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**Investment and employment in the natural
resources sector:
Practical perspective**

by

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The views expressed are those of the author and do not necessarily reflect the views of
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Investment and employment in the natural resources sector: practical perspective

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Global employment trends

- 202 million people unemployed in 2013 - 5 million more than in 2012.
- **Global unemployment set to worsen - over 215 M. jobseekers by 2018.**
- Youth unemployment rate at 13.1% (74.5 million) is almost three times as high as the adult unemployment rate – reaching a historical peak.
- **SSA total unemployment: 7.8%; higher in North Africa, particularly for youth.**
- Vulnerable employment in SSA: 77.4% - the highest of all regions (world average 48%).
- **Working poverty declining slower than in previous decades: 839 million workers (26.7% of total employment) living on less than US\$2 a day.**



Resource-intensive industries and employment

- Despite significant levels of investment, resource and energy-intensive industries have a modest share of total global employment.
- Employment has been declining in industries such as mining, fossil fuel-based energy or iron and steel as a result of increased automation and rising labour productivity.
- E.g. some 70,000 South African power sector jobs were lost between 1980 and 2000, despite an increase in electricity generation by more than 60%.

Global employment in resource-intensive sectors

Sector/industry	Employment (millions)
Extraction of oil and gas	3
Coalmining ¹	7
Utilities (including water) ²	11
Energy-intensive manufacturing ³	11
Electric and electronic products ³	18
Total	50

¹ World Coal Institute (WCI): *The coal resource: A comprehensive overview of coal* (London, 2005). ² ILO: *Promoting decent work in a green economy* (Geneva, 2011). ³ UNEP: *Towards a green economy*, op. cit.



Risks to productivity and jobs

The resource-intensive development model will lead to rising costs, loss of productivity and disruption of economic activity:

In a BAU scenario (ILO Global Economic Linkages model)

- *Productivity level drop 2.4% by 2030; 7.2% by 2050.*

In contrast

In a Green Economy (ILO Global Economic Linkages model)

- *0.5-2% Net job gains = this translates in 15-60 million additional jobs*
- *Multi-factor productivity can improve by 1.5% by 2020; 5% by 2050.*

8 key sectors: agriculture, forestry, fishing, energy, resource-intensive manufacturing, recycling, building and transport.



Investments in forests and employment creation

- Over 2 million jobs based on certified sustainable forest management.
- Funding of US\$30 billion from REDD+ and other payments for ecosystem services would deliver 8 million jobs in poor regions of developing countries

People dependent on forests for employment, income and livelihood

Scope	Estimated number of people (million)
Formal employment in forestry, wood processing and pulp and paper	13.7
Informal employment in forestry	30–50
Indigenous people and forest dwellers	410
Total	453.7–473.7

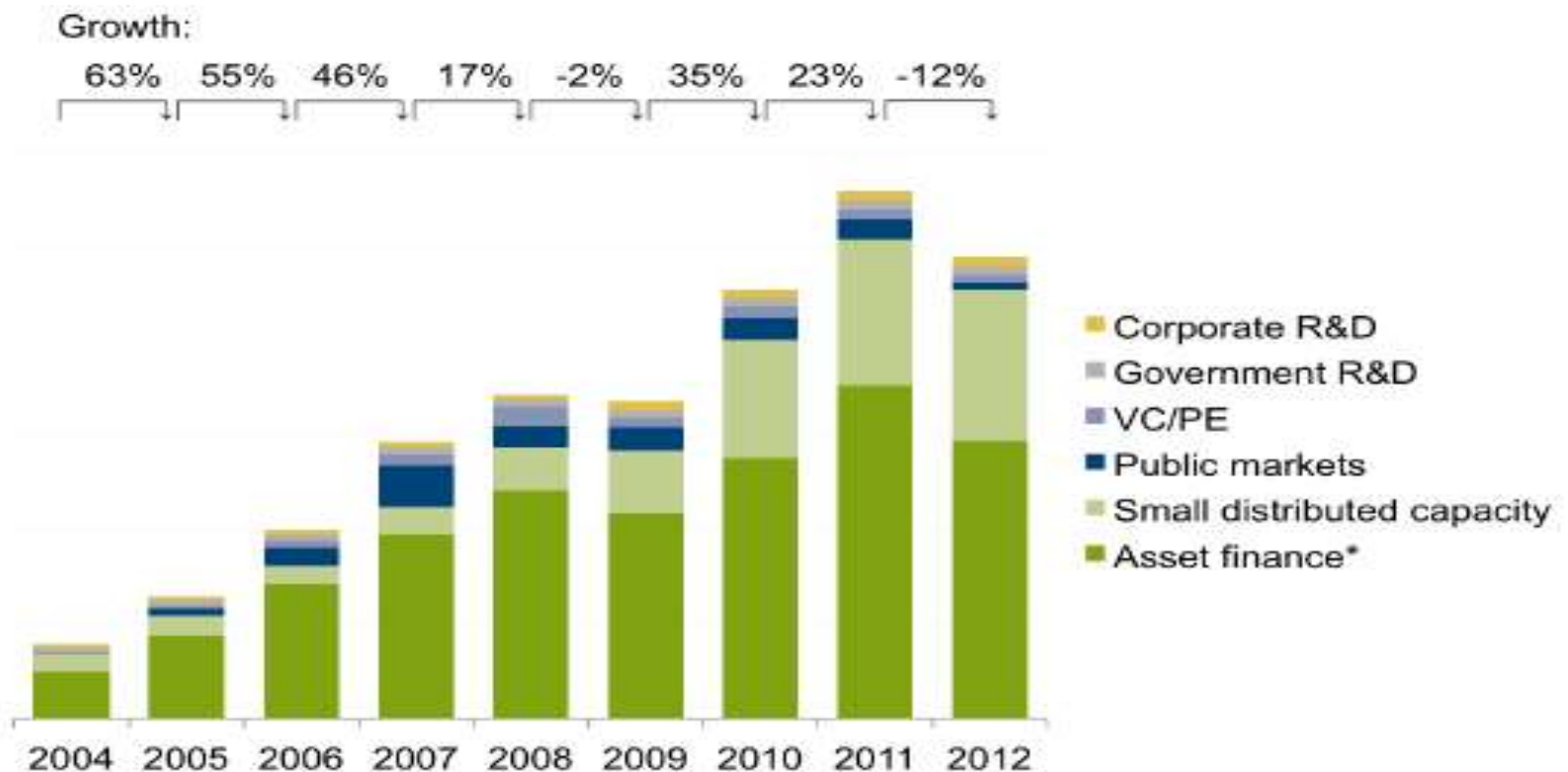
Source: ILO 2012, Working towards sustainable development. Opportunities for decent work and social inclusion in a green economy



