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Industrial regions and climate change policies: trade union perspectives

NRW background document

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1.1 NRW in a nutshell

NRW is the heartland of Germany´s energy- intensive industry. Traditionally the "land of coal and steel", NRW was hit very hard by the sectoral economic change. The share of the production sector (GDP NRW) has halved since 1970. However, the share of industrial activities is still high compared to Germany as a whole or the EU. Important industries are the chemical industry, mechanical engineering, metal and electro industry, the car industry and the energy sector. The business volume of the industrial sector is €340 bn (19% of the German total).

Services related to industrial activities (IT, financial services, design, transportation etc.) are a main factor in NRW, for the economy and for the labour market. More than 30% of this business related to industrial activities in Germany is done in NRW.

With 18 million inhabitants, the region is the most densely populated federal state in Germany. The GDP per year (€599 bn) is comparable to that of the Netherlands.

Key labour market statistics

The unemployment rate was 8.2% in March 2015.

As at 30 June 2014, a total of 6,284,700 people in NRW were employed and liable to pay social security contributions, of which:

- 0.5% (31,063) in agriculture and forestry,
- 28.2% (1,773,822) in manufacturing and
- 71.2% (4,476,984) in services.

Source: http://www.arbeit.nrw.de/pdf/arbeit/arbeitsmarktreport_2015_01.pdf

28% of NRW employees are directly employed in the production sector. More than half of the jobs in NRW are dependent on this sector.

Share of regional GDP related to industrial activities

- GDP of processing industry (2013): €133,679 million (NRW total: €599,752 million)
- GDP NRW = 22% of German GDP (No. 1 of the German Länder); 4.5% of EU GDP.

Source: IT.NRW, 2014: NRW in Zahlen. April 2014; MWEIMH website (acccessed 16.5.2014)

NRW has a key role in German climate change and energy transition policy. If this region fails, it will be very hard for Germany to meet its climate targets. NRW's greenhouse gas (GHG) emissions total 290 m tonnes (around one third of German GHG emissions) according to the Wuppertal Institute. NRW's share of energy consumption is 40%, and it accounts for 33% of German electricity production. Power plant capacity is 30,000 MW, making NRW Germany's leading energy generation region. The share of coal in electricity production is still

80%; 90% of German coal extraction and 50% of German brown coal extraction takes place here.

Industry in NRW delivers climate protection solutions through its products, expertise and innovation. Its industrial strengths lie in mechanical engineering, high-grade steel manufacture and the chemical industry. The current industrial landscape is characterised by the continued presence of closed value chains, from raw materials via industrial processing through to design. This industrial expertise combined with a broad-based and high-quality research landscape provides the basis for the development and implementation of climate protection technologies and products. Typical climate protection products from NRW include wind energy components, insulation materials for improving the energy efficiency of buildings, lightweight construction and energy-saving machinery and equipment.

This trend is now also reflected in employment. Gross employment in renewable energies in NRW in 2013 was around 50,000 (compared with 363,100 for Germany as a whole). This means NRW is ranked second out of all Germany's federal states, according to the Renewable Energies Agency. Industrial inputs are a key contributing factor to this success.

Policy

NRW government: Social Democrats, Green Party

- First German federal state with a regional climate protection law (2013).
- Aim: to reduce greenhouse gas emissions by 25% by 2020 and by 80% by 2050 (compared to 1990 levels).
- Development of a climate protection plan, broad participation process (ongoing). The trade unions in NRW take part in this process (coordination: DGB NRW).

North Rhine-Westphalia wants to be a pioneer in climate protection. The challenge is to reach ambitious climate protection targets in a highly industrialised region and to combine this with economic and employment growth.

1.2 Trade unions in NRW

The German trade union confederation (DGB NRW) is the umbrella organisation of eight trade unions from the public and private sector, which organise 1.1 million employees.

DGB NRW coordinates trade unions in the policy field of climate protection. An important action field is the issue of qualitative employment growth and ecological change.

