# Decoding Energy Access (Puzzle?)

## - Overview of LIVE Experiment at Grassroot Level

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# Energy Access Issues

1. Energy access issues leading to energy poverty can have deadly consequences.

2. Approximately 3 billion people cook and heat their homes using open fires and simple stoves burning biomass (wood, animal dung, crop waste) and coal.

- Jatin Nathwani
WISE

# Energy Access Issues

"Energy poverty remains a barrier to economic well-being for such a large proportion of humanity that the rationale for action now is compelling."

# Energy Access Issues

"Renewable energy technologies such as solar panels, wind turbines and small-scale hydro plants can generate power on a smaller scale – and these technologies promise to bring power to rural, highly impoverished places without the need to invest in a huge central grid."

# Energy Access Issues

"But Nathwani observes technological innovations are not enough on their own – because solutions must ultimately be adopted in the cultural context of the way people live their lives."

# Decoding Energy Access - CHALLENGES

1. The Social Value of Energy
2. Socio-Energy Systems & Enterprises
3. Energy Innovation Ecosystems
4. The Social Value of Energy- Equation

# Decoding Energy Access - CHALLENGES
# 1. The Social Value of Energy

Fundamentally, people don't care about access to green electrons or carbon-natural fuels; they care about what they can do with that energy

# Decoding Energy Access - CHALLENGES
# 2. Socio-Energy Systems & Enterprises

Socio-technical systems design requires a user-centered approach that configures systems appropriately to facilitate socially valuable energy use

# Decoding Energy Access - CHALLENGES
# 3. Energy Innovation Ecosystems

Energy access can rarely be accomplished or meaningfully scaled in off-grid contexts without also attending carefully to an array of other elements besides energy users and energy enterprises within what can be defined as an energy innovation ecosystem

# Decoding Energy Access - CHALLENGES
# 4. The Social Value of Energy- Equation

$$Social\ Value\ of\ Energy$$
$$= \sum (Economic\ benefits + Other\ non - economic\ benefits)$$
$$- \sum (costs + burdens + risks) - \sum (externalities)$$

# ECOSYSTEM CHALLENGES

1. Financial Innovations
2. Technological Innovations
3. Business Model Innovations
4. Policy Innovations

# ECOSYSTEM CHALLENGES

| | |
|---|---|
| 1. Financial Innovations | • Including those in the area of micro-finance that enhance and users ability to pay for energy services |
| 2. Technological Innovations | • Including the integration of ICT with energy systems to allow for remote monitoring and maintenance of technology that is highly dispersed |
| 3. Business Model Innovations | • Including partnerships between enterprises and local organizations in the marketing and sales of clean energy products within communities that are skeptical of new technologies |
| 4. Policy Innovations | • Including the introduction of quality standards and certifications that provide a leg up for trusted suppliers of high quality clean energy products |

# Social Experiment using Cookstoves?

*An experiment to evolve a project integrating*

*Policy*

*Technical*

*Financial*

*Business*

*INNOVATIONS*

# The Call for Cooking Energy Solutions -Some Declared Statistics -

- **Address at least 5 of the 8 MDGs that the UN was working to meet by 2015.**

***Climate Change : Clouds of Pollution***

- Carbon dioxide, Methane and nitrous oxide present in biomass stove emissions
- Apparently 25% of the problem of carbon emissions is caused by stoves

***Indoor Air Pollution: Health Risk***

- Fourth leading health risk in developing countries.
- Premature deaths - estimated 4.3 million people each year ; women and children most affected.

***Deforestation: Cooking with wood a significant cause***

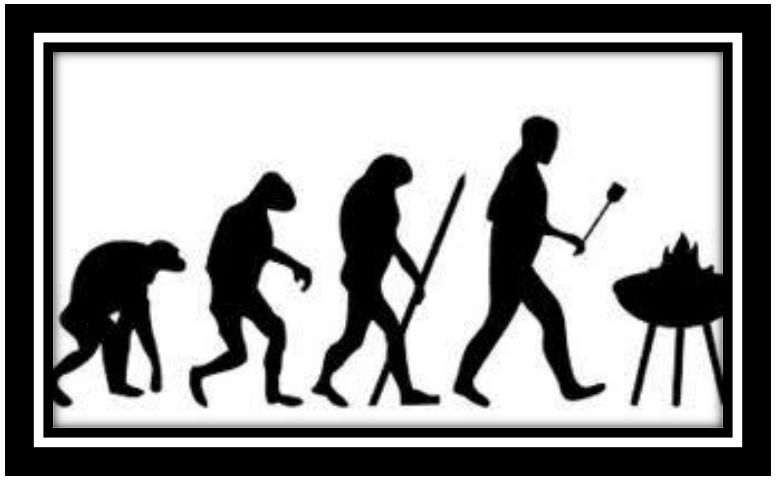
- Annual consumption of wood - 34% of wood harvested from the world's forests.

