

The Power Ranger

It was going to be a long day. Everyone knew it. Our team met at 7.15 am to strategize. We met at the breakfast buffet and discussed the presentation over sips of coffee. The slideshow lacked enough information on Critical Infrastructure Risk. We googled content, discussed the topic and edited the slides over the next half hour. We found out that there were two kinds of threats to infrastructure: human and mother nature. Reading about the human threat deeply saddened me. The 9/11 attacks in the US and the 26/11 attacks in India were listed as examples, but there was a methodology to tackle these threats which we learnt about. After Rachi rehearsed the last slides, the presentation was ready. The War Game began at 9 am and we were up second. Kiera gave a flawless presentation for the Agriculture team. Adrenaline poured through my veins as I thought about our presentation. Rachi walked on stage wearing a Northeastern sweatshirt, paused for a moment and began speaking. Go Team Energy!

The presentation covered all the essential parts of the Energy Sector like critical infrastructure risk, urban adaptation for resiliency, India's climate hazards, role of infrastructure and international agreements. There was a section about energy's necessity for other sectors and the goal was to secure funds for R&D, increasing renewable energy in the grid and building more infrastructures.

My part was about US-India Relations in Energy. Being born and raised in India and studying in the US, I felt poised to delve into the nascent aspects of this relationship. I found out that the

bond between the world's oldest and largest democracies stretched back to British-colonial times but their co-operation in Energy has happened only over the past 20 years. Before the Indian economy opened up in 1991, a license raj existed which made it extremely difficult for companies to start or operate in India. Thus, US industry was shut-out of the Indian economy and the Energy sector. After 1991, there was increasing co-operation between the two governments and economies but it all came to an end in 1997 when India detonated its atomic weapons. India was not a signatory of the Non-proliferation treaty. Bill Clinton was forced by American law to impose sanctions against India which lasted till 2002. After that, India agreed to a variety of measures to increase transparency in its handling of nuclear energy and technology. The US eased sanctions and the trade between the countries grew. Co-operation in the energy sector reached a new level with the US-India Energy Dialogue in 2005. This synergy between both the countries to tackle a problem was similar to my own quest of helping WISE from Northeastern.

The dialogue had six working groups that focused on addressing various issues in the energy sector and included a diverse array of government bodies from both countries to promote businesses to invest in energy sector. One part of the dialogue was the PACE agreement, or the Partnership for Advancing Clean Energy. PACE is about Clean Energy Access and Security and has already mobilized \$2.4 billion investment for projects in India. PACE Research has also accrued \$125 million in funds. But, I know that there is a huge gap between collecting funds and implementing real-world solutions in India, especially in a government dominated field like energy.

As I researched more, I found out about PEACE or Promoting Energy Access through Clean Energy, which was the newest part of PACE and launched in 2013. U.S. government agencies partner with India on Clean Energy deployment activities. They wanted to implement small off-the-grid solutions in rural India. A watershed agreement reached between the US and India was the Civil Nuclear Agreement in 2008. India agreed to a moratorium on nuclear weapon testing and place its reactors under international safeguards. In exchange, US companies were allowed to support nuclear technology in India for civilian use.

As the moderator wrapped up her presentation, the War Game dispersed for lunch. As the negotiator, I discussed the strategy we needed to adopt for the other sectors. The team decided to co-operate with other sectors as long as the main goals of increasing energy production and market penetration were met. We decided to meet with Water and Industry, correctly guessing that health would arrange a meeting with us. After lunch, the first meeting was with Industry and was very productive. We agreed to completely support Industry if they imposed pollution caps. They in-turn supported our bid for small hydropower projects, rural electrification and increasing nuclear energy production by building thorium-based reactors. We met with the Health sector who conveyed their deep concern with using nuclear power. We negotiated and agreed for thorough inspection of existing facilities in 2 years and regular inspections for any new reactor constructed after that. A family planning program for Energy sector employees was also arranged. Finally, we met with Water. Our sector wanted to implement Small Hydropower Projects; which were based in rural areas, provided electricity

and irrigation and did not affect the marine ecology, but Water had lobbied all other sectors to support the construction of big dams across major rivers and interlinking of major rivers in the country. Water supported Small Hydropower Projects and we supported interlinking of major rivers but wrestled with Water on the issue of dams, knowing that the press would be vicious on any plan about building dams. Water also wanted to undermine Industry with our support, but we refused and they dropped the plan. And as time ran out, we reluctantly agreed to build dams with Water, in our combined vision for greater economic growth.

The five sectors gathered for a round of discussions, voting on plans and budget allocation. The results of the negotiations were presented by each sector and Marita spoke for Energy. All the plans were put on a round-table for debate and interjections by the press. I found the co-operation between the various sectors very impressive. As each sector put up their proposal for consideration, other sectors pitched-in with support and amendments. The press was totally against nuclear power and building dams. But with support of the entire panel, we explained the necessity to meet growing energy demand with thorium-based reactors and the safeguards that will be enforced. Also, we shifted emphasis to linking major rivers with canals and small hydropower as opposed to dams. I saw Agriculture team exploit drought to their advantage by advocating for genetically modified crops. The budget allocation was carried out at the end and all the sectors advocated India to spend 0.1% of its annual budget on climate resilience, which would be about 1.87 billion dollars a year. Our team got rural electrification for 300 million dollars and nuclear regulations for 500 million dollars. The press strongly objected to the nuclear plan but the panel thought it was necessary for future development. It was a necessary

evil and taking the various risks into consideration, I felt that the citizens of India would appreciate the improvement in the energy situation it would bring about in the long run.

Combined with the other measures recommended by the panel, India would surely achieve the 2022 vision set by Narendra Modi.