DGB NRW is a member of the North Rhine-Westphalia Sustainability Team. This group supports the development of a regional sustainability strategy by the government ("Nachhaltigkeitsstrategie NRW").

DGB NRW is member of the NRW Climate Discourse ("KlimaDiskurs.NRW"), an initiative of ecological NGOs, church organisations, consumer organisations, companies and others. The aim of this initiative is to identify barriers to climate change policy in NRW, to support the dialogue between contradictory positions and to find constructive solutions. DGB NRW is member of the board in this initiative.

In 2012 and 2013, DGB NRW organised a two-year series of conferences under the banner "Good work and ecological change". These conferences took place in companies that are hotspots of the climate change process.

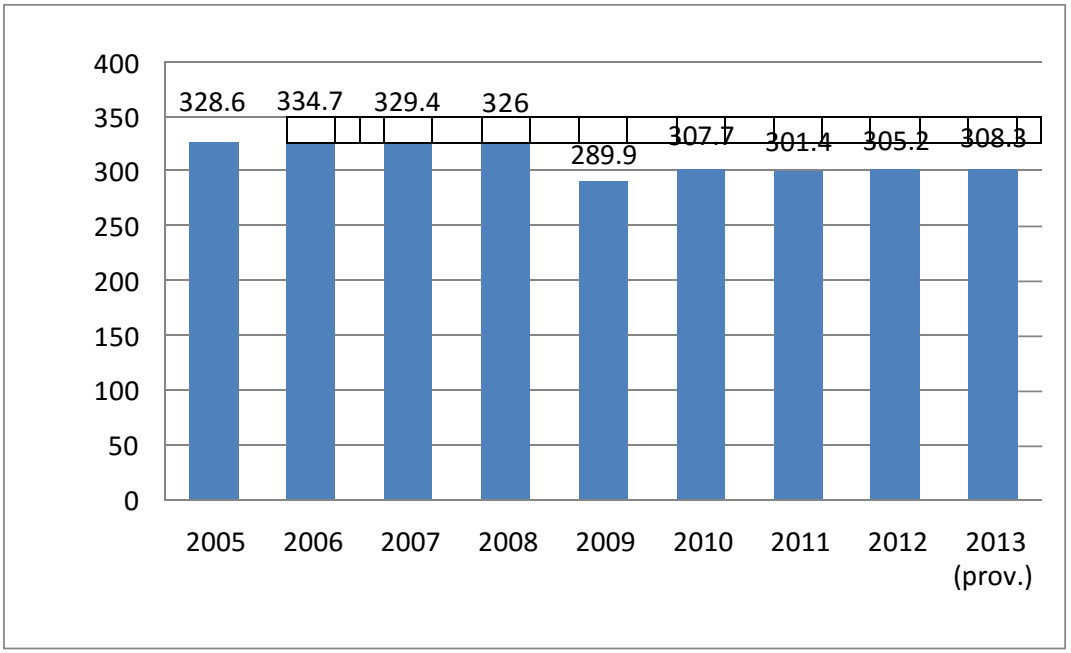
1.3 Greenhouse gas emissions in NRW

Greenhouse gas emissions in NRW totalled 308.3 m tonnes of CO_2 equivalents (provisional figure) in 2013, meaning that NRW accounted for around 33% of Germany's total greenhouse gas emissions[1]. This disproportionately high share is attributable to the highly industrialised nature of the Ruhr area and the Rhine corridor and its status as a major German industrial and coal-producing region. This explains why NRW is so important in discussions of climate-related issues and why it is so committed to climate protection (see Chapter 2).

An examination of the trend in greenhouse gas emissions in NRW shows that, following a dip in 2008 and 2009 due to the economic crisis, emissions climbed again in 2010 to 307.7 m tonnes as the economy recovered. After a slight reduction of around 2% in 2011, emissions edged up once again in 2012 by 1.3% to 3.9 m tonnes. NRW has thus followed the general trend in global GHG emissions.

