## **Climate Jobs and Manufacturing in South Africa**

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#### Abstract

The campaign for one million state led climate jobs forms the basis of this paper. Drawing on some of the literature, the paper seeks to examine some of the constraints and opportunities that exist for manufacturing in the context of a growing debate on the use of renewable energy (RE). Focus on a 'just transition' from fossil fuels to RE and policy direction of the South African Government in support of its Copenhagen commitments have some bearing on whether the country can shift to a low carbon economy and offset some of the job losses 'in the coal mining and electricity generation sectors'. (ERC, 2007: 15) A short case study on the Solar Water Heater (SWH) industry in the City of Cape Town is included in the discussion to shed some light on working conditions in what many perceive to be a growing segment of the RE sector. The paper concludes with a set of recommendations for the trade union movement to facilitate the campaign for a million state led Climate jobs.

#### Background - The Concept Note

The concept note begins by providing some justification for the need to create one million state led climate jobs (possibly more) in the context of what it calls 'an ecological crisis' (AIDC, 2011: p1) The note also makes a distinction between climate jobs and 'green jobs':

Climate jobs mean those that contribute to cutting down the emission of greenhouse gasses that lead to global warming. Green jobs, as important as they are, can include a very wide variety of work related to conservation, greening the environment, reducing pollution, etc. Climate jobs would involve the building of solar and wind power stations ... (AIDC 2011: 1)

#### The United Nations Environment Programme (UNEP) defines 'green jobs' as jobs

...that contribute substantially to preserving or restoring environmental quality ... this includes jobs that help to protect ecosystems and biodiversity; reduce energy, materials, and water consumption through high efficiency strategies; de-carbonize the economy; and minimize or altogether avoid generation of all forms of waste. (UNEP/ILO/IOE/ITUC, 2010: 3)

#### Key Economic Indicators (Stats SA)

Using both the narrow and broad definitions for unemployment<sup>1</sup> the Department of National Planning in the office of the Presidency (2010: 21) claims that unemployment is at 25,2% (narrow – official definition) and at 35,4% (broad – unofficial definition) According to the Quarterly Labour Force Survey results for the 2<sup>nd</sup> Q 2011 South Africa's unemployment rate now stands at 25,7%. (Stats SA, 2011: vi) This figure excludes discouraged work seekers. Drawing from Bhorat's analysis of Statistics South Africa Income and Expenditure Survey (IES), the Department of National Planning argues that inequality in South Africa remains 'unacceptably high' with a Gini Coefficient of .679<sup>2</sup> (The Presidency, 2010: 25).

<sup>&</sup>lt;sup>1</sup>Narrow (official) - Number of people who were without work in the week preceding the interview have taken active steps to look for work and were available for work. Broad (unofficial) - Number of people who were without work in the week preceding the interview and were available for work (Stats SA LFS and QLFS, cited in The Presidency, 2010: 21)

<sup>&</sup>lt;sup>2</sup> The Gini coefficient shows the level of income inequality. The Gini Coefficient can range from 0 (no inequality) to 1 (complete inequality) (The Presidency, 2010: 25)

Employment by Industry	v (Stats SA	QLFS 2 <sup>nd</sup>	Q 2011)
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	Apr-Jun 2010	Jan-Mar 2011	Apr-Jun 2011	Qtr-to-qtr Change	Year-on- year Change	Qtr-to-qtr Change	Year-on- year Change
		Thou	sand			Percentage	
Total	13 061	13118	13 125	7	64	0,1	0,5
Agriculture	630	603	598	-5	-32	-0,8	-5,1
Mining	315	313	282	-31	-33	-9,9	-10,5
Manufacturing	1 705	1 803	1 735	-68	30	-3,8	1,8
Utilities	96	97	93	-4	-3	-4,1	-3,1
Construction	1 049	1 031	1 043	12	-6	1,2	-0,6
Trade	2 903	2 962	2 944	-18	41	-0,6	1,4
Transport	766	727	777	50	11	6,9	1,4
Finance	1 723	1 631	1 704	73	-19	4,5	-1,1
Community and social services	2 710	2 828	2 831	3	121	0,1	4,5
Private households	1 157	1 118	1 117	-1	-40	0,1	-3,5

Source: Stats SA QLFS 2<sup>nd</sup> Q 2011, p viii

The table 'indicates that between Q1:2011 and Q2:2011, some industries lost jobs while others created jobs, resulting in employment remaining virtually unchanged between the two quarters. Most of the job losses were in Manufacturing, which accounted for 68 000 of the job losses, followed by Mining (31 000), and Trade (18 000). Job gains were observed mostly in the Finance (73 000) and Transport (50 000) industries'. (Stats SA QLFS  $2^{nd}$  Q 2011, p viii)

## Methodology

The literature review examines a number of secondary sources including government documents, research papers, presentations and newspapers. A short case study on the Solar Water Heater industry in the City of Cape Town is included in the paper to shed some light on working conditions in what many perceive to be a growing segment of the RE sector.

