Aspire Campaign Priorities:
Engineering and a Sustainable Society

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Princeton's engineering school is a very unusual engineering school in the United States in that it is embedded within one of the great liberal arts universities in the world. When we think about an engineering school and how it differs from the natural sciences, I think the major difference is that engineers make things and engineers solve problems, solve real societal problems. And as we have thought about how to continue to strengthen our engineering school, those two things are very much part of our thinking – one, to grow the engineering school in such a way that it continues to take advantage of all the other strengths within the University, and second, that we focus in on solving some of society's most pressing technological problems.

I suspect if we were to do a survey of all Princeton community members, whether they are students, faculty or are alumni and parents and friends, I would suspect that there would be consensus that one of the most compelling problems that we face as a society, in fact as a world, is the impact of the burning of fossil fuels on our climate and on our environment. And it will be no surprise to anyone that this must be one of the important foci of the Aspire campaign, and that is to build on our historic strengths in this area and to become one of the places in the United States that contributes to the resolution of that deeply threatening problem to the entire globe.

We, indeed, have great historic strengths. After all, we are the home of the Princeton Plasma Physics Lab, which is the premier fusion energy laboratory in the United States, and we have been in that position for many, many years. So we have

been making investments over the years in the development of fusion energy, which I think is going to be the 50-year solution to the generation of alterative energy. We also have great strength within our engineering school in the area of hydrology. I think many of you, I'm sure, know that at the end of the day the climate problem is going to be as much about water resources as it is going to be about rising temperatures, and we have one of the strongest programs in the world in water resources. This is a program that we are expanding with the hiring of new faculty, and it is a program that is going to be very important in training future scientists, who can solve some of the fundamental problems in providing water to all the people on this planet.

We also have tremendous strength in this area within the Woodrow Wilson School. We have a very strong program in energy policy that is extremely well integrated with what is happening in the engineering school, as well as what is happening in the natural sciences. And, of course, we have the marvelous Princeton Environmental Institute, which is an umbrella organization that brings together engineers from the engineering school, brings together policy makers from the Woodrow Wilson School, and the natural scientists in both ecology and evolutionary biology and in geosciences, who are working on environmental issues and atmospheric issues of very deep importance to the solution to some of the environmental problems that all of us are facing.

We want to strengthen all of these faculty and all of these programs. One area in which we hope to have a significant expansion in our programs is in the engineering school, particularly in the area of alternative energy sources. I think, again, all of us know that we will face a time on this planet where we will no longer be so dependent on

the burning of fossil fuels. But we need to turn the alternatives from great ideas into reality, into energy sources that are both cost effective and efficient, and will be highly reasonable alternatives to the burning of fossil fuels. So we want to make a major investment in the engineering school, in the area of the generation of energy.

The other is we want to capitalize on the Princeton Environmental Institute's educational programs, one of which is a new program called Grand Challenges—which is a collaboration between the engineering school, the Wilson School, and the Environmental Institute—to bring together faculty from all of those disciplines to teach courses that relate closely to research problems that are being supported by the Princeton Environmental Institute. These are going to be courses that have both classroom aspects to them and fieldwork as well, and it is a way to encourage our students to get out into the field and understand in a tangible way the kind of environmental issues that we must solve in the next 20 to 50 years. This is an initiative that is going to be very important for Princeton University. But more importantly, it is an issue that is going to be important to not just this country, but the rest of the world.