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Strategies for the rehabilitation of mercury-contaminated mining soils for use in renewable energy and other self-sustaining uses

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A review of the reuse potential of abandoned land for renewable energy

- R3 and Kyocera Solar partnership
- High level review r3 of brownfield land re-use potential for renewable energy, identifying opportunities for community and/or Colombian commercial enterprise
- Support Colombian goals for climate change and resilient, renewable energy

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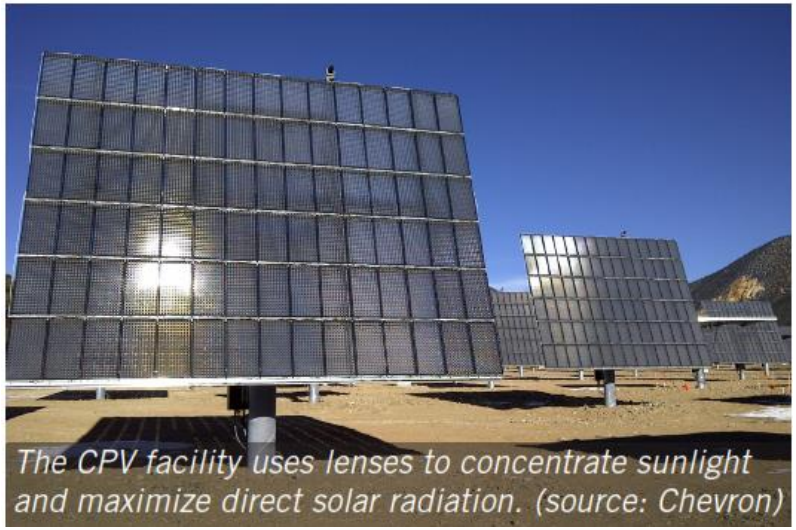
Benefits

- Improves project economics with reduced land costs and tax incentives
- Reduced project cycle times through streamlined permitting and zoning
- Reduces the environmental impacts of energy systems, preserving greenfields
- Allows generation facilities to be located closer to the electric load - in line with the increasing emphasis being placed on more distributed generation of energy sources
- Investor interest
- Support of regulators and non-governmental organizations

USA Mines Case Studies

- ***Chevron Questa Mine:*** ***1 M****W* concentrated photovoltaic

- **Avalon Solar Facility** 35 MW Solar PV



The CPV facility uses lenses to concentrate sunlight and maximize direct solar radiation. (source: Chevron)

The site's 35-MW array will provide enough energy to power about 7,000 homes. (source: Inside Tucson Business)

Case Study

UK Land Trust

- Beam Parklands, cuenca del río East London; EUR 15,4 Millions saved in flood prevention and public health benefits.

US RE-Powering America

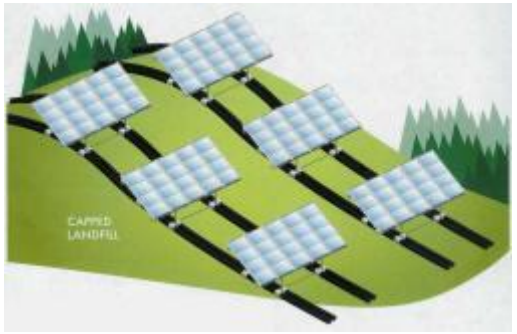
- New Hampshire Community Spillway. Installation of 900 KW solar panels.
- Mass, EE.UU. Brightfields> 100 MW RE In the Dumps "ATM for local communities"

Initial RE-Power Results

Data Entry Report

Site Name	Segovia, Antioquia
Site Address	Mina El Planchón Segovia Antioquia - Colombia 0000
Evaluator Name	Alfonso Rodríguez
Site Type	Potentially Contaminated
Technology	Solar
Installation Type	Ground Mount and Rooftop

Question	User Response	Value Entry	User Comments
General Site Characteristics			
Is the site in the northwest corner of Washington state or Alaska?	No		Colombia
Is the usable acreage for a ground mounted system greater than 2 acres?	Skip		
Is the usable rooftop space greater than 30,000 square feet?	Yes		
Is the distance to transmission and/or distribution lines less than 1 mile?	Yes		
Is the distance to graded road less than 1 mile?	Yes		



Other Variables to Consider

Tool Content - EPA

- Is renewable energy compatible with the community vision or redevelopment plan
- Is the site owner interested in investing in, selling, or leasing
- Electricity Costs : Average retail price
- Net metering allowed by applicable utility?
- Energy Demand/Load assessment of site
- Site Considerations, Status, and Readiness
- PV system: usable space, site topography

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Conclusion

Brownfields as "engines of economic development and resilience energy sources" to support Colombia's 2050 NATIONAL ENERGY PLAN

Recommendations:

- Engage stakeholders early (World Café)
- Demonstrate social benefits to the community (r3 project tools)
- Develop public/private partnership agreements for financing, construction and management

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Thank You!