Source (http://www.aprovecho.org)

***Global Mandates; Not Just Needs***

# *Change the Community*
# *- A Meaningful Starting Point -*

**“Nobody talks of entrepreneurship as survival**
**- but that's exactly what it is – for the B-O-P”**



*Communities begin*
*by*
*building their kitchens.*

# “Earn While You Cook”

*Vision and Philosophy*

# EYC
# The Philosophical Understructure

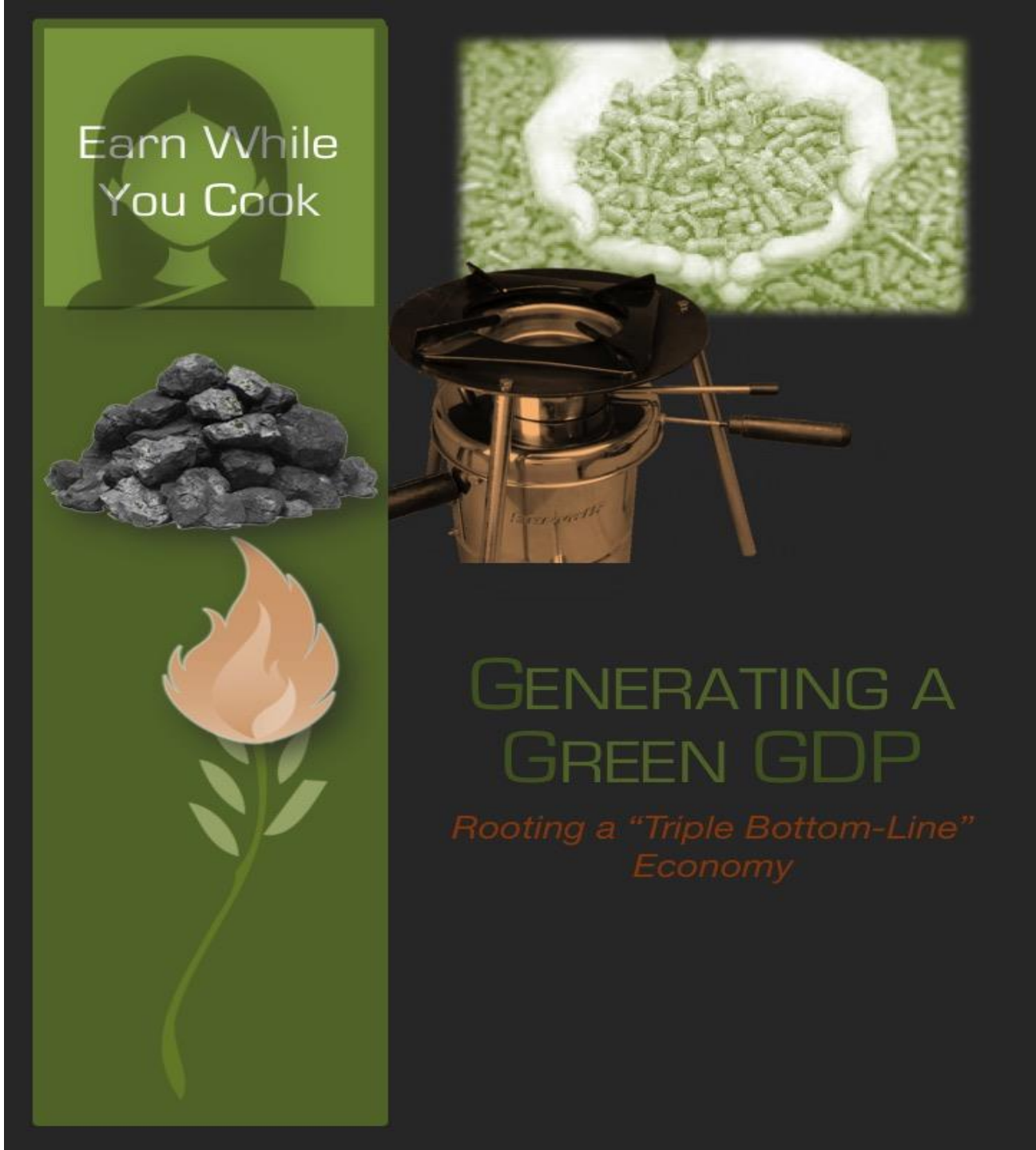
- “Saving our planet, lifting people out of poverty, advancing economic growth... these are one and the same fight. We must connect the dots between energy, climate change, poverty and women's empowerment. Solutions to one problem must be solutions for all.”

- The community that has “figured out” green - is going to have the most energy security, economic security, competitive companies, healthy population and, most of all, global respect.

