

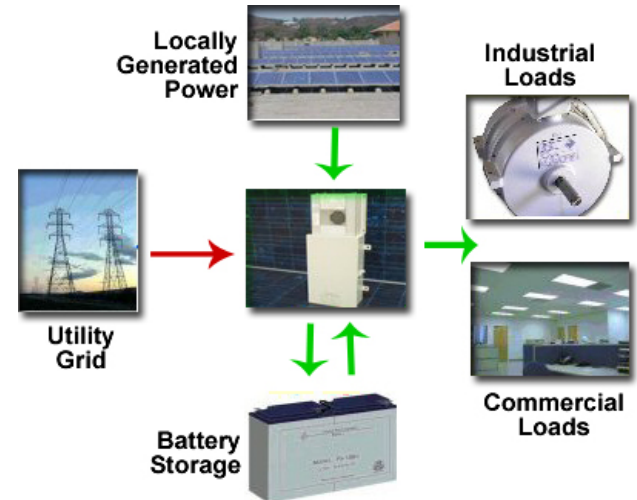


# Nuworld Research & Development

## Harnessing Free Fuel – Renewable Energy



Growing power.

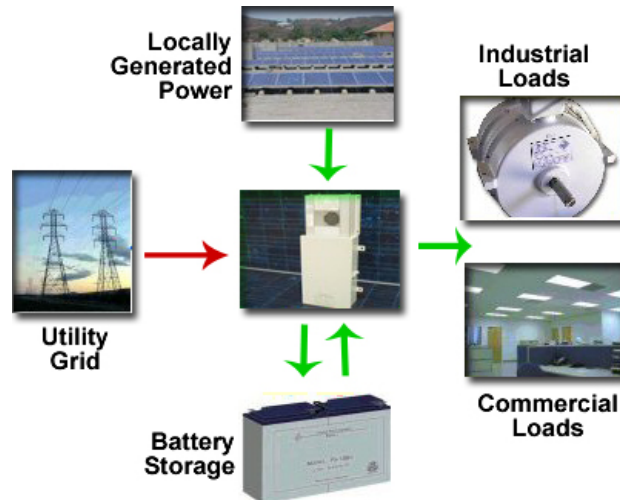


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# Nuworld Research & Development

## ICT – Solar and Hybrid Power Supplies



ICT for every village - **Solar Power Supply** can provide sustainable power to Common Service Centres (CSC) program of village electrification. World Bank is willing funding further for a range of e-governance initiatives in India as part of the first phase of National e-Governance Plan (NeGP).

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## Agri-Waste, Manure to Electricity



# Growing power





# Nuworld Research & Development

## Introduction

- Nuworld Research creates non-conventional market entry methods to help manufacturers and systems integrators to enter [new markets](#) while preparing a business plan for MMC Ontario (an investment holding company). Subject to an independent due-diligence, MMC Ontario invests in emerging technology companies, secondary tier of manufacturers & system integrators (SMB) - who wish to be a technology partner in "[proof of concept](#)" site in Ontario, while being nurtured as an India focused Anchor Company. Nuworld Research is a not for profit division of MMC.





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## Strategic and Investment Partner

1. Pre-qualifications requirements of an in-country strategic and investment partner:
  - a) Strong financial balance sheet,
  - b) Must have an excellent knowledge of/experience in
    - ❖ Local energy management and
    - ❖ Government incentive support services
2. Local investment partner should be capable of gathering and verifying following data:
  - ❖ \$\$\$ saved by local partner due to “On-site” DG and consumption
  - ❖ \$\$\$ contributions from tax credits, incentives and Govt. programs
  - ❖ \$\$\$ to meet Local infrastructure difficulties, if any
  - ❖ \$\$\$ for adjustments (\$\$\$) to meet local standards
  - ❖ \$\$\$ to develop local training programs and continuous R&D





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## Harnessing Free Fuel- Solar and Hybrid

Concept: On-site harnessing of free fuel (Solar, Wind, Geothermal, Agricultural Waste etc. to Energy) helps building owners to be a "On-site" generator as well as consumer of the generated electricity, resulting *reduced immediate* load on local electricity Distribution company, resulting *Less immediate* need for power generation by default electricity Generation company, while renewable energy can be qualified to earn *Carbon Credits* that can be sold to Canadian or International Carbon trading companies, resulting an additional revenue source towards ROI to harness free fuel.