[1] Source: LANUV Fachbericht, 2012

Figure 1: Greenhouse gas emissions in NRW (in m tonnes of CO_{2eq})

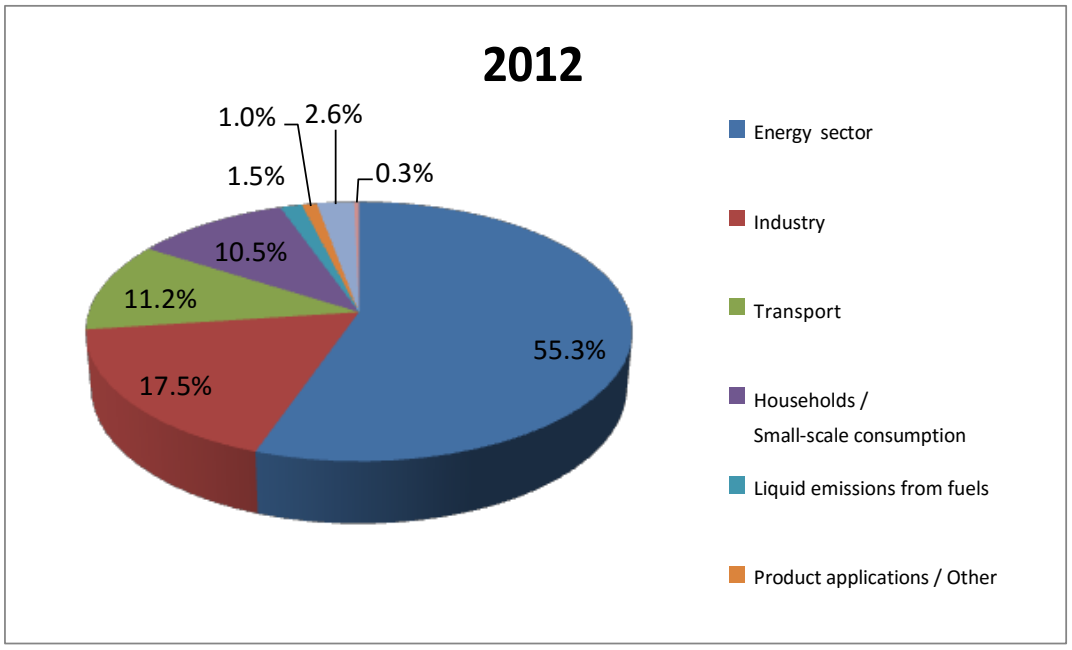


Source: LANUV Fachbericht 2012, our presentation

An examination of **greenhouse gas emitters in NRW (2012)** shows that the energy sector (public electricity and heating supply, refineries, solid-fuel producers /other energy industry) is by far the biggest emission sector in NRW, accounting for 55.3% of total emissions. The main contributor is public electricity and heat generation, which accounts for around 50% of total emissions. This high proportion is due to the fact that around 30% of Germany's electricity generation takes place in NRW.[2] The second biggest emission sector, with around 17.5% of NRW's total emissions, is industry (energy- and process-related industrial emissions).

[2] Consequently, here too there are limits to what can be interpreted from NRW's greenhouse gas emissions, since, for example, a significant proportion of the electricity generated in the state's many power plants is exported (to other federal states, for instance). In other words, many of the emissions generated in NRW are generated on behalf of other places.