- “Nobody talks of entrepreneurship as survival - but that's exactly what it is – for the B-O-P”

# Vision

**- One Kitchen at a time-**



# Mission


Earn
While
You Cook


With Each Stove that Burns...
It is a Family that Earns...
One Thing
..... Each Stove
organization
NGOs
NGO
organizations

# Economic Orientation


## Cook Stove led Green GDP
### - Means building a viable economic model-

### Overcoming the Challenges

Low awareness, lack of appropriate cost-effective technologies, poor business viability, logistics & distribution challenges, Inadequate policy support & financial backing.

**Needs of the poor**

- *Saving in fuel cost*
- *Saving in fuel collection cost*
- *Indoor Air Pollution*
- *Safety*
- *Saves time*
- *Better cooking experience*

**Needs of the Planet**

- *Energy conservation*
- *Green energy generation*
- *Climate Change*

**Needs of the Economy**

- *Entrepreneurship*
- *Energy model that calls for close collaboration between producers and local community*
- *Better awareness of global concerns*

1.9 Billion trees saved

61% fuel spend reduced per household

17% reduced wood fuel emissions

1.6 Bn Metric Tons of $CO_2e$ saved (= 340 Mn. cars)

470000 adult & 170000 children lives saved

# Business Orientation

BioEconomy Cluster

## Bioeconomy
## Born from Necessity


"Bioeconomy" refers to activities that make use of bio-innovations, based on biological sources, materials and processes to generate sustainable economic, social and environmental development.

*Charcoal Artisanship*

# What Problems does the EYC seek to solve…

*Energy Challenge*

*Economic Challenge*

*Climate Challenge*

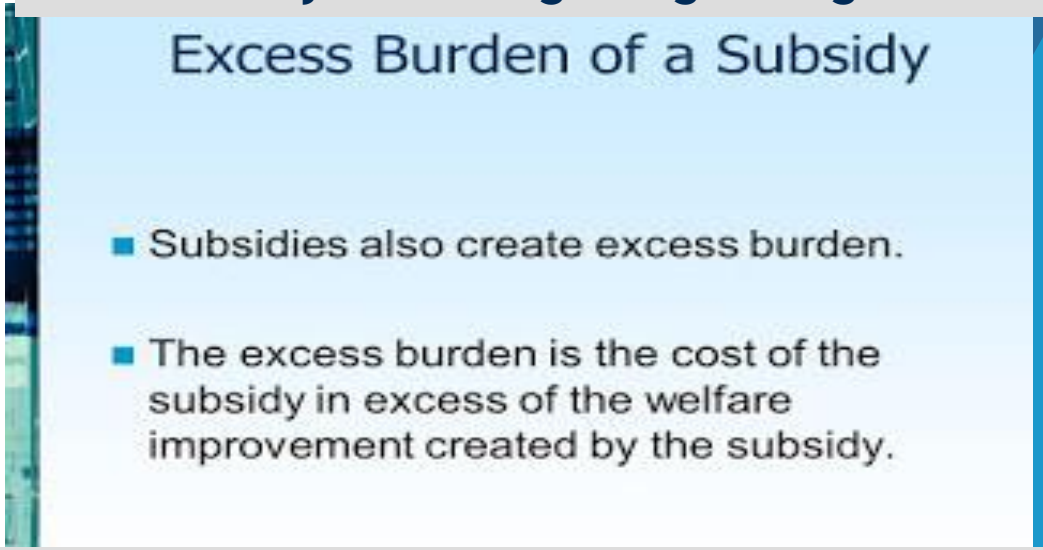
*Social Challenge*

# Energy Challenge

Supporting the country's transition to an all-out LPG terrain – by allowing "those in waiting" to wait at ease.

"Sometimes Appropriate Energy is the right answer"

**The transition phase to LPG/Electricity is likely to be long and grueling**




**In the absence of targeted subsidies, LPG will not be the solution for the world's poorest people.**

# Climate Challenge

The global community cannot reach its goals of eradicating poverty and addressing climate change without addressing the way millions of people cook.

"By touching a critical aspect of human life"

- A socially relevant product
  - "10 fixes for the planet" – A Newsweek article by environmental thinkers towards making the planet greener/energy efficient; "Stoves for the masses" one of them.
  - Address at least 5 of the 8 MDGs that the UN is working to meet by 2015.
    - Health, Livelihood, Environment, Gender, Well being

- Shared Concerns
  - 3 Billion households
  - Shared misery; shared aspirations

# Economic Challenge

Charcoal Collateral
Charcoal Micro-enterprise
Charcoal co-operatives

"Making BoP credit worthy"


Why slot them as "with fortune" or "no fortune". . Just enroll them in an entrepreneurial process that co-creates

These unhappy times call for the building of plans …. that build from the bottom up and not from the top down, that put their faith once more in the **forgotten man at the bottom of the economic pyramid"**

# Social Challenge

They are not just victims of poor technology but a critical component of the sector's ability to scale the economics.