## Literature Review

The South African Government agrees that the country will have to play its part in reducing greenhouse gas (GHG) emissions. Overall, South Africa ranks 13<sup>th</sup> in the world as a carbon emitter and produced some '446 million tons of CO2–equivalent (Mt CO2-eq) in 2003'. (ERC, 2007: 3) According to the Energy Research Centre (ERC, 2007: 3) this figure is expected to quadruple (1 640 Mt CO2–eq) by 2050 if the country continues to grow at a rate of 3% - 6% GDP 'without any consideration of greenhouse gas emissions'. Over the last ten years several policy documents have been

commissioned and released for public comment. Reference to policy measures are included in the following government documents:

#### White Paper on the Renewable Energy Policy RSA (2003)

The White Paper on Renewable Energy (2003: i) released by the Department of Mineral and Energy places a huge premium on the use of Renewable Energy Technologies (RET's) to promote economic growth and employment creation.

To achieve this aim Government is setting as its target 10 000 GWh (0.8 Mtoe) renewable energy contribution to final energy consumption by 2013, to be produced mainly from biomass, wind, solar and small-scale hydro.

According to the White Paper (2003) this can be achieved through several factors:

- Utilisation of technologies that are available locally
- Maximising local content
- Operation and maintenance of such facilities
- Promotion of employment opportunities

## Long Term Mitigation Scenarios (LTMS) 2007 (Department of Environmental Affairs and Tourism)

The emphasis here is on climate change mitigation. LTMS explores a number of scenarios (Growth without constraints; Current Business Plans and Required by Science) and outlines a set of strategic options (start now/scale up/use the market/reach for the goal) to reduce SA's carbon footprint by 2050.



Source: LTMS Technical Summary, 2007: 5

### Integrated Resource Plan (IRP) 2010 (Department of Energy)

The IRP2010 serves to address the country's energy requirements over the next twenty years:

The plan supports a gross domestic product (GDP) growth trajectory averaging 4,5% over the next 20 years. It requires 41346 MW of new capacity (excluding capacity required to replace decommissioned plant) in order to meet the projected demand and provide adequate reserves. (IRP, 2010: vi)

The document includes detailed technical modelling and according to a statement released by the Inter-Ministerial Committee on Energy (IMC) on the 05 October 2011, a 'balanced scenario' option outlines the country's energy mix by 2030 as follows:

Summary: Balanced Scenario country electrical energy mix by 2030							
Baseload Coal	Baseload Nuclear	Renewable Energy	Peaking OCGT	Peaking Pump Storage	Mid-Merit Gas	Baseload Import- Hydro	Total
48%	14%	16%	9%	6%	5%	2%	100%

Source: IMC, 2010: page3 of 4

# National Climate Change Response Green Paper 2010 (Department of Environmental Affairs)

The NCCRGP sets out South Africa's climate change policy: principles, adaptation and mitigation strategies as well as the institutional framework required to meet South Africa's commitment to the Copenhagen Accord to reduce emissions by 34% by 2020 and 42% by 2025.

## Industrial Policy Action Plan (IPAP) (Department of Trade and Industry)

IPAP maintains that the Manufacturing sector has the potential to stimulate economic growth and job creation provided instruments such as procurement and local content are leveraged in a proper manner. The South African Renewables Initiative<sup>3</sup> (SARi) established in 2010 under IPAP has been mandated to develop a funding mechanism to speed up the use of RE and deliver economic and social benefits.

Other government documents that make reference to 'green jobs' are:

- National Planning Commission Vision 2025
- The New Growth Path (NGP)

Apart from the official state documents there are several case studies that quantify the number of jobs that can be created through the use of RE. Some of these initiatives are illustrated in the following tables:

According to the Agama study (cited in Ward and Walsh, 2010: 26), the RE industry generates more jobs than conventional energy (number of jobs per GWh):

Table 1: Employment Potential Conventional Energy versus RE E	iergy
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Conventional		Renewable	
Coal (now)	0.3	Solar Thermal	10.4
Coals (future)	0.7	Solar Panels (PV)	62
Nuclear	0.1	Wind	12.6

<sup>&</sup>lt;sup>3</sup> SARi – The South African Renewables Energy Initiative, established in 2010 under the South African Government's Industrial Policy Action Plan to develop a funding mechanism to speed up the use of renewable energy and deliver economic and social benefits.

