

Investment Principles

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.

Government research, however, is not enough. We must also add the skills and resources of leading investors with experience in driving innovation from the lab to the marketplace. The private sector knows how to build companies, evaluate the potential for success, and take the risks that lead to taking innovative ideas and bringing them to the world. But in the current business environment, the risk-reward balance for early-stage investing in potentially transformative energy systems is unlikely to meet the market tests of traditional angel or VC investors – not until the underlying economics of the energy sector shift further towards clean energy. Experience indicates that even the most promising ideas face daunting commercialization challenges and a nearly impassable Valley of Death between promising concept and viable product, which neither government funding nor conventional private investment can bridge. This collective failure can be addressed, in part, by a dramatically scaled-up public research pipeline, linked to a different kind of private investor with a long term commitment to new technologies who is willing to put truly patient flexible risk capital to work. These investors will certainly be motivated partly by the possibility of making big returns over the long-term, but also by the criticality of an energy transition. Success will provide the economic proof points necessary for the mainstream market-driven clean energy economy required for our planetary future.

We are committed to doing our part and filling this capital need by coming together in a new coalition. We will form a network of private capital committed to building a structure that will allow informed decisions to help accelerate the change to the advanced energy future our planet needs. Success requires a partnership of increased government research, with a transparent and workable structure to objectively evaluate those projects, and committed private-sector investors willing to support the innovative ideas that come out of the public research pipeline.

Together we will focus on early stage companies that have the potential of an energy future that produces near zero carbon emissions and provides everyone with affordable, reliable energy. We will invest based on a few core investment principles:

1. Invest Early

The most transformative ideas are emerging out of research institutions and the great capital gap is in getting these ideas out of the lab and on the path to commercialization. We'll take a flexible approach to early stage, providing seed, angel and Series A investments, with the expectation that once these investments are de-risked, traditional commercial capital will invest in the later stages.

2. Invest Broadly

We don't know where the best ideas will come from to transition the world to a near zero-emissions energy future, so we will invest across a number of sectors:

- a. Electricity generation and storage
- b. Transportation
- c. Industrial use
- d. Agriculture
- e. Energy system efficiency

3. Invest Boldly

We are looking for outliers both in developing novel technologies AND in innovations which enable current technologies to be dramatically more efficient, scalable, or cheaper. Whether core or enabling technology, the key differentiating factor must be a credible pathway to rapid scaling – providing affordable energy to the greatest number of people without overburdening essential resources including land use.

4. Invest Wisely

One of the challenges to effective financing in this area is a lack of depth in terms of technical review and analysis of underlying science and technology to guide investment decisions. To tackle this, we will work with a coalition of the world's best minds, in partnership with leading public and private institutions, to guide investment decision-making.

5. Invest Together

Because the foundation of these innovations will likely come through government research pipelines, we will focus our investments on those countries that have committed to increase the size of those pipelines by participating in the international initiative known as *Mission Innovation*. Those countries are making a serious commitment to using smart government spending to increase the rate of innovation in their domestic innovation sector while helping the world find solutions to the serious problems created by climate change, high costs of power, and energy price volatility.

Over the next year, we will work together to develop effective and creative mechanisms to analyze potential investments coming out of the research pipeline, create investment vehicles to facilitate those investments, and expand the community of investors who join us in this endeavor.