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## Benefits - "On-site" DG

- "On-Site" harnessing of renewable energy creates captive distributed generation (DG). Energy generated is also consumed by the Building owner (Generating company), resulting saving money while increasing efficiency and improving environment that can earn Carbon Credits.
- "On-site" captive energy generation and immediate consumption by the building owners:
  - Saves investment in Transmission and Distribution infrastructure
  - Saves, T & D Losses, resulting improved efficiency
  - Saves on-going increase in electricity and fuel costs
  - Earn Carbon Credits
- Once initial investment is recovered, the consumer owns DG and may decide to utilize Net-Metering to sell access energy to default LDC.



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## Standards and Training Programs:

Proof of Concept helps define partners role, identify local requirements, standards and develop training programs suitable to local partners needs. Following is a typical listing of "Proof of Concept"

### ❖ Solar Lighting for:

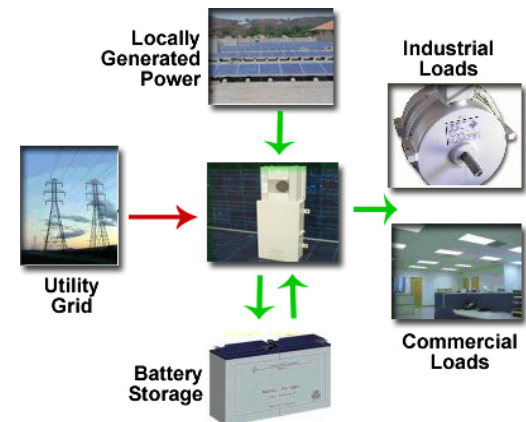
- Pathway Lighting
- Park Light,
- Transit shelter light

### ❖ Solar DG for Fluorescent lights

### ❖ On-site Hybrid Energy Generation for:

- Peak shaving,
- Off-grid, stand-alone systems,
- Fill in Power Gaps

- For further information visit [www.nuworldresearch.com](http://www.nuworldresearch.com)







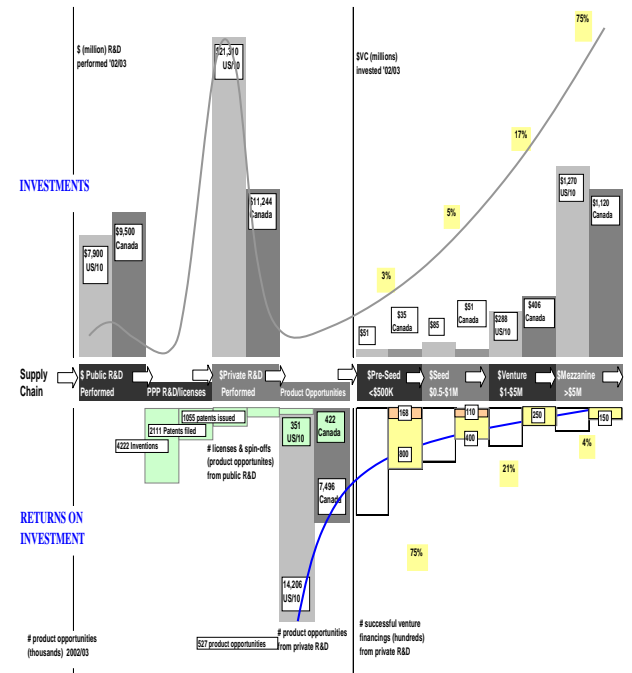
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## Sample listing of Technologies & Processes

- Fuel Conversion
- Bio-Fuels
- Solar Car Wash
- "Zero" Energy Solutions
- AMR, Net Metering
- Info Security
- Waste to Energy
- Electric Distribution System
- Electric Revenue Cycle