Pebble bed	0.2		
Gas	0.1	Biomass	5.6
Liquid Fuel	0.1	Landfill gas	23
Hydro	1	Ocean Energy	1

Source: AGAMA 2003 (cited in Ward and Walsh, 2010: 26)

## Table 2: Employment Projection Renewable Energy Sector

Employment Projection : Renewable Energy Sector			
	AGAMA Energy Study		SARi Update Briefing December 2010
	2003		Based on 20GW by 2020
	*Based on F	RSA Target	
	15% RE by	2020	
Technology	Direct	Indirect	
	Jobs	Jobs	
Solar	8288	24864	Policy supports ' critical mass of renewables' to facilitate
Thermal			SA 's economic growth and promote job creation (p4)
Solar PV	2475	7425	Deliver to $20.22$ CW/s of repeated by a shout $15\%$ of the
Wind	2470	67200	arid by 2020-25
Diamana	22400	07200	giù by 2020-23
Biomass	1308	3924	Generate 35 000 – 50 000 iobs mainly for skilled and
Landfill	1902	5706	semi-skilled workers in the manufacturing and
Biogas	1150	2850	engineering industries
SWH	118400	236800	Decrease up to 1 2bn tonnes of CO2 emissions by 2045
Diofuele	250000	250000	this would secure up to 22% of the emissions
Diolueis	350000	350000	reductions needed for SA to transform towards an
Jobs	505 923	698 769	emissions pathway that peaks, plateaus and declines by
			2020-2025
			(SARI, 2010: 32)
Total	1 204	4 692	35 000 – 50 000

Source: AGAMA Energy (2003); SARi (2010); IDC May 2010 (Slide 13)

Table 2 includes estimates for job creation from AGAMA (2003) and SARi (2010).The AGAMA (2003) study includes estimates across all sectors applying RET's; SARi's projections cover potential employment in manufacturing and engineering. The widely quoted AGAMA study (2003: x) prepared for the Sustainable Energy and Climate Change Partnership (SECCP) argues that a 'government commitment to a target of 15% of total electricity generation capacity by 2020' in RE will lead to the creation of just over 500 000 direct jobs and around 700 000 indirect jobs.

It is clear that projections for employment vary from one source to another: the AGAMA study includes detailed modelling on RET's while the SARi study examines the potential of RE in a specific industrial sector. Other factors that might account for variations include the use of different methodologies and instruments used to measure and project employment estimates.

According to the UNEP/ILO/IOE/ITUC (2010: 36) report job estimates in an emerging sector like RE can be derived from a number of sources (industry surveys, employment estimates based on jobs per unit of production / production capacity and jobs per level

of investment), but 'even where such data are available they tend to be snapshots rather than time series, and to be estimates and projections more than firm figures'.

The IDC (2010) study points out that the potential for local production to supply the Wind Power Industry varies amongst the different industries:

Table 3 Case Study – Wind Power Generation Potential Involvement of Local Industries (IDC May 2010)

Local Industries: Potential capacity to contribute				
Industry	Product	Capacity		
Construction and Civil	Foundation laying, tower	Sufficient		
Engineering	erection, housing			
Manufacturing:				
• Steel and Metal Products	Towers, frames, hubs, brakes, other parts	Very good		
<ul> <li>Glass fibre and composites</li> </ul>	Rotor blades, nacelle housing	Good		
Electrical Equipment	Generators, transformers, cables, other parts	Good		
Machinery	Shafts, bearings, gears	Limited		
Electricity Distribution	Grid Connection	Good		
Electricity Generation	Operation & Maintenance	Good		
Logistics	Transporting mega-parts on rough terrain	Challenging		

Source: IDC May 2010 (Slide 9)

A study by Camco (a climate change development consultancy) in collaboration with the Trade and Industrial Policy Strategies (TIPS) argues that apart from the imminent regulatory environment that will require the manufacturing sector to reduce its carbon emissions, a 'number of industries in South Africa could receive added impetus and support through climate change mitigation efforts'. (Camco/TIPS, 2010: 33) Industries that stand to benefit include:

- Transport equipment: e.g. buses linked to the demands for an improved and cleaner public transport system
- Production of zero emissions passenger vehicles (SA's Joule)
- Development of the chemicals and plastics industries to produce: fuel cells, light emitting diode (LED) lighting, wind turbine technologies, building insulation materials, solar photovoltaic (PV) cells
- Electrical machinery and apparatus (energy efficient machinery and motors)
- Domestic solar water heater manufacture [Source: Camco/TIPS, 2010: 33-34]