Figure 2: Distribution of total emissions in NRW in 2012



Source: LANUV Fachbericht 2012, our presentation

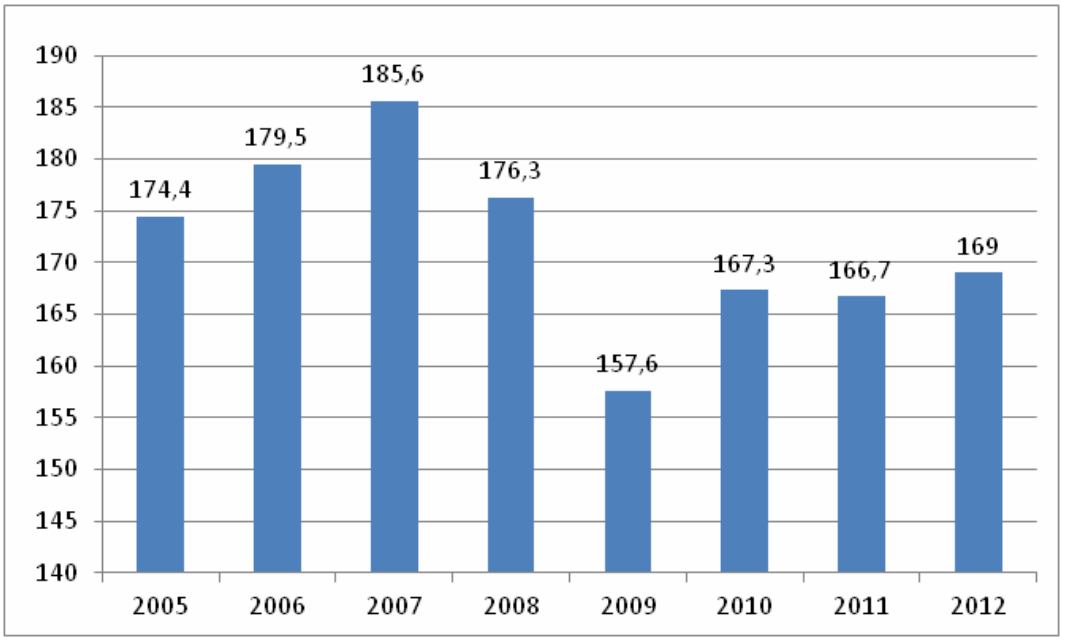
Energy sector emissions declined by around 3.1% over the period under consideration (2005 to 2012). The rise in GHG emissions up to 2007 was followed by a phase of reduced emissions due to the economic downturn. Since 2008, energy sector emissions have fallen slightly overall, despite rising again in 2012. The decline in GHG emissions in the energy sector over the period as a whole is due mainly to:

– the commissioning of new, more efficient power plants;

– the increased share of natural gas, which is a relatively low-carbon fuel; and

– the increased share of renewable energy sources. The proportion of renewable power generation (including mine gas) in gross electricity consumption in North Rhine-Westphalia rose from around 4.2% in 2005 to 11% in 2013.

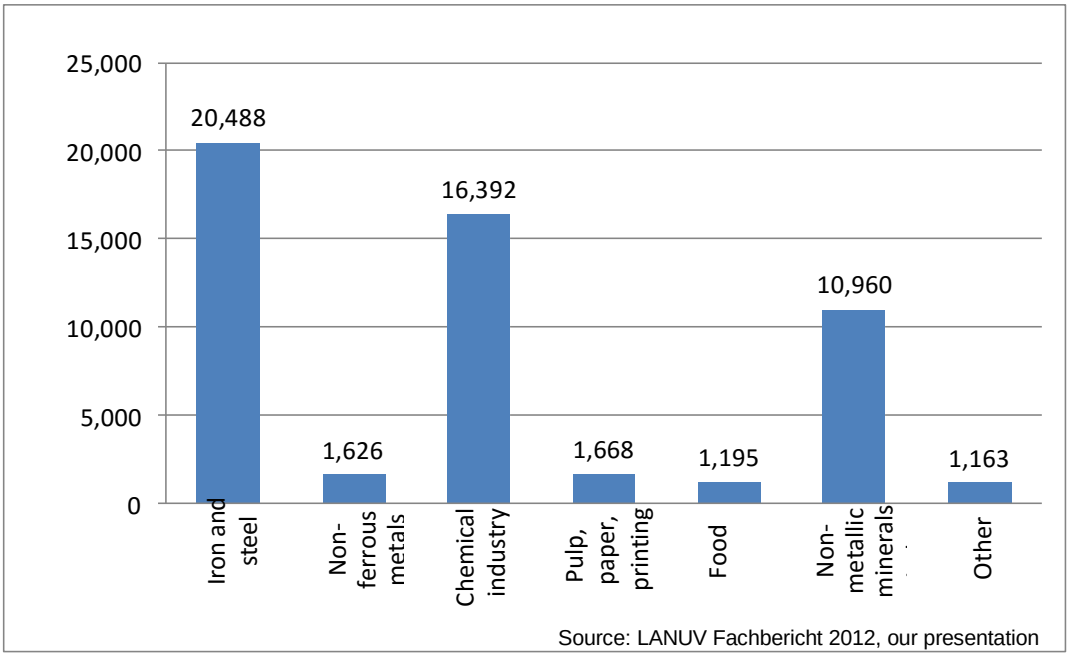
Figure 3: Greenhouse gas emissions in the energy sector (in m tonnes)