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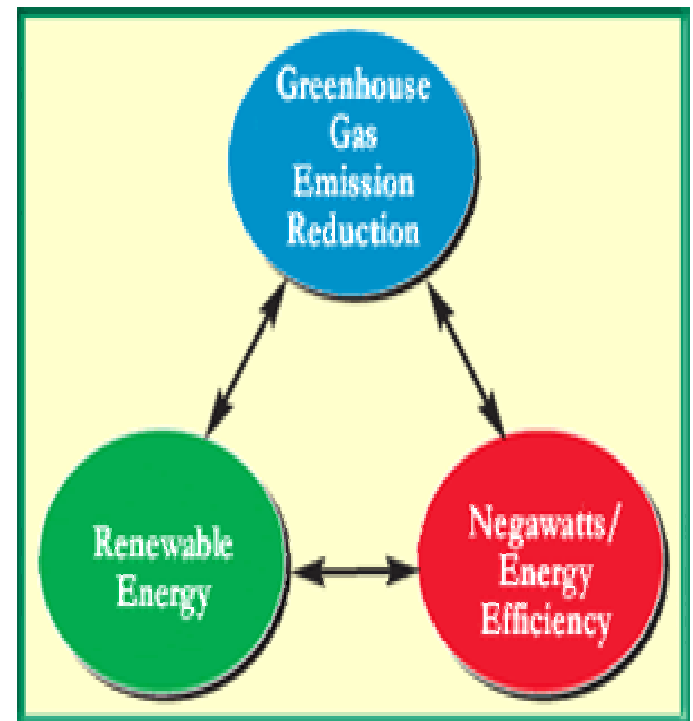


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## Concept: Triple Convergence

Renewable Energy earns Carbon Credits, while improving Energy Efficiency. Energy efficiency improvements *result* in:

- ✓ *Reduced* load on local electricity Distribution company
- ✓ *Less immediate* need for power generation by electricity Generation company
- ✓ Earned *Carbon Credits* can be sold to Canadian or International Carbon trading companies
- ✓ Additional revenue source to *finance renewable energy* projects.