### **Industrial Policy**

For the trade unions to play a meaningful role in this campaign the focus on industrial policy and its relation to manufacturing is crucial. South Africa's Industrial Policy Action Plan 2010/11 - 2012/13 acknowledges that climate change mitigation offers space to

develop policies for a Green Economy, but as with all other policies more coherence is required across departments and agencies to ensure that:

industrial policy and the IPAP form part of a larger set of inter-related policies and strategies with respect to generating a New Growth Path that is relatively more labour-intensive and value-adding. (IPAP: 16)

As the focus on industrial policy gains momentum, several affiliates of the Congress of South African Trade Unions (COSATU), including the National Union of Metalworkers of South Africa (NUMSA) and the South African Municipal Workers Union (SAMWU) also believe that the creation of decent work must go hand in hand with the creation of a clean environment. In their oral submission to the Portfolio Committee on Water and Environmental Affairs Public Hearings, SAMWU argued that:

greening the economy must not be reduced to some **subset** of industrial strategy about renewable energy manufacturing. Instead, there should be an overarching thrust to create a different kind of low carbon society - an 'ecological economy' (PMG Committee Report, Water and Environmental Affairs, 9 March 2011)

Highlighting Fine and Rustomjee's characterization of the South African economy as the 'minerals-energy complex', Winkler and Marquard (2009: 1) are of the view that South Africa's current development trajectory is still framed in 'energy and capital intensive projects' - a scenario that is unlikely to benefit climate change mitigation strategies. The writers argue that development goals must be compatible with climate change mitigation and that this can only be accomplished over time and space:

The minerals–energy complex is so central to the economy that it is likely to take decades to change dramatically ... A transition to a low-carbon economy will require a paradigm shift in industrial policy. It will require considered provision for sectors sensitive to changes in energy prices. Building up new, climate-friendly industries will be needed to sustain employment and investment. (Winkler and Marquard, 2009: 1)

## **Just Transition**

The intention to move to RE is not a South African phenomenon. If one looks at investments in energy over the last few years, one will notice that a transition is underway. According to a UNEP/Bloomberg report (2011: 11-12) on energy financing global new investments in RE increased from \$33bn in 2004 to \$211bn in 2011 and investments in developing countries (\$72bn) overtook that of developed countries (\$70bn)

For trade unions in developing countries, the issue of a 'just transition' from fossil fuels to RE poses a major challenge. In line with South Africa's commitment to the Copenhagen Accord and subsequent pledge to reduce emissions by 34% by 2020 and 42% by 2025 the issue of the 'transition' has to be carefully managed without necessarily compromising the country's developmental goals.

To ease some of the fears associated with the transition from fossil fuels to RE, South Africa's Long Term Mitigation Scenarios (ERC, 2007: 15) argues that 'output and employment losses in the coal mining and electricity generation sectors' are likely to be

offset by gains in the RE sector. Recently there has been a lot of talk from several state departments (Economic Development, DTI, Department of Energy) and supporting institutions like the IDC and SARi to substantially increase investments in RE. Given that South Africa is excluded from the list of African countries that have made significant new financial investments in RE over the past year<sup>4</sup>, SARi's claim that 'South Africa has the potential to be a regional hub and catalyst for the development of renewables in sub-Saharan Africa' appears to be shortsighted. (SARi, 2010: 7)

There has also been some criticism of the IRP2010. Trollip and Tyler (2011: 1) argue that the IRP2010 fails to adequately engage on matters that fundamentally require a transformation of our economic structure 'away from an energy and carbon intensive economy' to that of a low carbon economy. For Trollip and Tyler (2011: 1) this transformation poses an enormous challenge since it requires a shift of both 'capital and labour ... to different economic sectors' (certainly RE) and should be included in the modeling exercise of the IRP.

Several references have also been made in the National Climate Change Response Green Paper (2010) to a shift towards a green economy and the creation of green jobs to complement the transition from fossil fuels to renewable sources of energy. In a written response to the National Climate Change Response Green Paper 2010 SAMWU<sup>5</sup> argued that:

tackling Green House Gas (GHG) Emissions is not just a technical or technological problem. It requires a fundamental economic and social transformation to substantially change current patterns of production and consumption.

The National Union of Metalworkers of South Africa (NUMSA) accepts that the transition to RE is not going to be easy one and requires a firm commitment from a number of interest parties including civil society in general and labour in particular. Ultimately the role of the state is crucial in shaping a new ecological paradigm.