Source: LANUV Fachbericht 2012, our presentation

The **industrial sector** includes energy- and process-related emissions from industry and accounted for approximately 17.5% of NRW's total emissions in 2012. Around 80% of industrial emissions are created by the use of fuels to generate energy. In this connection, the biggest industrial emitters are iron and steel production, the chemical industry and mineral production (cement, lime and glass production).

Figure 4: Greenhouse gas emissions in the industrial sector in 2012 by segment (energy- and process-related emissions by industry)(in Gg (1000 t) CO_{2eq})



Source: LANUV Fachbericht 2012, our presentation

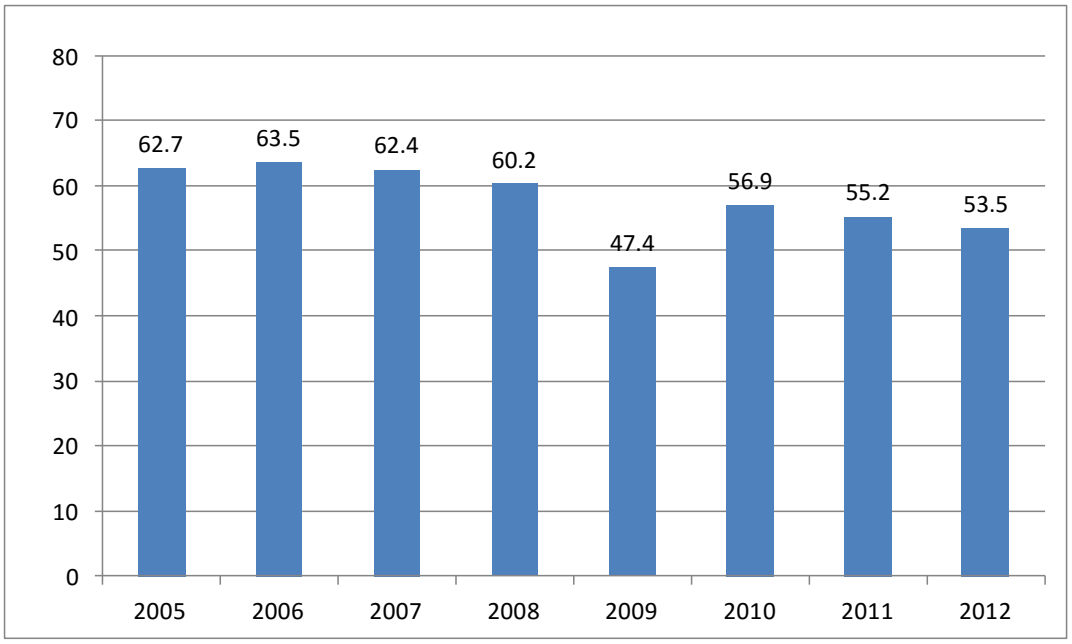
The substantial 17% reduction in industrial sector emissions between 2005 and 2012 is attributable to various factors, the main ones being:

– technical improvements in energy efficiency and in emission reductions at certain types of plant, e.g. aluminium production;

– an ongoing structural shift from the coal and steel industry to the service sector in North Rhine-Westphalia;

– increasing use of alternative fuels with a biogenic component, e.g. in the cement industry.

