**Hydroelectric Energy / Hydropower**

1. Introduction: History and definition
2. History:
3. Capturing moving H2O for 1000 yrs
4. US: 100yrs use of dams bt 7 % for Elect. (largest source)
5. Definition
6. Harness power from flowing H2O
7. How?
8. Moving H2O from Higher to Lower elevation
9. Turbines & generators
10. Energy:
11. Clean
12. Renewable
13. Affordable
14. Why RE?
15. H2O cycle: constantly recharging: RE
16. Evaporation: H2O in clouds
17. Precipitation – back to earth
18. Technology: types
19. Impoundment
20. Stores water in reservoir
21. Release flow to spin turbine: + turn generator: Elect.
22. Diversion
23. Use natural flow
24. Channel a portion of river w/ canal or pipe
25. No large dam
26. Pump storage
27. H2O pumped up into river for later use
28. Charge battery
29. New Technology (=upgrading in US Department)
30. Increasing efficiency of turbines + generators
31. Optimize E w/neighbouring facilities
32. Add generator- retrofit dams built without P
33. Today dams in US:
34. + 80,000 dams
35. -3% produce P
36. + environmentally friendly:
37. Reduce adverse impact on fish and natural habitat:
38. Fish ladders
39. Fish friendly turbines
40. Conclusion
41. HP: Source:
42. Essential
43. Reliable
44. Renewable
45. HP: Energy:

Clean

1. HP: Rich history