#### Case Study: Working Conditions in the Solar Water Heater Industry in the City of Cape Town

#### Location

There are several reasons for choosing the Solar Water Heating Industry in the City of Cape Town:

- 1. The City of Cape Town has a comprehensive 'energy and climate change strategy' complemented by an action plan that targets amongst others the mass roll out of 300 000 SWHs by 2014. (CCT, 2006: 5)
- The government subsidized SWH programme managed by Eskom (electricity utility) and the use of SWH in several low cost housing development projects provides the impetus for the growth of the SWH industry in the city, e.g. Kuyasa Energy Efficient Low Cost Housing Project, Witsand Housing Development in Atlantis

<sup>&</sup>lt;sup>4</sup> Figure 23 in the UNEP/Bloomberg report excludes countries in Africa with less than 0.1bn new financial investments in RE. (UNEP/Bloomberg, 2011: 22)

<sup>&</sup>lt;sup>5</sup> South African Municipal Workers Union (SAMWU) Response to the National Climate Change Response Green Paper (NCCRGP), 09 February 2011

3. Amendments to the National Building Regulations: compulsory for all new homes and upgrades of existing homes to be fitted with SWH's with effect from March 2011

#### Size of the Industry

According to a national survey commissioned by Eskom (2009), the SWH industry currently employs about 700 people (excluding independent installers) with an annual turnover of over R220m (2009 figures). The survey confirms that local manufacturers make up 60% of the local market while imports have doubled since 2007. The Sustainable Energy Society of South Africa (SESSA) maintains a database that includes amongst others manufacturers, contractors/installers, distributors, importers, R& D and training. Approximately 43 manufacturers, contractors/installers and distributors are located in and around the Western Cape (SESSA, 2010)

#### Literature

There has been a growing interest in the use of SWH's for various reasons, but current research tends to lean more on the need to reduce carbon emissions, increase capacity, create jobs and improve the quality of life of lower income households. Du Toit's (2010: 3) dissertation puts SWH at the centre of the country's developmental agenda and emphasises the need to address a number of concerns including the provision of 'an energy service in households where hot water was a scarce necessity'. In the absence of any quantitative and /or qualitative research on working conditions with specific reference to 'green jobs' in the country, data from Bargaining Councils, labour research institutes and international labour agencies provide some overview of employment conditions that are likely to impact on the SWH industry. The ILO (2003) case study of the building industry in South Africa provides a useful analysis of working conditions in the construction industry. Data from the Labour Research Service (LRS, 2011) compares wage levels and to some extent benefits amongst various sectors in our economy. For the purpose of this case study, the focus will be on manufacturing and construction:

	Manufacturing	Construction
Bargaining	Metal and Engineering Industries	Building Industries Bargaining Council (BIBC Cape
Council	Bargaining Council (MEIBC): Collective Agreement	of Good Hope): Collective Agreement
Current Wage	13 Grade Structure: Rate A \$ A1:	Labourer: R13.02h; Artisans: R44,59h
Tables / Labour	R48,98h; Rate H: R26,24H	
Category	Average Minimum Monthly Wage	Average Minimum Monthly Minimum wage for
	for 2010: R3636 (LRS, 2011)	2010: R2613 (LRS, 2011)
Unionised	Union and non-union	Union and non-union
Employment	Mixed: permanent; contractual -	Employment tenure characterized by fixed term
tenure	Limited Duration Contracts; use	contracts and labour-only subcontracting (LOSC)
	of temporary employment	
	services (TES) labour brokers	
Benefits	Retirement Fund (Metal	Retirement (labourers excluded); sick pay fund;
	Industries Benefit Fund	
	Administrators); sick pay fund;	
	maternity; leave pay and leave	
	enhancement pay; tool	
	allowances; overtime; short time;	

Source: MEIBC; Bargaining Council for the Building Industry (Cape of Good Hope)

#### **Discussion on Case Study**

Broadly speaking the SWH industry in South Africa is spread across two industrial sectors: manufacturing and construction. National employment figures for the SWH industry stands at about 700 (ESKOM, 2009), but could possibly be higher if one considers the potential growth of the industry initiated by amongst others the 1m SWH 2014 roll-out programme of the Department of Energy. In the absence of any quantitative and/or qualitative data about the nature of work, etc. it is difficult to determine whether these

jobs are truly "green jobs' as defined by UNEP/ILO/IOE/ITUC (2010) or jobs that are simply deemed to be 'green'.

Likewise, the extent to which these jobs meet the requirements of decent work as advocated by the ILO requires a deeper understanding of the RE sector as it acclimatises to the labour market.

On the basis of existing data, it is possible to get an overall sense of working conditions associated with the SWH industry, but the data is limited to collective agreements that apply to the industry as a whole and excludes plant level or in-house agreements. It is also important to understand that collective agreements form part and parcel of an elaborate system of labour legislation initiated after the 1994 democratic elections. Briefly these include:

- Affirmation of labour rights (S23 of the Bill of Rights) was written into South Africa's new Constitution (Act 108 of 1996)
- In 1993 a new Occupational Health and Safety Act and Compensation for Occupational Injuries and Diseases Act was introduced
- The adoption of a new Labour Relations Act, No 66 of 1995.
- Basic Conditions of Employment Act of 1997 (BCEA);
- The Employment Equity Act and the Skills Development Act.