Figure 5: Trend in greenhouse gas emissions in the industrial sector (in m tonnes)



Source: LANUV Fachbericht 2012, our presentation

1.4 Resource use in NRW

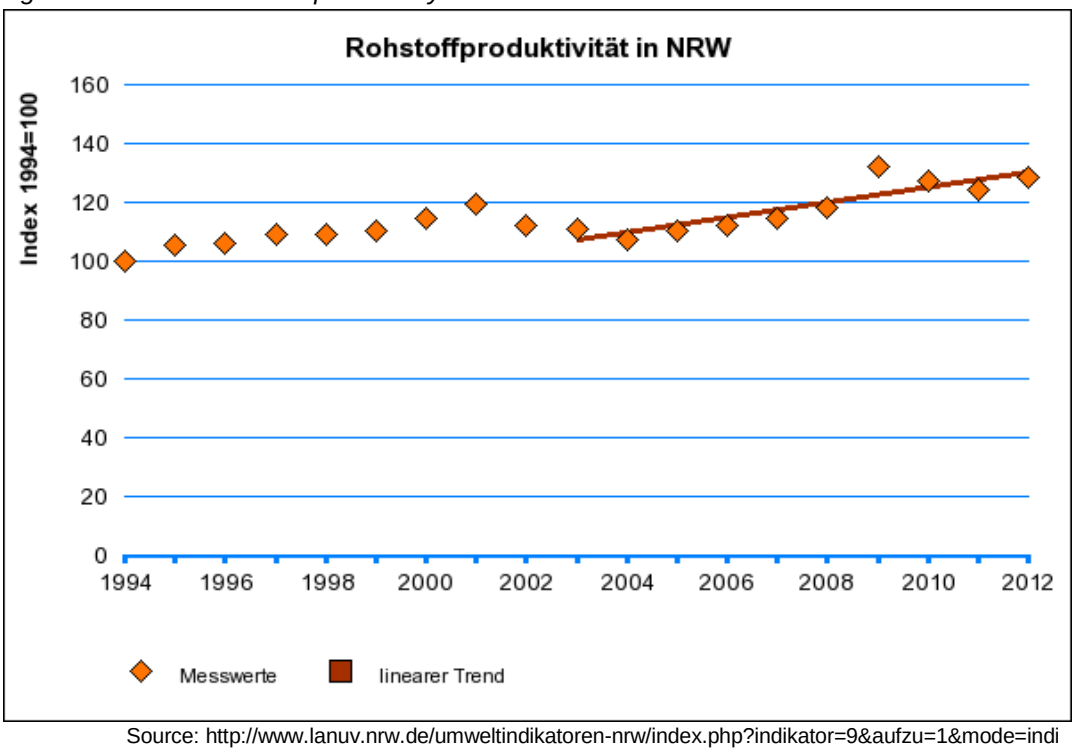
Material costs are by far the biggest cost component in the manufacturing industry, accounting for on average 44%. The German Material Efficiency Agency estimates that roughly 1/5 of all material costs in Germany (€500 bn per year) could be saved by more efficient production processes.

Resource efficiency is about achieving the same or better outcomes with fewer resources (energy/energy sources and materials such as metals, chemicals and water). At company level, that means, for example, closing material cycles, cutting material, wastewater and energy costs, making machinery more efficient and reducing waste. Achieving this not only has a positive impact on business but also benefits the environment due to the conservation of resources.

An examination of resource productivity[3] in NRW shows that the state's economic

output per resource unit used increased by 32.1% in the period from 1994 to 2012, meaning that NRW's economic performance was achieved with fewer raw materials.

Figure 6: Trend in resource productivity in NRW from 1994 to 2012



Source: http://www.lanuv.nrw.de/umweltindikatoren-nrw/index.php?indikator=9&aufzu=1&mode=indi

[Resource productivity in NRW, Measurement values, Linear trend]

Compared with the resource productivity trend for Germany as a whole (up by 44.8% over the same period), NRW underperformed the national average. The reason for this is that resource productivity depends not only on efficient use of raw materials but also on economic structure: NRW has a resource-intensive industry mix with a high proportion of material-intensive industries (e.g. mining) and a smaller proportion of material-extensive sectors (e.g. services).

