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The Human Power Institute - Background Information

Purpose

The Human Power Institute (HPI) promotes the development and use of human power for an environmentally sustainable and socially just society. HPI is an information organization which publishes in a range of media, maintains a website information database and archive, and fosters international exchange of information between groups, municipalities, and other parties interested in the technologies and benefits of human power.

Why Human Power?

Human power – the direct physical use of muscle and sinew – is a fundamental resource. So is human inventiveness in utilizing other power sources. Less than 60 years after the Wright Brothers flew a chemically-powered airplane for a few hundred feet at Kitty Hawk, North Carolina in 1904, humans journeyed more than a quarter-million miles through space to land and walk on the moon.

The meteoric development of modern technology has paced a sharp acceleration in human population growth. Over half the people who have ever lived are alive today. Since 1950, Earth's population has doubled, to 6.3 billion souls, and 50 years hence may nearly double again to 10 or 11 billion.

Yet today a fifth of the world, over a billion people, do not have enough water to drink, or food to eat. At the other extreme, a fifth of the world population living in developed, industrialized countries account for over 80 percent of all

global food and energy consumption.

The imbalance cannot be redressed by producing more. To raise the global living standard up to the level of the well-off minority would require the resources of a planet five times larger than Earth. The only way to provide more for the impoverished and malnourished is to make consumption more efficient, and sustainable through the use of renewable and non-polluting resources.

Human power is both efficient and sustainable. In recent years, the technology of human powered machines and devices has undergone extraordinary development over a wide range of applications, from pedal-powered water well pumps to human powered aircraft. It is time to make extensive use of human power and human power technology throughout the world.

The Human Power Institute - Origins

Crank- and pedal-operated devices and mechanisms have been used for millennia for everything from raising water buckets to winching back the throwing arms of giant war machine stone catapults to operating printing presses. Yet the greatest and most familiar human powered machine – the bicycle – is a modern invention.

The first commercially significant chain-drive bicycle was launched in 1885. Through most of the first half of the 20th century the bicycle rapidly spread all over the world. In the aftermath of World War II (1939-45), in undeveloped countries and thus over most of the planet, the bicycle continued to develop as a staple of transport for both people and freight. In industrialized countries with growing consumer economies, the bicycle was displaced by a chemically-powered newcomer: the motor vehicle.

Automobile production and use in industrialized countries reached significant numbers by the mid 1950s, and so, also, did accompanying problems: severe mortality and damage from crashes and pollution, and increasing

inefficiency from overcrowding and congestion. Attempts at improving efficiency by building more roads only attracted still more cars and created even worse congestion. At peak travel times in urban areas, motorists moved more slowly than their ancestors who walked or rode horses. Today, gridlock – complete immobilization of motor vehicle traffic over wide areas – is a common phenomenon. Many municipalities have introduced motor vehicle bans, or economic charges to discourage the use of automobiles.

The bicycle revival in western industrialized countries began in the late 1960s and, spurred by an oil shortage and rising fuel costs, became a full-fledged boom in the 1970s. An early development was interest in developing new designs of human powered vehicles. This was in particular a reaction to the limitations of the standard bicycle, fundamentally unchanged since 1885, and more generally, a wide-ranging expression of the human drive to explore and accomplish.

Under the auspices of the International Human Powered Vehicle Association, founded by Chester Kyle and Jack Lambie in 1976, the world record speed of a bicycle has doubled from 40mph to over 80mph. This feat, once held to be physically impossible, was achieved through design changes ranging from simple alterations of rider position and vehicle configuration, to sophisticated improvements in streamlining and aerodynamic efficiency. New cycle designs also have greatly increased braking power, safety, comfort, and load-carrying capacity.

On water, human-powered hydrofoils have shattered all speed records. And in the air, an ages-old dream has at last been realized: true human-powered flight. Aircraft, taking off, flying, and landing, on human power alone, have crossed the English Channel and even the Aegean Sea. The eventual goal is to have human-powered flight as a sport category in the Olympic Games.

The founders of the Human Power Institute include people who have been involved in the modern human power movement since inception, at the forefront

of technological innovation and competition, education, and writing and publishing. The purpose of the Human Power Institute is to provide the communications and resources for the human power movement to expand and grow on an international level.

What Is So Good About Human Power?

You do it! Human power is a synthesis of body and mind/machine and spirit. Sometimes the experience is exhilarating and sometimes it is dreadfully hard and unpleasant work, but it always yours! That the worth of this sort of thing has to be felt for yourself is the point.

Yet human power is very public; it genuinely contributes to a better world. This is more than a matter of conserving resources or doing good for the environment, although these benefits are substantial. It is to do with the nature of how we live and are. For example, technology has limits; as a distribution mechanism, an automobile-based transport system influences the nature of agriculture and the quality of food, which is mass-produced and processed to travel long distances. When the transport mechanism is human power, food is produced and marketed locally. There is a different kind of agriculture with a greater emphasis on sustainability and husbandry, a different kind of economy with more vigorous local circulation, and different kinds of relationships between people, more intimate, knowing, and sympathetic. Human power is not only more energy efficient, it helps create a better quality of life.

The Human Power Institute promotes human power as a pragmatic means to do things, presenting practical, how-to information in the areas of science, engineering, design, economics, and society and culture. Scientific accuracy and validity make information credible and useful, be the task constructing a cider press, engineering a tram service, or designing a community health care program.

Yet while HPI is a font of practical information, it is also very much an advocacy group with a firm vision for why human power is good for society.

We are not the first on this road. The direct model for the Human Power Institute, and for the motto of promoting “an environmentally sustainable and socially just society,” is the Worldwatch Institute, based in Washington, D.C., USA. Worldwatch is a global organization with publishing programs in 32 countries and is a huge success at developing and promoting the importance of environmental information, and influencing governments, industries, and media. Worldwatch is involved in issues which are acutely political, such as how water resources are managed, or the effect of grain production on international relations, and because the credibility and quality of Worldwatch research and data are exceedingly high, the cases it makes are compelling. We hope we do a fraction as well.

Advocacy is important because it defines purpose. Any long-term information generating and publishing project must maintain momentum by addressing, serving, and nourishing a constituency involved in forward movement and progress.

The Human Power Network

People interested in the technology of human power, and the economic and social benefits human power can generate, are spread around the world, across a wide range of languages, cultures, needs and perspectives. Many are in developed countries, where an important environmental imperative is to promote the use of sustainable resources before irreparable damage is done. There is considerable variation within this sector: in the Netherlands, an environmentally conscious country, up to 40% of work journeys are by cycle; in contrast, in the USA, where environmental husbandry is poor, the figure is under 1%.

Human power is of course a daily fact of life across more than four-fifths of the globe and world's population, and here, the problem is not reducing excess

consumption, but improving efficiency of gain, to secure more for people who have too little. The Internet is one of the first tools that progressive individuals in disadvantaged areas utilize when attempting to better themselves and their circumstances. To capitalize on this, HPI plans to launch the Internet-based Human Power Network (HPN). Participation is free and provides information and resources, and contacts with other groups. The HPN website, and electronic publications, will be designed for international access, with material in different languages.

List Founders & Bios

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