

## WHO KNEW?\*

### BREAKTHROUGH ENERGY COALITION

The foundational principle of the Breakthrough Energy Coalition is to dramatically scale up public research to develop technologies that provide "energy that is reliable, affordable and does not produce carbon." Acknowledging that government research is not enough, BEC notes the importance of the skills and resources of leading investors with experience in driving innovation from the lab to the marketplace.

Among the notable U.S. luminaries supporting this initiative are Marc Benioff (Salesforce), Jeff Bezos (Amazon), Bill Gates (Bill & Melinda Gates Foundation), George Soros (Soros Fund Mgt.), Meg Whitman (HP), Tom Steyer (NextGen Climate) and Mark Zuckerberg (Facebook). International supporters include Richard Branson (Virgin Group-UK), Jack Ma (Alibaba Group-China) and Ratan Tata (Tata Sons-India).

The group's website notes that "Technology will help solve our energy issues. The urgency of climate change and the energy needs in the poorest parts of the world require an aggressive global program for zero-emission energy innovation. The new model will be a public-private partnership between governments, research institutions, and investors. Scientists, engineers and entrepreneurs can invent and scale the innovative technologies that will limit the impact of climate change while providing affordable and reliable energy to everyone. The existing system of basic research, clean energy investment, regulatory frameworks, and subsidies fails to sufficiently mobilize investment in truly transformative energy solutions for the future. We can't wait for the system to change through normal cycles.

"The foundation of this program must be large funding commitments for basic and applied research, and here governments play the key role. Only our governments have the mandate to protect the public interest as well as the resources and mechanisms to do this. We know government investment in research can lead to the creation of industries that advance the common good and are driven by private capital. We have seen big successes before with government-funded research programs in space, defense, technology, and medical research, seeding private creativity which has produced many of the innovations that define our current way of life. The political will is emerging to do this again, through aggressive increases in government funding for basic and applied energy research, which can lead to breakthrough technologies for our energy future. However, current governmental funding levels for clean energy are simply insufficient to meet the challenges before us."

In a paper highlighting the need for a new approach to energy technology innovation, Bill Gates notes that energy firms invest just 0.23% of their revenues into RD&D, versus 15% for the information technology industry and 20% for pharmaceuticals. The ratio of government R&D to total spending in energy is 0.4%, versus 1.1% for health care and 11% for defense.

<http://www.breakthroughenergycoalition.com/assets/resources/Energy-Innovation-by-Bill-Gates-Nov-30-2015.pdf>

The Breakthrough Energy Coalition intends to focus on early stage companies that have the potential of an energy future that produces near zero carbon emissions. Investments will be based on core investment principles that include: Invest Early, Invest Broadly, Invest Boldly, Invest Wisely and Invest Together.

<http://www.breakthroughenergycoalition.com/en/index.html>

**\*A regularly featured column on industry, university and government initiatives in support of clean coal technology development & commercialization.**