IF – they are given a technology with an economic model around it, they can find their way out of the "energy-poverty-gender" cycle

"One woman entrepreneur per kitchen"

# A quick overview

*Features of EYC*

*Business Model- overview*

# “Earn While You Cook” Features

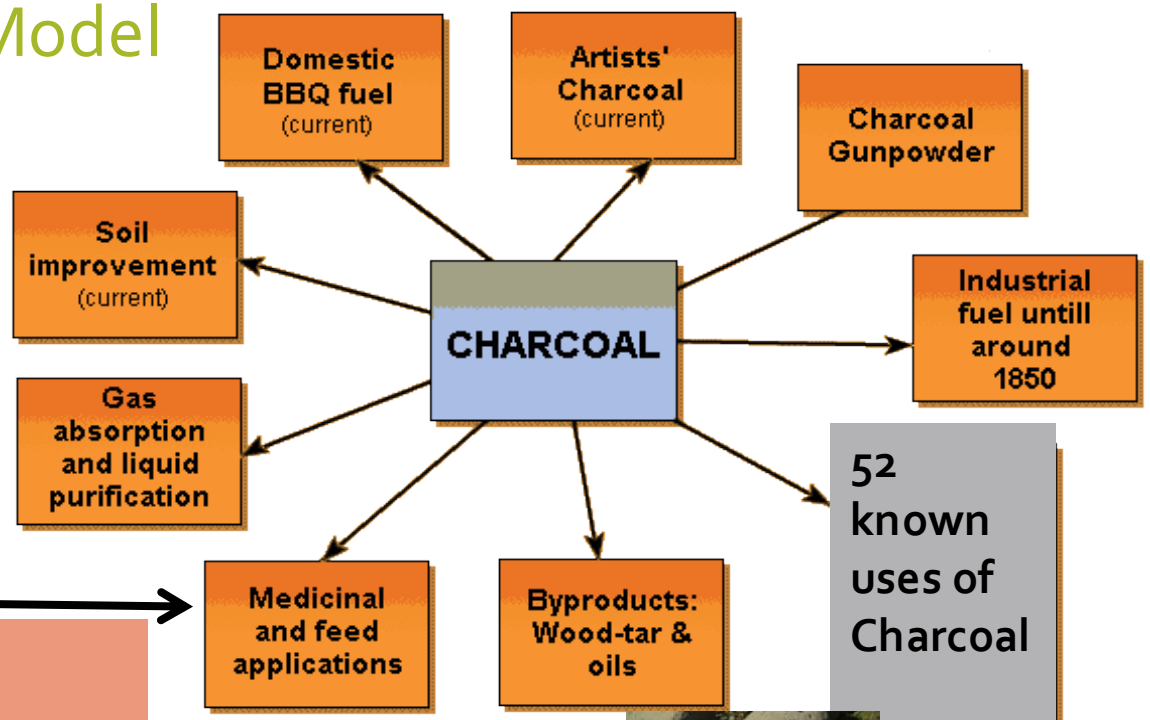
- Gasifier Cookstoves – A Certified “Carbon Asset”; eligible for Carbon Credits ☑
- Gasifier Cookstoves Residue– A New Source of Energy
  ***“Green Charcoal”*** ☑
- Innovation
  “Green Charcoal”, Unique Business Model ☑
- Proven Economic model ☑
- Measurable Social metrics
  (Energy Efficiency, Livelihood, Deforestation, Wellbeing) ☑
- Scalable, Replicable ☑
- Possibility for R&D and Soft-Skill Interventions ☑

***Is not just a cookstove program…***

# The "Earn While You Cook" Business Model
## The Vision



***Local Partner Sells the Charcoal***






- Prevailing rates for charcoal depends on end user applications.
- Foundaries that sell to industry should be a "main-stay" of the charcoal sales. ***Facilitates kick-off off "Earn while you cook" Level 1.***
- Higher end applications can be developed as the program matures – ***Encourages Micro Enterprises. Level 2.***

# “Earn While You Cook”

*Charcoal Making Cookstoves*

# *The Product*
# *- TLUD Biomass Gasifier Cookstove-*

- TLUD stands for Top Lit Up Draft.
- Most cook stoves are Bottom Lit Up Draft.
- TLUD technology is pursued around the world since it saves fuel.
- is a stove with a canister
- which when filled with fuel (any Dry Biomass waste like twigs, coconut husks, cow dung, Carpentry waste, etc) and combusted,
- will enable cooking for an average of 30 minutes depending on fuel type
- and produces precious charcoal at the end ; can be used for various commercial applications.