In spite of these gains and various government strategies to create jobs, the problem of unemployment continues unabated and now stands at 25,7% according to the most recent statistics released by Statistics South Africa (Stats SA, 2011: vi). Note that this figure excludes discouraged work seekers. Currently workers in the informal (non-agricultural) sector constitute about 17% of the employed (Stats SA, 2011: vi), but the ILO DWCP<sup>6</sup> report puts the figure down to 36% of total employment (ILO DWCP, 2010: 10). Statistics SA defines informal employment as:

persons who are in precarious employment situations ... who are not entitled to basic benefits such as pension or medical aid contributions from their employer, and who do not have a written contract of employment. (Stats SA, 2011: xvi)

Against this background, the ILO (2003) study of the building industry in South Africa has some relevance to the SWH industry, bearing in mind that installation teams made up of artisans (plumbers, electricians), general workers and labourers are more likely to be employed in the construction sector. Then again there is the issue of manufacturers doubling up as contractors / installers which creates a bit of a grey area when it comes to defining the scope of the industry. According to the ILO (2003: x) study, 'the construction industry in South Africa has been characterized by precarious and short-term work arrangements', and heavily dependent on a system of 'specialist subcontractors' who in turn make use of smaller subcontractors from either the formal or informal sectors of our economy. Over the years industry restructuring has transformed the pattern of work arrangements in the industry, exposing workers to more 'vulnerable and insecure employment' (ILO, 2003: x):

The industry restructuring has happened largely through the system of labour-only subcontracting (LOSC). The specific features of LOSC are that, unlike traditional or "specialist" subcontracting, it performs narrowly defined tasks, usually not requiring a great deal of skills and with materials supplied by the main contractors. In addition, LOSC work is generally not registered with bargaining councils and does not comply with other labour legislation. As a result, labour-only subcontractors tend to be in a weaker position than traditional subcontractors. The increased risks associated with this new form of subcontracting are highly likely to be passed on to workers in the form of lower wages, worse working conditions and less skill requirements or training facilities. (ILO, 2003: x)

The Labour Research Service (2011) argues that minimum wages in the construction industry is around R2613 and that the industry is still characterized by 'vulnerable work in the form of layer upon layer of

<sup>&</sup>lt;sup>6</sup> ILO Decent Work Country Programme RSA 2010-2014

contracting'. In the manufacturing industry, the minimum monthly wage for 2010 was around R3636. (LRS, 2011)

Drawing on data from the LRS (2011) the following table represents a snapshot of conditions of employment:

Conditions of Employment (LRS, 2011)				
Hours of Work and Allowances	median ordinary hours of employment increased			
	from 44 to 45 hours per week; Housing allowances up but few			
Leave	As determined by the BCEA (21 consecutive days); decrease in the			
	number of days for shopsteward training (from 9 to 8½ per annum)			
Security of Employment	Notice period 1 – 4 weeks depending on length of service – same as			
	in BCEA; Severance pay down from 2 weeks to one week			
Gendered Conditions	Qualifying period for accessing maternity benefits 12 months; 'a woman worker on maternity leave can only expect a third of her salary, no time for nursing, no contribution to child care arrangements later on and very little explicit guarantee of employment security' (p13)			
Health	medical insurance of some kind is found in 7.6% of agreements; Sexual and reproductive health issues are almost completely absent from collective agreements.			
Family	Family Responsibility Leave – as per BCEA 3 days			
Workplace responses to HIV & AIDS	Conspicuously absent from most collective agreements			
Education and Training	Little evidence to show support for Training and Education			

Source: LRS, 2011

According to the LRS conditions of employment across industrial sectors vary and have remained unchanged over the past few years:

The BCEA looks more like a ceiling than a floor of minimum conditions. Put another way, actual conditions of employment tend to cluster around the legislated minimums. (LRS, 2011:12)

The general impression one gets is that the construction industry has changed little since the ILO study in 2003, and that forms of precarious work continue to characterize employment patterns in the industry. This does not mean that the manufacturing sector is any better off, even though by comparison the minimum monthly wage in manufacturing exceeds that of the construction industry by almost 40%. The manufacturing sector also makes use of temporary employment services (t.e.s.) and trade unions like NUMSA have continuously called for a ban on labour brokers. While the various social partners (business, labour and government) in the National Economic Development and Labour Council (NEDLAC) are currently reviewing amendments to the Labour Relations Act (including the use of labour brokers), trade unions that are party to the Metals and Engineering Bargaining Council have attempted to regulate the use of labour brokers in the collective agreement (Main Agreement).

