New tunnel will increase energy output by 14% – enough for about 160,000 homes

