

# Engines & Electricity

The Carbon Sense Newsletter, May 2018.

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## Earth Day should Celebrate “Engines and Electricity”.

Most chapters of human history are defined by the tools and machines that were used.

In the Stone Age, the first tools were “green tools” – digging sticks, spears, boomerangs, bows and arrows made of wood; and axes, clubs, knives and grinders made of stone. These were all powered by human energy.

Then humans learned how to control fire for warmth, cooking, warfare and hunting.



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Another clever person invented the wheel and we harnessed animal power using donkeys, horses, mules and oxen, and made better tools like bridles, saddles and yokes from wood, fibre and leather.

All of these tools made hunting, gathering and trade easier and more reliable.

Then wooden ploughs revolutionised the cultivation of wild grasses for food for animals and humans. Farming started.

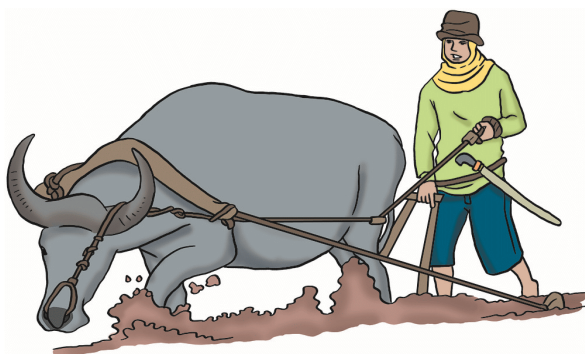


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Trade and exchange was made easier with money using rare commodities like gold, silver, gems and shells.



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Tool-making made a huge advance in the Bronze Age with the discovery of how to extract metals like copper, lead, zinc and tin from natural ores using charcoal. Brass, bronze and pewter made many useful tools. These were then replaced with better tools when man discovered how to smelt iron and make steel.

Then along came the game-changers – engines and electricity.

The steam engine, running on wood and then on coal or oil, revolutionised life with steam-driven pumps, traction engines and locomotives releasing millions of draught animals from transport duty.



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Then came electricity when steam engines were used to drive generators. All the windmills, coaches, sailing ships, lamps, stoves and dryers powered by green energy (wind, water, wood, animal energy, whale oil and beeswax) became obsolete.



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Mankind made another leap forward with the invention of internal combustion engines using petroleum liquids and gases for fuel.

An even bigger leap was the harnessing of nuclear power to produce almost unlimited clean energy from controlled reactions using tiny amounts of fuel.



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Nothing in life is without risk, and every tool or engine can be misused. On balance, however, tools, engines and electricity have allowed humans to live better from less land and natural resources per person than ever before. Societies with an abundance of capital equipment are richer, have lower population growth and have the leisure and resources to provide far more environmental protection.

Therefore we should spend “Earth Day” celebrating “Engines and Electricity”.

**Further Reading:**

*Earth Day Failed Forecasts of Doom:*

<https://wattsupwiththat.com/2018/04/21/18-examples-of-the-spectacularly-wrong-predictions-made-around-the-first-earth-day-in-1970/comment-page-1/#comment-2796352>



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George Carlin on Saving the Planet:  
<https://youtu.be/p5Miv4NHsDo>

Viv Forbes  
24 May 18  
[www.carbon-sense.com](http://www.carbon-sense.com)

We welcome comments. If you would like to comment on anything in this newsletter go to:  
<https://carbon-sense.com/2018/05/23/engines-and-electricity/>

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Authorised by: Viv Forbes, Chairman, 1907 Ipswich-Boonah Road, Washpool Qld 4306 Australia.*

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