Growing investments in renewable energies

\$244 billion of investment in renewable power and fuels (including small hydro-electric projects) in 2012.

GLOBAL NEW INVESTMENT IN RENEWABLE ENERGY BY ASSET CLASS, 2004-2012, \$BN



*Asset finance volume adjusts for re-invested equity. Total values include estimates for undisclosed deals



Renewable energies and jobs

- Over 5.7 million people were employed directly or indirectly in the renewable energy industry in 2012 – a figure that could triple by 2030.
- The largest number of jobs is found in biofuels and solar photovoltaic, 1.38 million and 1.36 million, respectively.

	WORLD	BRAZIL	CHINA	INDIA	UNITED STATES	EUROPEAN UNION (EU)		
						GERMANY	SPAIN	OTHER EU
	Thousand jobs							
Biomass	753		266	58	152	57	39	178
Biofuels	1 379	804	24	35	217	23	4	82
Biogas	266		90	85		50	1	20
Geothermal	180				35	14	0.3	37
Small Hydropower	109			12	8	7	2	18
Solar Photovoltaic	1 360		300	112	90	88	12	212
Concentrated Solar Power	37				17	2	18	
Solar Heating/ Cooling	892		800	41	12	11	1	20
Wind Power	753	29	267	48	81	118	28	124
TOTAL	5 729	833	1 747	391	612	370	105	691

Source: IRENA, 2013, Renewable Energy and Jobs. Note: excl large hydropower and traditional biomass



Employment-intensive green investments and conditional cash transfers

The Mahatma Gandhi National Rural Employment Guarantee Act of India is one example of programmes providing direct income transfers through public works.



- Right to 100 paid working days/year
- Work in climate change adaptation, afforestation, water conservation/harvesting
- 50 million persons participated in 2010-2011



The *Bolsa Verde* programme in Brazil

- The Brazilian *Bolsa Verde* (green grant) programme includes a green grant designed to provide incentives to poor families living in natural reserve areas to engage in environmental conservation. Colombia and Mexico have implemented similar programmes.
- In its first year *Bolsa Verde* provided monthly payments of about US\$35 each to about 16,634 poor families in protected public areas as compensation for the environmental service of preserving these areas.
- There are plans to extend the coverage to 300,000 families, encompassing a broader range of measures, such as clean energy use.