This then brings us to the burning questions that I raised earlier on in the discussion: To what extent do these jobs in the SWH industry represent 'green jobs' as defined by UNEP/ILO/IOE/ITUC? Do the jobs satisfy the requirements of decent work as advocated by the ILO?

Unfortunately there isn't a one size fits all answer to these questions. On the basis of existing data and research it is possible to make some assumptions, but then these would just be assumptions and nothing

more. A Working Paper 'Green Jobs Creation through Sustainable Refurbishment in Developing Countries' published by the ILO (2010: iii) correctly argues that the notion of a green job is not something that is fixed, but rather one that will develop over time:

The notion of a green job is thus not absolute, but there are \_shades' of green and the notion will evolve over time. Moreover, the evidence shows that green jobs do not automatically constitute

decent work. Many of these jobs are —dirty, dangerous and difficult||. Employment in industries

such as recycling and waste management, biomass energy and construction tends to be precarious and incomes low. If green jobs are to be a bridge to a truly sustainable future, this needs to change. Green jobs therefore need to comprise decent work

To conclude there is a need for more quantitative and qualitative research that links the SWH directly to 'green jobs' and decent work. The ILO Decent Country Work Programme (2010-2014: 4) provides a useful starting point to take the research further and indentify 'decent work deficits' by working collaboratively with the social partners.

#### Summary and Discussion

The campaign for a million state led climate jobs presents opportunities for the trade unions to engage both the public and private sector to reduce carbon emissions, stimulate manufacturing and above all shift industrial policy in the direction of RE. The possibilities of reducing unemployment through a well coordinated programme committed to the use of RE can also go a long way in addressing issues of poverty and social inequality.

However, a recent report under the title 'Skills for green jobs in South Africa: unedited country case study' confirms that South Africa is way behind in meeting its target of 10 000GWh by 2013 (as proposed in the White Paper on RE 2003) and that 'less than 1 percent of this target has been achieved, with little confidence that even 30 percent of this target will be reached by 2013'. (ILO, 2010: 27) In a press statement released on the 13 September 2011, NUMSA summed up its disappointment as follows:

... eight years down the line we cannot as a country talk of a vibrant renewable energy sector. Our analysis as Numsa is that the snail-pace movement on renewables is primarily a result of our government's decision to outsource the development of solar, wind, biomass, biogas, landfill gas and small hydro generation capacity to private sector independent power producers. (NUMSA Press Statement, 13 September 2011)

According to a policy paper released by the Trade and Industrial Policy Strategies (TIPS/PDG, 2010: 2) South Africa is also far behind counties like Egypt and Morocco when it comes to wind power:

In Africa, Egypt is the leader in wind power with 430MW installed, trailed by Morocco with 250MW. In the meantime, 10MW from eight wind turbines located at three sites (5.2MW from four turbines at Darling, 3.2MW from three at Klipheuwel and a single 1.8MW turbine at Coega) constitute the South African wind power fleet mid-2010.

## Skills

Government acknowledges that the country is short on skills. The AGAMA (2003) study argues that various skills requirements depend on the support from the Sector Education and Training Authorities (Manufacturing & Engineering, Construction, Education & Training, Energy) and that this support must accommodate the large pools of unskilled and semi-skilled workers in our rural, undeveloped areas. A report by the ILO Skills and Employability Department (2010: ix) provides an excellent analysis of the country's skills shortage and argues that 'current policy is found to be inconsistent' and skills development driven by market demand. The report recommends that

... a cohesive approach is taken to green skills anticipation at a national level which will ensure correct identification of needs, and strong implementation of the pre-existing skills framework.

## **Financing RET's**

The White Paper on RE (2003: 27) makes reference to a broad range of financial instruments to kick start the process towards RET's. These include:

- donor funding
- public/private sector funding
- Government funding will be sourced through government financial and fiscal measures e.g. budgetary allocation, subsidies, levies, tax rebates or other Incentives.

The UNEP report confirms that governments generally supported the idea of RE and that by the beginning of 2011, 'some 119 countries had policies or targets in place to support renewables'. (UNEP/Bloomberg, 2011: 25) In his foreword to the report Udo Steffens, President and CEO of the Frankfurt School that worked with UNEP to compile this report, confirms that financial institutions are lining up to do business associated with renewables:

Our work with the financial sector has shown that more and more financial institutions are beginning to lend for sustainable energy investments and are building new business segments to serve this market. (UNEP/Bloomberg, 2011: 6)

To encourage private sector involvement in RE the state through the National Energy Regulator of South Africa (NERSA) introduced the idea of a Renewable Energy Feed in Tariff (REFIT)<sup>7</sup>. However, recent media reports (Engineering News, 03 August 2011) confirm that there is some uncertainty about the future of the feed-in tariffs, given that the Department of Energy has opted to invite tenders/bids from Independent Power Producers (IPP's) to provide RE.