# TLUD Gasifier Stove
# - Key User benefits -

- Pyrolysis technology
- Lower cost of cooking fuel
- Significant saving of Biomass material
- Versatile Biomass possibility
- Low Maintenance
- Faster cooking
- Reduced indoor air pollution (IAP)
- Resultant Charcoal

# *TLUD*
# *- Profiling its limitations*

- Batch Processing Stove
- Fuel Sizing
- High Fire Power for certain kinds of dishes
- Requires User Education
- “Expensive”

# Profiling the Residue

*High Grade Charcoal*

# *What is the big deal about TLUD charcoal Vs. Conventional Charcoal*

- Conventional charcoal requires in average 6 kg of wood to produce 1 kg of charcoal. In the TLUD, it is produced as a by-product when cooking, so no additional wood is needed.

- Thus 1kg of TLUD charcoal saves 6 kg of wood - corresponding to approx. 7 kg of CO2.

***Cookstove Charcoal is "Green Charcoal"***

# Why is it “Green” Charcoal..

| TLUD charcoal production | Conventional charcoal production |
|---|---|
| • Probability of Charcoal yield is high | ✓ Probability of charcoal yield is low |
| • Better utilization as cooking also takes place during char production | ✓ The heat produced during charcoal production goes wasted |
| • Sorting of quality and sizeable char is easier in TLUD | ✓ Sorting of quality and sizeable char is cumbersome |
| • Impact on environment sustainability is in positive sense | ✓ Impact on environmental sustainability is greater in a negative sense |
| • Uses waste wood for charcoal production | ✓ Encourages rampant agro forestry |
| • Encourages community participation in charcoal production and drives equal revenue distribution among the households. | ✓ Kiln is owned by the land owner and the revenue from charcoal production goes to a single individual. |

# Profiling the TLUD Charcoal

| High Calorific Value | 6980kCal/kg |
|---|---|
| Low sulphur content | 0.01% |
| High carbon-to ash ratio | Fixed Carbon 76%; Ash <6% |
| Low Inorganic Impurities | Mineral content as low as 6.5% |
| High Surface area | Iodine value 1200 mg/g;<br>Methelyene Blue 124 mg/g |

- Despite doing a convincing – and carbon-neutral – impersonation of a 'fossil fuel', charcoal is largely neglected in the developed world.
  - Used really only for cooking and heating

***Sustainable substitute for coke, petroleum coke, lignite and coal***.

# Sustainable Small Scale Industry…

- **What is sustainable production**
  - The process must be sustainable
  - Have minimum Environmental Impact

- **FAO's definition of improved charcoal production**
  - 1t of charcoal from 3.5t of wood (current processes consume 4.5 t of wood)
  - TLUD charcoal yields one tonne of charcoal from 5 tonnes of wood; with 3000 hours of thermal power for cooking

- **Simple production process**
  - Actually one of our oldest human skills.

***Widen the Economic Power***
***- Drive Affordability down to the BOP-***

# Household Charcoal is “Sustainably Produced” charcoal

- Well – the ‘right’ type of production of charcoal is a choice
  - Depends on the balance between social, economic and climate perspectives.
- Traditional and industrial charcoal making have been given the choice
  - have not found it
- Perhaps it is time to explore the “household charcoal making” production method –
  - as a way to strike the right climate, economic and social balance.

# 52 Uses of Biochar

## Animal Farming

1. Silage agent
2. Feed Additive/ Supplement
3. Litter additive
4. Slurry Treatment
5. Manure composting
6. Water treatment in fish farming

## Biogas production

21. Biomass additive
22. Biogas slurry treatment

## Soil conditioner

7. Carbon fertilizer
8. Compost
9. Substitute for peat in potting soil
10. Plant protection
11. Compensatory fertilizer for trace element

## Waste water

23. Active carbon filter
24. Pre rising additive

## Building sector

12. Insulation
13. Air decontamination
14. Decontamination of earth foundations
15. Humidity regulation
16.. Protection against electromagnetic radiation

## Waste water

25. Soil substrate for organic plant beds
26. Composting toilet

## Decontamination

17. Soil additive for soil remediation
18. Soil substrate
19. A barrier preventing pesticides getting into surface water
20. Treating pond and lake water

## Drinking water

27. Micro filters
28. Macro filters in developing countries

## Other uses

- Exhaust filters (29. Controlling emissions, 30. Room air filters)
- Industrial materials(31. Carbon fibres, 32. plastics)
- Electronics (33. Semiconductors, 34. batteries)
- Metallurgy(35. Metal reduction)
- Cosmetics (36. Soaps, 37. Skin cream, 38. therapeutic bath additives)
- Paint and coloring (39. Food colorants, 40. Industrial paints)
- Energy production (41. Pellets, 42. Substitute for lignite)
- Medicines (43. detoxification, 44. carrier for active pharmaceutical ingredients)