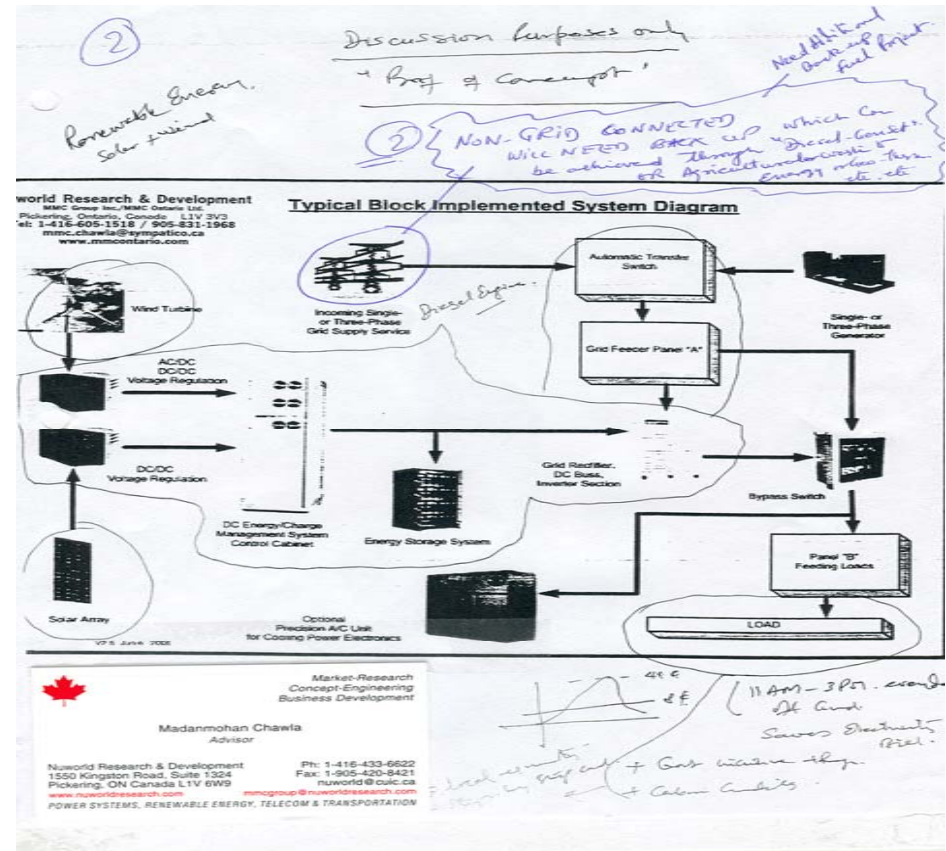




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## Variables and Approvals:

1. Energy Mix: Harnessing free fuel i.e. Solar, Wind, Geothermal, Agricultural Waste etc. depends upon availability of free fuel for "On-site" DG for Economical energy mix.
2. Approvals: Permits or permission may be needed and may vary depending upon the policies of the various levels of Government - Country, Province and Municipal bi-laws.
3. Fuel Conversion: Diesel to Natural Gas, Agricultural Waste to Gas and Landfill Gas (Methane) to Energy
4. Building owner will have choice for primary and secondary default supplier:
  - ❖ Local utility and or electricity supplier
  - ❖ Other reliable power source (Gas or Diesel Engine)





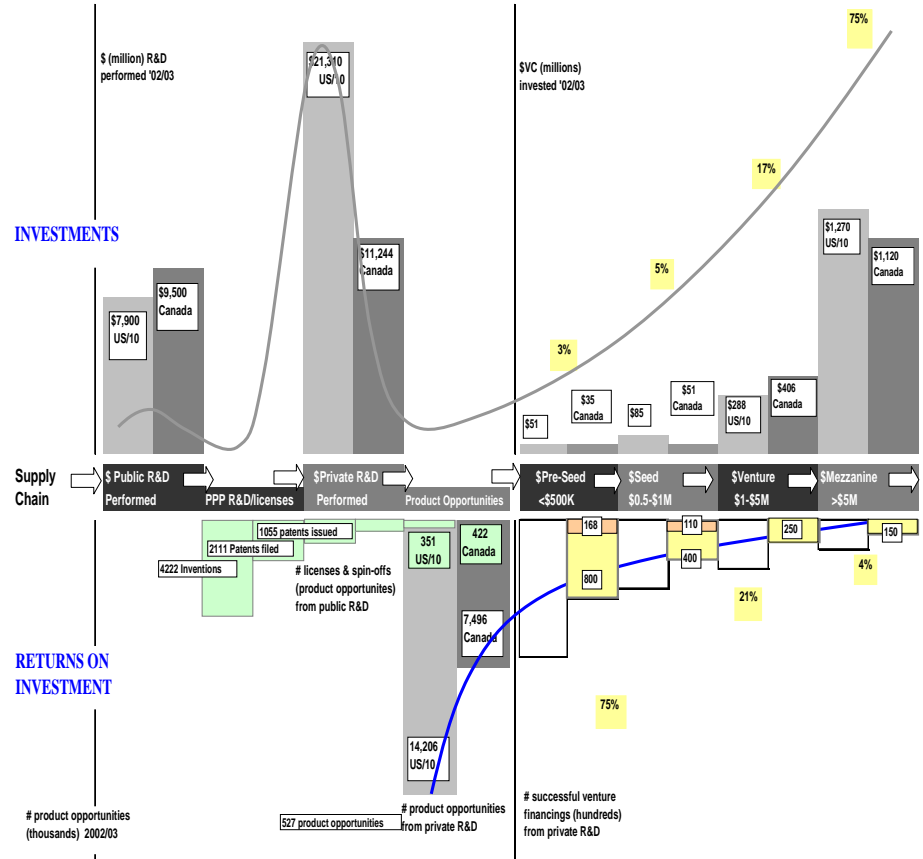
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## Inputs, Outputs and ROI

➤ Funding Support, Cash-rebates or Tax Credits and Net Metering helps reduce upfront capitol cost to the end-user, resulting improved return on investment.