The 2013 NRW environmental report concludes that North Rhine-Westphalia has a high level of energy consumption (primary energy and final energy consumption), which is unlikely to come down in the foreseeable future. This is mainly due to the state's particular economic structure, with energy-intensive industries and high volumes of traffic. In addition, raw material consumption remains at a constant

[3] Resource productivity indicates how many non-renewable resources were used to generate the gross domestic product. The extraction and use of raw materials always entails the use of land, materials and energy, as well as material movements and harmful emissions.

level. In 2010, its raw material consumption of some 356 m tonnes accounted for over 28% of the German total – the reason being that NRW is not only one of Germany's richest Länder in terms of raw materials but also a leader in the output of abiotic raw materials (lignite, hard coal and mineral resources).

The national sustainability strategy set a target of doubling resource productivity by 2010 compared with 1994 levels. Nationwide, the increase achieved was around 47%. North Rhine-Westphalia managed just 28% or so, despite improved productivity in individual economic sectors and the shift in economic structure.

2 Activities and strategies in NRW

Chapter 1 drew on figures and data to illustrate the importance of climate protection and resource efficiency in NRW. This chapter will set out what action the government is taking in NRW to reduce greenhouse gas emissions and improve resource efficiency.

2.1 NRW Climate Protection Act and Climate Protection Plan

On 23 January 2013, the parliament of North Rhine-Westphalia passed the **NRW Climate Protection Act**, making NRW the first federal state to pass such a law.

The path to meeting the GHG emission reduction targets is to be set out in the **NRW Climate Protection Plan, the primary instrument of the Climate Protection Act**. The Climate Protection Plan is intended to give tangible form to and implement the necessary strategies and measures for meeting the binding climate protection targets of cutting greenhouse gases by at least 25% by 2020 and by at least 80% by 2050. The draft Climate Protection Plan is currently still in the consultation phase. The plan is due to enter into force in late 2015 or early 2016.

The Climate Protection Plan was drawn up by the state government following a broad-based dialogue and participation process with extensive input from social groups and local authority associations. Trade unions in NRW were also involved in discussing and developing proposals for strategies and measures to meet NRW's climate protection targets.

The goal is to reduce GHG emissions in a way that does not create social injustices, that safeguards or improves security of supply, and that exploits

economic opportunities (Climate Protection Plan guidelines).

To assess the **effects of the Climate Protection Plan**, Prognos AG was commissioned to carry out an impact analysis. The aim of the analysis was to identify the impacts likely to occur in the scenarios set out in the NRW Climate Protection Plan, over and above the expected underlying trend (baseline scenarios). The following impacts of measures were considered: security of supply, reliance on imports, macroeconomic effects, employment impacts, social sustainability, environmental impacts, gender, health, and location factors and competitiveness of companies.

Selected findings of the Prognos AG impact analysis were as follows:

- Overall, the scenarios set out in the Climate Protection Plan have a slightly positive impact on the **NRW economy**. This is attributable to the interaction between investment incentives and subsequent price effects, e.g. in energy prices. NRW's climate protection strategies will help the transformation process unleashed by the energy transition.

- In the best-case scenario, employment in 2030 will be up to 17,500 higher than the baseline trend. In the worst-case scenario, it will be virtually unchanged from the baseline trend.

- The transformation to a low-carbon economy will require different **skills and qualifications**. Future employees will need to be prepared for these new challenges during training.

- As climate protection measures are implemented, the underlying trend in the competitiveness of NRW industry will need to be monitored constantly to identify and prevent displacement effects (such as carbon leakage) early on. This applies particularly to the transformation process in the next 10 to 20 years, before long-term cost savings kick in.