## Textiles

- 45. Fabric additive for functional underwear
- 46. Thermal insulation for functional clothing
- 47. Deodorant for shoe soles

## Wellness

- 48. Filling for mattresses
- 49. Filling for pillows
- 50. Shield against electromagnetic radiation

## Biodiversity

- 51. Microbe
- 52. Earth worm

Source: http://www.ithaka-journal.net/55-anwendungen-von-pflanzenkohle?lang=en

# “Earn While You Cook”

***Recommended Operational Roll-out…***

# EYC's Recommended Operational Rollout

| | | |
|---|---|---|
| Recommended value Chain<br><br>**Short Term** | Short-term is defined as the tenure required to "pay-back" the full price of the stove under the program. | • This tenure is usually between 6-12 months depending on the financing struture of the program.<br><br>• Charcoal Collateral (So that the charcoal money can be adjusted against the installments of the stove) |

# EYC's Recommended Operational Rollout

| | | |
|---|---|---|
| Recommended Value Chain<br><br>**Medium Term** | Medium is defined as the tenure during which the "Charcoal Value Chain" matures into a reliable and consistent source of highgrade charcoal to large offakers of charcoal (Typically industrial applications such as foundry). | • This tenure is like to be 12-18 months depending on the pace of scale-up<br><br>• 'Charcoal co-operatives' which are essentially community clusters organized into 500-1000 households who provide unprocessed or minimally processed charcoal residue. |

# EYC's Recommended Operational Rollout

| | | |
|---|---|---|
| Recommended value Chain<br><br>**Long term** | Long term, in this case, does not replace the medium term, but takes root in the medium term in communities that are showing potential to tap other applications for charcoal that require processing and value-addition. | • Charcoal Micro-enterprises, which are essentially economic clusters of women organized into production clusters to produce value-added products around charcoal such as personal care items, fertilisers, incense sticks, dairy consumables, industrial effluents treatment, waste management catalyst etc. |

# “Earn While You Cook”

***What Success can look like…***

# *"Biomass can do it"… USA Agricultural Research*

- **What would it take to**
  - Stop using poisonous chemicals
  - Stop burning fossil fuels
  - To reduce the danger of $CO_2$
  - And feed a world population increasing by the billion…

- **The US Department of Agriculture's Research Facility tried to answer…**
  - No one took it seriously
  - Till Dr. Luke's lucid story telling came along…

- **What did he say?**
  - "With just the acreage that now lies fallow, we could be self-sufficient in energy"..
  - Plants are renewable, yearly and indefinitely..
  - From fresh plants low-pollution fuel is economically available to replace both gasoline and diesel fuel
  - This would greatly reduce GHG; at the same time create a great mass of vegetation to offset the current surplus of GHG

# Imagine…

- If Industry were to adopt it as a thermal source…
- If “Clean Water” industry were to adopt it as a filtering medium...
- If Agriculture were to use it to build the soil….
- If “Environment Cleaning Systems” were to use it in detoxing the chemical footprint
- If….

***Building a Green GDP***
***Building a sustainable “People-Planet-Profit” Economy***

***…One Kitchen at a Time…***

# Earn While You Cook Program – Linkages for a Sustainable Movement

Charcoal is the residue of a cooking session with Top Lift Up Draft (TLUD) biomass gasifier cookstove. When monetized, this residue becomes a livelihood option for low income households, while also opening up other avenues for downstream economic activities around charcoal - starting to make the residue look like a meaningful source of new energy.

# Earn While You Cook Program – Linkages for a Sustainable Movement

A Project has been successfully initiated in the state of West Bengal integrating with availing assistance under carbon funding. This cookstove program, with 11000 households (and growing @ 500 per month) represents the largest dissemination of the gasifier cookstove technology and the largest program for charcoal buy-back in the world so far. The project financing has been able to create the "seed capital" for an economic activity that is now an INR 2 Crore business enterprise in the project area, generating around 280 tonnes of charcoal every month.

# Earn While You Cook Program – Linkages for a Sustainable Movement

The “Earn while you cook” program with the humble cookstove at its heart, is a triple bottom line economic model that touches three tiers of improvement. It recognizes an improvement spiral and makes a meaningful contribution to it. It shows the potential to provide every community with choices to live the way they like and value what they have reason to value, while still addressing issues of ecological sustainability, distributional equity and well-being in a sustainable manner.