➤ In addition to reduced electricity bill, contributions from the following should improve overall ROI:

- ❖ In-country Government Programs
- ❖ Canadian Government Programs
- ❖ Equipment Financing
- ❖ International Financial Institutions





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## Sample - Business Model

- ❖ It will be the responsibility of the local partner to introduce "local proof of concept" to their industrial and commercial accounts - resulting in continuous local business, while Nuworld coordinates all the necessary support to succeed, continuous training and R&D to the local partner from Canada.
  
- ❖ "Benefits" to potential investment partner:
  - Continuous Saving in Electricity bill and or Fuel
  - Global Competitiveness through Increase efficiency and productivity
  - Receive In-country Government funding support and incentives,
  - Other available financial assistance
  - New Business for Continuous growth with better ROI.
  - In-country proof of concept should always be in control of our local partners for their accounts.

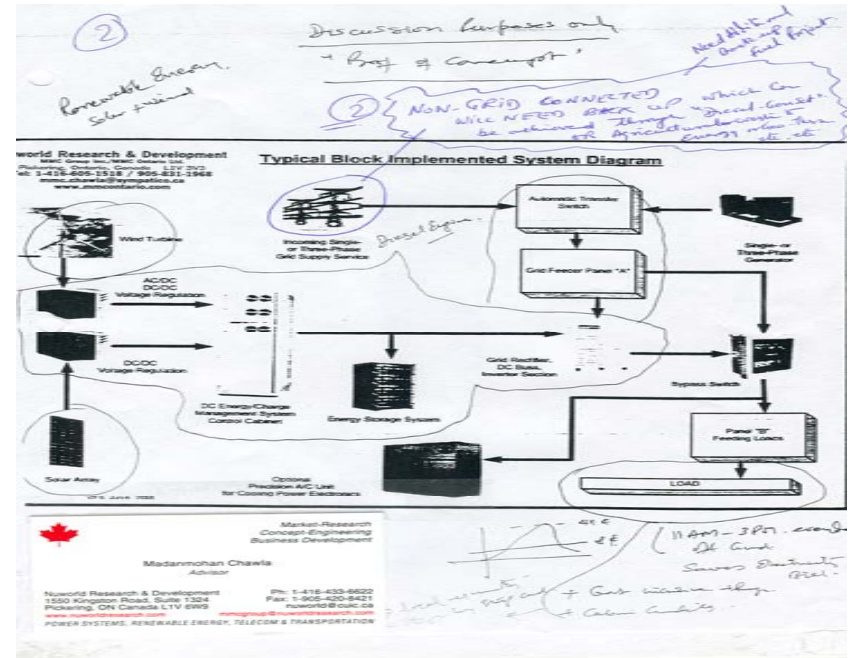




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## “On-Site” Gas-Solar-Wind-Waste to Energy, Hybrid System:

- ✓ Peak Shaving for Industrial and Commercial building owners – ideally suitable for G-8 countries
- ✓ Off-Grid, Stand alone system - Ideally suitable for Farmers and sustainable Rural development.
- ✓ Brownfield Remediation or Fill in Power Source Gaps
- ✓ Supplement Agricultural waste-to-energy project for sustainable Community development



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## In-country Business Plan

1. We are looking for a local investment partner to develop a business relationship, leading to the development of an in-country business plan.
  2. The ideal partner company would be a small-medium sized business (SMB), which is financially strong and has excellent knowledge of/experience in local energy management and government incentive support services.
  3. Sign letter of Intent and non-disclosure with Nuworld Research to identify difficulties in transforming “Step-by-Step Guide” to meet in-country requirements.
- ❖ (Non-Disclosure may need to be substituted with an Upfront deposit (lieu of non-disclosure). Deposit can be adjusted with the supply of major equipment.