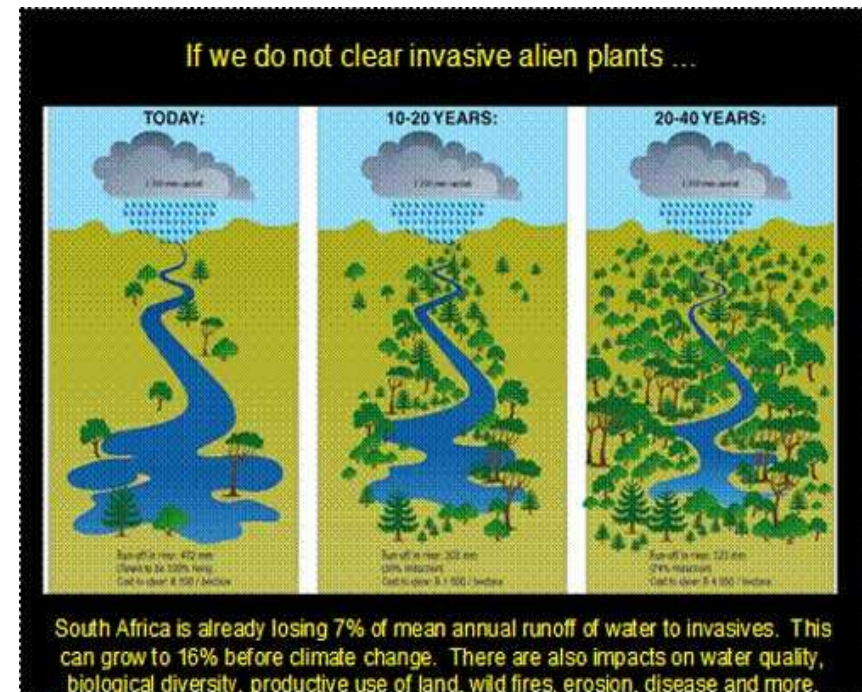


Expanded public works programme in South Africa

- The EPWP Phase (2004-2009) created 1 million work opportunities
- Phase 2 (2009-2014) set an ambitious 4,5 million work opportunities target.

The Working for Water programme is estimated to have saved as much as R400 billion (CSIR), cleared over 2 million ha of alien invasive plants, and prevented the loss of 71% of grazing.

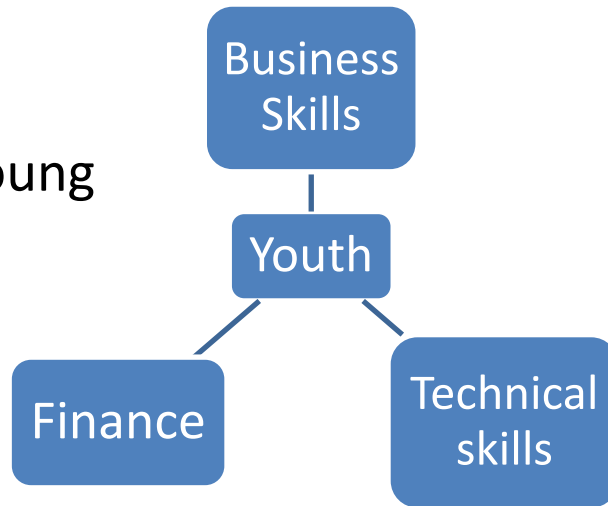
Working on Fire in 2007/2008 saved the forestry industry alone R3,7 billion – on a budget of R123 million.





Young entrepreneurs turning waste into wealth

Challenges to young entrepreneurs



- 11,000 new businesses; 23,000 new jobs by 2014.
- In 2010-2012 4,680 students participated in green entrepreneurship program of Junior Achievement (world's largest youth business network)
- In a 2011 competition, 31 Student companies (43%) out of 73 created green businesses.





Green investments can have higher employment multipliers

	Output multiplier	Direct jobs (Per million-PM)	Indirect jobs (PM)	Total Jobs
Agriculture				
Conventional	1.21	2.28	0.29	2.57
Green	1.30	2.28	0.41	2.69
Manufacturing (Textile)				
conventional	1.58	0.7	0.8	1.5
Green	1.54	1.7	0.8	2,5
Services (Hotel)				
Conventional	1.37	0.67	0.55	1.23
Green	1.37	1.49	0.55	2.05
Energy				
Fossil fuel	1.6	0.2	0.6	0.8
Renewable	2.5	0.2	1.2	1.4

Source: Sultan, 2012. Green jobs assessment in Mauritius.



Dedicated policies needed for positive employment outcomes

- More and better jobs are possible with investments in natural resources exploitation, management and restoration.
- However, such gains are not achieved by default, but **by design** with policies that:
 - Stimulate job creation as an objective rather than automatic result of growth,
 - Ensure that jobs created are productive and meet decent work criteria - addressing issues specific to the informal sector,
 - Advance social inclusion with dedicated social protection policies, skills buildings and upgrading and retraining of workers.



Thank you

- International Labour Organisation:
<http://www.ilo.org/global/lang--en/index.htm>
- Green Jobs Programme of the ILO:
www.ilo.org/green-jobs-programme
- International Training Centre of the ILO:
<http://www.itcilo.org/en>