If RE has any prospect of taking off in SA then the state should play a more leading and interventionist role, rather than a facilitating one. Huge investments in renewable energy, technology and skills cannot be left in the hands of the private sector and there are huge opportunities for the state to make meaningful interventions to reduce our

<sup>&</sup>lt;sup>7</sup> According to the South African Alternative Energy Association (SAAEA), Renewable Energy Feed In Tariffs are used to 'supplement the price paid for generating green electricity' (SAAEA, 2011)

carbon footprint, boost our manufacturing potential (create climate jobs), transform the transport sector and initiate strategies that will enhance and protect our food supply.

## Role of the State

Towards the latter part of 2010, COSATU released a draft discussion document called 'A Growth Path towards Full Employment' (COSATU, 2010). Briefly the document sets out the vision of the federation to transform the economy of the country to the extent that people have access to decent work, decent housing, quality education, quality health, comprehensive social security and access to water, energy and sanitation. (COSATU 2010: 31) Further, the document outlines the federations call for a sustainable environment 'to minimise the disruption of natural processes; limit environmental degradation ... the emission of greenhouse gases, especially carbon dioxide, and pollution of water streams and ground water'. (COASTU: 2010: 25) To realise this vision, the federation argued that:

The state must decisively intervene in the economy to redistribute resources in order to address:

- Divisions resulting from our apartheid past
- Unemployment, inequality and poverty
- Rural-urban development divide

(COSATU, 2010: 30-31)

A shift from fossil fuels to renewable energy (RE) will also require a strong commitment from the state to:

- develop a comprehensive plan together with stakeholders to manage this transition
- strengthen our capacity to retool and reengineer our industries so that they become less dependent on the use of fossil fuels
- allocate financial resources to facilitate a shift to renewable energy

## Way Forward

COSATU's (2010) 'Growth Path towards Full Employment' provides a space to integrate the campaign for a million state led climate jobs. The campaign has been officially endorsed by the federation and its affiliates at the recent 5<sup>th</sup> COSATU Central Committee Meeting, 27-30 July 2011 in Johannesburg. While international solidarity is important, the campaign must be grounded in our own political and socio-economic environment and cannot simply be carbon copied on the basis of an external model.

There has to be more research to quantify the number of jobs that can be created through the use of RET's, including a sharper focus on value chains linked to our manufacturing industries. Research must include other manufacturing industries like transport and the chemical industry.

NUMSA's Central Committee that met on the 15-19 August 2011 called for a publiclyowned and community-controlled renewable energy sector made up of parastatals, cooperatives and municipal wind farms. This initiative must be supported by the federation and its allies.

Monitor the regulatory environment: The DTI (through IPAP) has already called for the National Building Regulations to be amended to make it compulsory for all new homes and upgrades of existing homes to be fitted with SWH's with effect from March 2011; also replacing geysers with SWH's. There is also a need to monitor the DOE subsidy programme to cover I million units (SWH's) by 2014.

## Conclusion

The campaign for a million state led climate jobs provides an opportunity for the trade union federation to mainstream the debate on climate change and place it on top of our political agenda. It is also offers a platform to engage the state on issues of policy and an opportunity to confront the neo-liberalism that has thus far shaped the political and socio-economic landscape of our country.

In its submission to parliament on the National Climate Change Response Green Paper, the National Union of Metalworkers of South Africa (NUMSA) argued that the debate on climate change was not going to be a neutral one and that the formulation of policy remains a site for serious engagement amongst contesting parties. At an International Seminar on Energy, Work, Crisis and Resistance: Experiences from the South 22-24 January 2010 in Graz, Austria the President of NUMSA Cedric Sabelo Gina told delegates:

We are fully cognisant of the fact that any energy system that will have the interests of the poor as its core objective, will be bitterly fought. We must therefore recognise that the struggle for this alternative global energy system will lead to multiple initiatives amongst the oppressed and dominated strata. It is therefore our responsibility that these multiple initiatives do not cancel but reinforce each other (Gina, 2010: 3)

In our quest for participatory democracy and a redistributive growth path, we need to be remindful that not all our allies share this belief. As Fine (2011) remarked in his address to NUMSA on the 5 May 2011:

Meanwhile, renewable energy, in which South Africa could take a pioneering role, stagnates as it offers little by way of quick-fix rewards to an aspiring black bourgeoisie that can cherry pick mining leases, corporate fronting and the like.

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