

Rise and Decline of the Italian Nuclear Program

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The «White Coal»

- The scarcity of energy resources imposed limitations on Italian growth
 - Hydroelectric development was a major factor of the Italian industrial take-off
 - Hydroelectricity prevailed until 1966
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From Water to Oil

- ❑ No ERP («Marshall Plan») funding for hydroelectric projects
 - ❑ The shift to thermoelectric
 - ❑ Coal goes, oil comes
 - ❑ Depending on imported oil
 - ❑ Looking for an alternative: the nuclear perspective
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A Promising Start

- ❑ Creation of a nuclear committee (CNRN, later CNEN)
 - ❑ Liaison with particle physicists and creation of a national institution for nuclear physics (INFN)
 - ❑ Particle Accelerator and Storage Rings (Frascati)
 - ❑ Nuclear Research Centres (Ispra, Casaccia)
 - ❑ Three nuclear power plants: Latina, Garigliano, Trino
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Nuclear Whereabouts

- Further Nuclear Research Centres on Fuel, Waste Disposal, Fast Breeding Reactors (Saluggia, Trisaia, Brasimone)
 - Nuclear Engineers' Education and Small Reactors Design for Developing Countries
 - Research in «related» fields:
 - Solid State Physics, Electronics
 - Automation, Servomechanisms and Control Systems
 - Molecular Biology, Biophysics
 - Biodiversity, Plant Genetics
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Decline of the Program

- ❑ The changing attitude of USA
 - ❑ Political conflict
 - ❑ Academic fighting
 - ❑ The impact of electric nationalization on the nuclear program:
 - Who's going to do what?
 - Where has all the money gone?
 - ❑ Alleged mismanagement of State funding
 - ❑ Three more power plants: Caorso (The Last One), CIRENE (The Just Finished), Montalto di Castro (The Unbuilt)
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«Green» Movements

- ❑ Local opposition from hydroelectric to nuclear
 - ❑ From local to nationwide opposition (Vajont, Three Mile Island)
 - ❑ Killing a dead Program: Chernobyl and the 1987 referendum
 - ❑ Beyond referendum request: phasing out fast
 - ❑ A new mission for ENEA: nuclear fusion, renewable sources, soft technologies, environmental tasks
 - ❑ SOGIN: Power Plants Decommissioning and Remediation of Nuclear Sites
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«*Play it Again, Sam*»

- ❑ EU regulations: a changing energy market
 - ❑ 2008: a new start for nuclear power in Italy
 - ❑ Accident, again: Fukushima
 - ❑ 2011: a second stop
 - ❑ Italians go nuclear ... abroad
 - ❑ A changing international perspective
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