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## Phase-1, Concept-Engineering

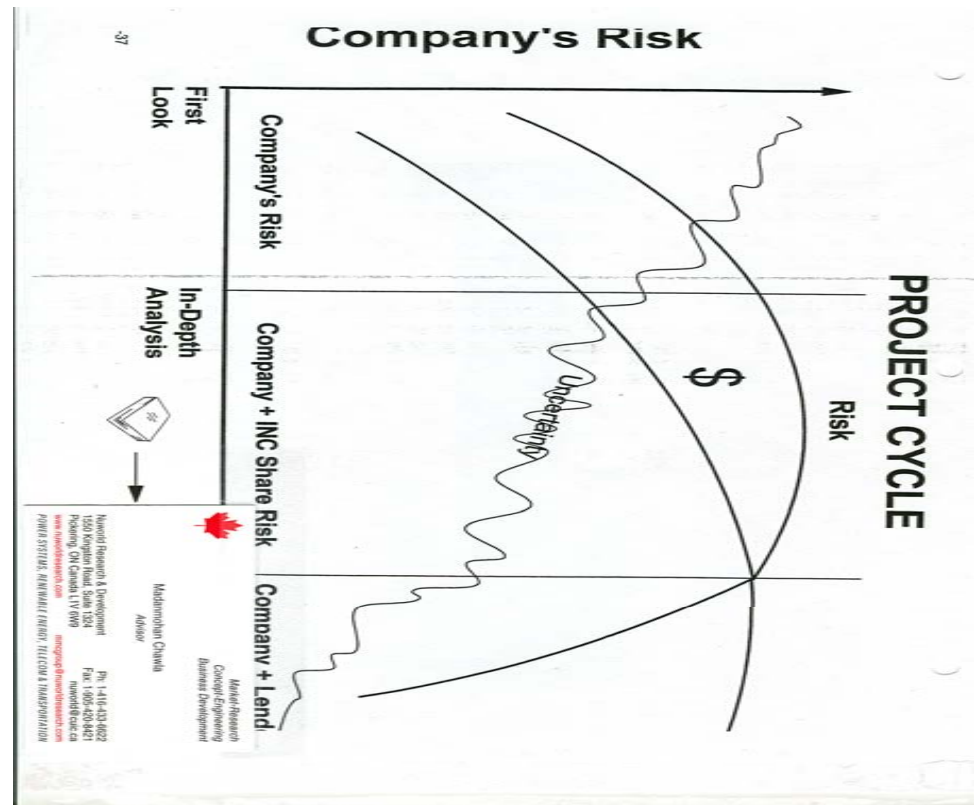
- ❖ We foresee that the in-country partner will need an initial investment to develop an in-country “ Step-by-step guide” to estimate savings due to fuel conversion and “on-site” DG energy mix. See slide “ Inputs, Outputs and ROI”
- 1. Place an order with Nuworld Research for concept-engineering and to transform “Step-by-Step” guide to meet in-country requirements, while verifying following data:
  - a) Verify “on-site” free fuel availability and projected savings
  - b) Pre-qualification requirements for in-country Government incentives programs
  - c) Identify funding programs for Renewable Energy, Energy Efficiency and GHG focused assistance available from CIDA, World Bank, ADB etc.
- 2. Once preliminary design and specifications are completed, all the major equipment for first “proof of concept” will be supplied by an Internationally recognized distributor.
- 3. **Canadian Government Programs:** We can help to organize equipment financing, subject to EDC pre-qualifications requirements.



# Nuworld Research & Development

## To Get Started

- You are invited to be a partner in a feasibility study to include:
  1. Inputs, outputs and ROI
  2. A turn-key "in-country proof of concept".
  3. A sector focused business plan for investment partners.
  4. Options for continuous R&D support and training programs.
  5. Options for MMC Ontario to be an equity partner.





# Nuworld Research & Development

## Phase-1: To Get Started:

- Please identify your company's risk position in project cycle?
- ❖ To get started, please Complete "Project, Fuel and Hybrid Energy Questionnaire" can be down Loaded from [www.nuworldresearch.com](http://www.nuworldresearch.com)



## Questions?

## Contact:

Gauri Chawla, JD  
CEO - SMB Partnerships

[www.nuworldresearch.com](http://www.nuworldresearch.com)