# A Certified “Carbon Asset”; eligible for Carbon Credits

- The Stove is eligible for 2 carbon credits per annum
- The program (stove plus charcoal buy-back and redeployed towards energy) is eligible for 4 carbon credits per annum

# Green Charcoal – A new source of energy from household cookstoves

- Conventional charcoal requires in average 6 kg of wood to produce 1 kg of charcoal. In the TLUD, it is produced as a by-product when cooking, so no additional wood is needed.
- Thus 1kg of TLUD charcoal saves 6 kg of wood - corresponding to approx. 7 kg of CO2

# Innovative Business Model

- Unique economic model
- First in the world to run a large scale cookstove buyback program

# Proven Economic Model

- The project has been running successfully in Sunderbans, WB for the past 3 years
- Has received the Letter of Approval from Ministry of Environment, Forest and Climate Change, who states “.. this project contributes to sustainable development in India”
- Has all sustainability metrics measured and monitored as per the CDM protocol

# Measurable Social Metrics

- The program is amenable to measurements around important sustainability indicators.
- Energy Efficiency, Livelihood, Deforestation, literacy, economic wealth generated in the community

# Scalable Model

- The key factor in scaling up is the “charcoal linkage” when this is established for a community, scalability is easy
- Scaling up is also desirable – because a larger stove population will support access to fuel supply by enabling  better logistics economy

# Replicable Model

- The key factor in replicating the model is the customising of the charcoal linkage to leverage the inherent strengths of the community.
- Replicating the model might involve a study of the community to identify the downstream charcoal application and the relevant charcoal linkages for it.

# Possibility for R&D, encourages micro-enterprises

- There are 52 known uses of charcoal
- It is possible to create a series of micro-enterprises, that use charcoal made by households, as raw material

# Possibility for Soft Skill Interventions

Since the economic model is amenable to catalyze new micro-enterprises at the grassroots, it will provide possibilities for corporate-community partnership around soft skills, project development etc.

# Possible Scenarios – For a Public-Private Partnership

- When the objective of –“earn while you cook” is achieved, the corporate will have the learnings for an economic model that can be scaled up and replicated in many such communities.
- Achievable socio-environmental benefits
  - livelihood
  - carbon emission reduction
  - poverty alleviation
  - maternal and child health
  - women empowerment).

# Corporate Community Handshake

Corporates, particularly through their emphasis on Social Responsibility and CSR Programs have a gateway to enable a corporate-community partnership in building sustainability movements in many communities. A corporate's environmental and social behavior as well as its financial performance, to a larger extent can be determined from the character of its CSR investment. CSR is also emerging as an important instrument in the struggling sector of developmental finance and is set to play a very critical role in working towards and achieving the Sustainability Development Goals that the whole world is striving towards.

# Corporate Community Handshake

- Public Private Partnerships are increasingly being seen as a viable, feasible and sustainable growth model for building a “People-Profit-Planet” economy.
- Often the key to catalyzing such a growth model is finding the “Right Starting Point” in a community – so that it represents the optimum start to the improvement spiral that will straddle the household, the community and the planet.

# Earn While You Cook Program – Linkages for a Sustainable Movement

A very unique community program called “Earn while you cook”.

This is an economic model around clean cookstoves that is an energy access program with a difference - Through the act of cooking with a clean cookstove, women, from low income households, become "artisans" who turn biomass in charcoal. And earn from it.

# Further Corporate Innovations

- “Earn while you cook” for agriculture/Horticulture
- “Earn while you cook” for Industry
- “Earn while you cook” for clean water access
- “Earn while you cook” for a new, green energy source
- “Earn while you cook” for Oil Industry

# “Earn while you cook” for Agriculture/Horticulture

Charcoal is black gold for the organic farming revolution. Households that make charcoal from cooking can combine it with compost or precondition it with Effective Microorganism technology to create organic fertilizers to build the soil for all communities that the Corporate works with, in the Agriculture/Horticulture space. Carbon Fertilizer, Compost, Substitute for peat in potting soil, plant protection, compensatory fertilizer for trace elements –are some of the applications of this economic model.

# “Earn while you cook” for Industry

Charcoal is a very common consumable in many industries. For many applications such as effluent treatment, slurry treatment, waste water management, additive – are some of the applications of this economic model

# “Earn while you cook” for clean water access

Charcoal is an effective water filtering agent. Tie-up up household charcoal groups with water filter industry or better still, developing models of water filtration to encourage each household to make their own primary clean water is a possibility. Charcoal taps, charcoal water filters are some examples.

# “Earn while you cook” for a new, green energy source.

The calorific value of the TLUD charcoal is on par with that of lignite. So this represents a whole new source of energy – that is cleaner (it is less polluting to produce) and greener (It requires lesser wood than conventionally made charcoal).

# “Earn while you cook” for Oil Industry

Carbon materials are effective adsorbents and can be effectively used for Adsorptive Desulphurization of SR diesel. This again presents the possibility for Corporates engaged in Oil industry to connect households in a green value chain with industry.

