

The History of Nuclear Power

The basic process of Nuclear Power is an exothermic chemical decomposition reaction that heats water to steam. This steam pushes the steam turbine that is connected to a generator that converts the mechanical energy of the turbine to electrical energy. For this reason, the history of the steam engine and the steam turbine will also be included on this timeline. Also see the comparison page for [Combustion](#), and the general [Comparisons](#) page for more information on the underlying processes of many alternative energy forms.

	<p>At 100 BC an Alexandrian (Greek speaking) philosopher by the name of Ctesibius invented the piston - pump.</p>
	<p>Hero was able to harness expanding warm air to open doors in a temple, and extinguish fire. He wrote about this in his book Spiritalia.</p>
	<p>During 1606, Italian scientist Giovanni Batista della Porta of Naples heated water in a flask until the water turned into steam. This steam filled the empty space of a closed tank of water with the only opening as a pipe from the depth of the water. The water was forced out because of the pressure of the expanding warm air.</p>
	<p>In the 1600's several scientists continued work on steam powered pumps. Robert Boyle proposed the steam engine in 1678.</p>
	<p>During the 1680's a gunpowder explosion was used to heat water. Jean de Hautefeuille tried to suck up water, and Dutch astronomer Christiaan Huygens tried a piston in a cylinder. These experiments were the beginings of a nuclear power-like process.</p>
	<p>In 1712, Thomas Newcom and John Calley built their first successful steam engine.</p>
	<p>Nicholas Cugnot built the first mechanically propelled road vehicle in 1769. Cugnot's vehicle was powered through a two - cylinder piston connected steam engine. It used high pressure steam as the power source.</p>
	<p>James Watt sold commercial improved steam engines during 1775. Some of his steam engines pumped water.</p>
	<p>Watt patented late in 1781 a connection from the piston to a rotating gear. This setup is still used in the internal combustion engine.</p>
	<p>Scottish engineer and inventor William Murdock created a vehicle that was powered by a minature steam engine.</p>
	<p>In 1813, the precursor to the steam engine train was built by William Hedly.</p>
	<p>Between 1800 and 1825 steam powered travel increased. Boats, vehicles, and trains used steam engines. The method of steam production was by burning some substance.</p>
	<p>Superheated steam was produced in an experiment by Jacob Perkins in 1823. His experiment was called a flash boiler. Steam of this type is later used in nuclear power plants to turn the steam turbine.</p>

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	<p>around 1850 the steam locomotive became popular.</p> <p>Ironically the steam engine came under competition with the electric motor. Nearly one and a half centuries later, the steam powered devices, such as the traditional car are still by far more popular than electric vehicles.</p> <p>In 1860, the first practical internal combustion engine was produced. Etienne Lenoir made a gas engine that when sparked moved the piston and turned the crankshaft.</p> <p>Later on in 1884, Gottlieb Daimler made a high-speed petrol engine. In 1886 he also produced a four wheel high-speed petrol engine.</p> <p>Karl Benz made a motorized tricycle independent of Daimler in 1884.</p> <p>In 1892, Rudolf Diesel of Germany patented the diesel engine. It operated through fuel ignition that caused highly compressed air to expand against a piston. The diesel engine had a 50% thermal efficiency (it lost only half of its heat), and was more efficient than steam engines.</p> <p>Daimler and Benz were the fathers of the famous Daimler-Benz car company, that also eventually expanded as Mercedes-Benz.</p> <p>From 1880 - 1890's Carl Gustaf Patrik de Laval developed an impulse type of steam turbine.</p> <p>Between 1900 to the present, turbine technology improved. The rest of the timeline shows specifically how nuclear power began and changed. Although uncontained nuclear waste is a biohazard; if the nuclear process had been discovered before 1890, in modern times, cars may have been powered by nuclear power because it is the same simple process as the engines by Diesel, Daimler, and Benz!</p> <p>December 2, 1942, Enrico Fermi achieves a controlled nuclear chain reaction with a demonstration reactor, called the Chicago Pile 1.</p> <p>August 6, 1945, the United States drops an atomic bomb on Hiroshima, then on August 9th on Nagasaki.</p> <p>October 6, 1947 US Atomic Energy Commission looks into possibly using atomic energy for peaceful uses.</p> <p>December 20, 1951, experimental reactor produces first energy from a nuclear reaction, enough to light four lightbulbs.</p> <p>January, 1955, the Atomic Energy Commission begins program of funding for</p>
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