SLIDES: Appropriate Sustainable Energy Technologies: A Light to the World

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Citation Information
https://scholar.law.colorado.edu/energy-justice-conference-and-technology-exposition/16

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Appropriate Sustainable Energy Technologies:
a light to the world

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THE ISSUES

- Equity
- Poverty
- Development
- Climate Change

THE ANALYSIS

- Legal philosophy
- Thermodynamics
- Economics

- ASET’s Potential
- /theoretical perspective
THE ISSUES
EQUITY

- 1,300,000,000+ people without access to technologies that make **useful work**
- 2,000,000 people die each year needlessly from soot
- Millions more die of water borne diseases each year
POVERTY/DEVELOPMENT

- 1,000,000,000 earn $1.25 per day
- “Poverty trap” – energy technology
- Poverty increases population
- Increased population stresses resources
CLIMATE CHANGE

- Black soot reduction can have significant GCC impacts
- Methane reduction can have significant GCC impacts
ASET’S POTENTIAL

- Clean indoor air - Cook stoves
  - Eliminate 2,000,000 deaths per year
  - Reduce climate change

- Clean water – Tata Swach Water Filters
  - Save millions of lives with clean water
  - Significantly reduce energy needs
ASET’S POTENTIAL (CONT)

- Light/engine power/cooking/light – bio gas/ethanol
  - Reduce climate change
  - Provide for development
  - Increase sovereignty/economy
- Electricity – bio gas, low head hydro, solar, wind
  - Provide for economic development
  - Increase sovereignty/economy
ANALYSIS
JUSTICE

- Rawls – “‘[w]ell-ordered peoples have a duty to **assist** burdened societies.’”
  - ASETs build up local capacity – assist
  - ASETs build up local economies – assist
  - ASETs avoid high GHG technologies – assist future development/economies
  - ASETs assist with protecting sovereignty
JUSTICE (CONT)

- Egosim
  - ASETs useful energy *now* – preferable to waiting 20 years for electricity
  - ASETs create economic development *now*
  - ASETs can help reduce population growth
  - ASETs can reduce resource demands
  - ASETs can increase economic opportunities – for all
THERMODYNAMICS

- ASETs are inherently much more energy efficient
  - Less energy is needed
  - Increases Developing Country Sovereignty
  - Increases economic opportunities/development
  - GHGs are reduced/eliminated/reversed by ASET
ECONOMIC PERSPECTIVE

- Ayers
  - Focus on EXERGY
  - Metabolism of an economy
  - Can increase current and future economies

- GHG reduction
  - Can be many times more effective than other techniques
  - Can accomplish with lower present costs
  - Can eliminate un-needed future retrofits/costs
CONCLUSION

- ASETs should occupy the highest status to meet the goal of energy for all.