# Mino Livelivelihood opportunities for communities/self help groups

The “Charcoal” raw material can also provide the basis for creating a series of mini livelihood opportunities for communities/self help groups – such as charcoal soap making, charcoal agarbattis, charcoal potting soil etc. Research focused on developing new products that can be made at local community level is an enticing possibility

# Earn While You Cook - The Larger Vision

- The Calorific value of the charcoal from the cookstove is on par with that of mineral coal. The demand for coal in the next 5 years is set to grow to over 9 bn. tonnes; the global coal use is set to double by 2040; the most rapid growth in coal consumption is to be determined in Asia, with the consumption in India predicted to double over the next 15 years and triple by 2040.
- The corporate will be able to get a quantifiable socio-economic-metric that can be reported in their annual reports.
  - Given below is an example of how a corporate can report the impact its support of the “earn while you cook” Program. This is a from an example based on a cookstove program in Sunderbans, West Bengal

# Highlights of Sunderban Project - I

- For the User – Community of 5000 TLUDs
  - Saves  208 kg per months per HH (2.5 tonnes per year)
  - Improved health due to lower indoor air pollution.
  - Easy cooking
  - Faster cooking.
  - Charcoal Income (almost 2000 RNS per year)
  - Its environmental benefits do have a direct impact on the improvement of livelihood of users

# Highlights of Sunderban Project - II

- For the community – Cluster of 5000 TLUDs
  - Energy savings (wood and charcoal).
  - Direct impact on the environmental situation in project area
  - Working together with local community and raising awareness of pressing environmental problems.
  - Positive Climate Change - Lower CO2 emission.
  - Better quality of life to rural and urban poor, especially for women and children

# Highlights of Sunderban Project - III

- Environmental Impact - Cluster of 5000 TLUDs
  - 87500 tonnes of wood saved in 7 years; equivalent of a 437 ha forest in 7 years
  - CO2 savings of TLUD compared to baseline stove are 50%
  - 25% of wood is converted to charcoal
  - Each stove is saving up to 2.5 tons CO2
  - User need less than up to 50% wood for cooking than cooking with their traditional woodstoves
  - It reduces deforestation in the project Area

# The Corporate Success Story

- The Corporate Involvement in the program will benefit from a guided “vision, mission and goals”
  - Because of the emphasis on climate protection technologies
  - Because of the rigour that the monitoring of such projects bring in
  - Because of the ability to report on the “fund use” in terms of an internationally recognised metric
  - Because of its ability to engage at a deeper level in the project, thus enhancing the corporate participation towards social commitment.
  - Because of its ability to provide a platform for its own employees to volunteer and show their social commitment; besides providing the HR team with an avenue to host and promote capacity building and training programs

# The Corporate Success Story

- **“People-Planet-Profit”** economy

- It requires several “messiahs” - particularly those who are able to support the project with “patient capital” during the initial gestation period it to start fulfilling the social-economic-environmental agenda that it embodies.

- ***It provides an effective starting point for building sustainable communities for corporates that are keen on creating triple-bottom-line oriented development models in the social sector.***

# Earn as a cook  Experiences

Earn as you cook initiatives fulfill the vision under the AE4H . We are learning  from energy poor communities as well as the innovations that are being nourished in the laboratories of lead universities .The experiences are great catalysts  to trigger major innovations and breakthroughs in times to come.

This People-Profit-Planet model can be replicated in other areas of innovation.

# EYC Experiment - Affordable energy to Humanity AE4H SYNERGY

Prof. JATIN NATHWANI  Executive Director of WISE has launched  a Global Coalition under the caption AE4H to address Global Poverty Harnessing global muscle and brain power to transform the lives of Around 3 Billion people. The rationale for action is compelling.

# AE4H FINDINGS

- WHILE IT IS LAUDABLE TO HAVE A MISSION TO DELIVER THE FUNDAMENTAL PHYSICS & MATERIAL DESIGN INNOVATIONS TO COMBAT THE SEVERE SETBACKS OF THE HUMANITY AS WHOLE,
- IT IS IMPERATIVE THAT THE SOLUTIONS MUST BE ADOPTED IN THE CULTURAL CONTEXT OF THE WAY PEOPLE LIVE
- KEY IS TO HAVE DEEP SUPPLY CHAIN EXPERTISE TO EVOLVE SOLUTIONS AT A PRICE POINT AND PERPORMANCE LEVEL THAT ARE SUSTAINABLE

# WHAT IS REQUIRED

- 1.KNOWLEDGE CREATION
- 2. SOCIAL & BEHAVIOURAL CHANGE
- 3.RADICAL SYSTEM REDESIGN

# WHAT NEXT?

- A MOVEMENT TO CREATE ENERGY ACCESS SERVICE
- ENERGY ACCESS INNOVATION CENTRES 5Nos

# Acknowledgements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# References

# THANK YOU!


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