

Energy Engineer The Education Pipeline

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How do we interest Best & Brightest?

- Problem: Insufficient STEM skills
 - Scientists/ Technologist
 - Engineers/Mathematicians
- Solution:
 - EDUCATION --Improve educational model
 - MARKETING--Captivate youth
 - FUNDING—Private/State/Fed

Educational Model—An example

- Embedded Math, Science, Comp Science Magnet
 - Takoma Park Mid/ Blair High School (6—12 grade)
 - Montgomery County, Maryland
 - Rated #1/2 Worldwide with Singapore
- Mentor Advocates: Professional STEM
 - Guide apprentices in accelerated math/science
 - Provide real-world problems
 - Science fairs
 - Summer programs
 - Competitions

Educational Model Results

- Graduates enter Top Engineering Colleges focusing majors on renewable energy
- Magnet students tutor peers magnifying benefits
- Students' interest:
Energy programs for disadvantaged

Marketing strategy

- Identify talent early
- Augment academics with real-world
- Captivate youth with today's problems
 - **renewable energy**
 - **nuclear meltdown safe distance**
- Let youth make a difference
- Failure is not an option
 - Teachers/Parents/Mentors address early warnings
 - Students rewarded for hard work

Educational Model Problems

- Problem: Not all identified as talented can make the grade; social status challenged
- Solution: Most challenging material optional (but mentor ensures, **not optional** for the truly gifted)
- Problem: Not all graduates can go to MIT
- Solution: Caltech, Cornell, Yale, Stanford, ASU can pick up the slack

Funding

- Magnet funding challenged
 - More needed than average
 - Everyone should share the pain when cut
- State & Federal STEM funding disappearing
 - Special projects
 - Incentives and rewards
- No funding for Mentors

Energy Engineer Education

For more

Scientists, Technologists,
Engineers, Mathematicians

- Identify talent early
- **Market** to Excite and Captivate students
- Include Magnet & Mentor **Education** Model
- **Fund** to Motivate and reward students
- Include Real World problems (**Renewable Energy**)
- Let students make a difference

Project Goals and Objectives

With this one project address the goals of many contributing communities including the end-users:

- Academia--educating students to architect and design a system from prototype to product;
- Military-- supplementing arsenals to include systems to win hearts and minds;
- Communities of Users—Using systems powered by renewable energy accelerating development;
- Buyers—receiving a humanitarian's satisfaction by evolving a community of the world;
- Inventors and manufactures-- a market for those who invent technologies;
- Product assembly teams—developing energy renewable systems for insertion in communities in a culturally sensitive way.

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