Asteroid Impact and Sustainability Assembly

For the last few weeks, the sustainability committee have been promoting Turn it off week. Let me illustrate the importance of their work with the help of an example. Let us reflect upon asteroids. Every few months asteroids skim past our planet, just missing us. Often they pass the Earth within the orbit of the moon, which in cosmological terms is the equivalent of missing by a whisker. Asteroids are common - we are currently tracking the orbits of well over 300,000 chunks of rock of all sizes, and there may be as many as a billion to be found across the whole of our solar system.

Nor is it unusual for one of these rocks to cross the orbit of the planet Earth, making an impact a possibility. There may be as many as 100 million rocks larger than 10 metres that cross the orbit of the Earth. The asteroids are travelling at various speeds in various directions as they move through our solar system; the Earth sweeps round on its regular course at more than 100,000 miles per hour. Every now and then, it is inevitable that one of them will collide with the Earth. The vast majority are small enough to be burnt up by the heat of passing through our planet's thick atmosphere. Amazingly, the Earth gains 30,000 tons of cosmic dust from space in this fashion every year.

That doesn't affect life on Earth much, but there are estimated to be about two thousand asteroids, whose path crosses our orbit, whose impact on Earth would effectively end civilisation. We think it was an asteroid impact that caused the extinction of the dinosaurs. And that's not to speak of the hundreds of thousands of house-sized rocks, any one of which would be enough to destroy a city. We are estimating these numbers as we just don't see them until they are upon us – we would have only a few days warning of an asteroid unless it was more than a hundred metres across, and then only if we happened to have a telescope pointed at it. Most