Drawing on company data, the Wuppertal Institute's Manufacturing Industry Working Group developed a long-term low-carbon scenario up to 2050, working in dialogue with stakeholders from the steel, chemical, aluminium, glass, cement and papermaking industries. This dialogue on innovation strategies for low-carbon technologies is now being continued in the NRW Climate Protection and Industry

Platform,[4] which involves civil society as well as promoting dialogue between business and science.

The aim of the dialogue is to develop industrial low-carbon strategies for each sector and also to map cross-sectoral fields of action, with a view to deepening and widening mutual knowledge on the potential of low-carbon technologies. The participants agree on application pathways in companies and the preconditions for their implementation. Central to it all is the willingness of companies to invest in research and development and in low-carbon technologies in the short, medium and long term.

One preliminary conclusion of the process so far is that there is no single game-changing low-carbon technology; rather, a variety of strategies and measures are needed. In other words, NRW cannot rely on a single industrial low-carbon strategy setting out the exact roadmap through to 2050. However, the existing processes provide a solid foundation for further work. The goal is a consistent low-carbon roadmap for NRW industry.

2.2 Resource efficiency in NRW

NRW recognised very early on (1998) the need to reduce resource consumption and responded by offering consulting services to boost resource efficiency in manufacturing. The NRW Efficiency Agency (Effizienz-Agentur NRW – EFA) was launched to provide advice to small and medium-sized enterprises. EFA advises on resource-efficient production and over the last 10 years has helped make production-process resource savings of €12.1 million in some 600 projects.

EFA calculates the carbon dioxide emissions generated by products, processes and sites and suggests ways of reducing them. It also initiates enterprise networks and promotes exchanges on more resource-efficient processes and technologies among SMEs in North Rhine-Westphalia. It offers financial support services to companies planning investments and informs them about support schemes available from the federal or state government.

The Ecological Project for Integrated Environmental Technology (ÖKOPROFIT) helps companies to get started with environmental management. A collaborative venture between local authorities and businesses, the project assists companies to implement environmental protection measures on the ground and to save resources while also lowering operating costs.

[4] WI website: "Platform Climate Protection and Industry North-Rhine Westphalia" project

Since the year 2000, ÖKOPROFIT has developed 100 local-authority projects involving 1,300 companies and over 9,000 environmental protection measures. With €180 million invested annually in environmental protection technology, annual savings total approximately €60 million.

3 Local stakeholders' views

The views of local stakeholders on the activities and strategies in North Rhine-Westphalia and the role and position of trade unions will now be discussed, based on 10 telephone interviews.

3.1 Activities and position of trade unions in the climate protection process

Despite some clearly conflicting interests, trade unions in NRW have managed again and again to develop common policy positions on regional climate protection policy. Unions in energy-intensive industry have an interest in low electricity prices while those in the power generation sector have an interest in high electricity prices. Nevertheless, NRW's trade unions (IG BAU NRW, IG Metall NRW, IG BCE NRW and ver.di NRW), under the auspices of the NRW branch of the German Confederation of Trade Unions (DGB NRW), produced a joint statement on the Climate Protection Act. This ensured that they were defending a common position on the issue in NRW and also provided guidance for the subsequent participation process. The main elements of the **trade union position** were as follows:

- The trade unions are positively disposed towards the objectives and the Climate Protection Act and recognise the provisions set out by the state government.

- The trade unions consider the climate protection targets set to be reasonable as they are based on federal targets and are tailored to the economic structure of NRW.

- The trade unions are committed to combining climate protection with decent work. The state government has also made clear that the safeguarding of industrial structures and a socially sustainable transition are objectives that must be pursued.

- The trade unions believe that climate protection must be designed in such a way that NRW's industrial structures are preserved. They are not part of the problem but part of the solution. This aspect played a big role in the discussion on the binding nature of the Climate Protection Act as it was initially feared that the Climate Protection Act would further the de-industrialisation of NRW. The concern about industrial structures has been alleviated because the provisions of the Climate Protection Act

are now aimed at the state government and institutions. Likewise, the concern that the state planning department would in future block key industrial projects on climate protection grounds has at least been mitigated. For while climate protection is enshrined as a principle of regional development planning, an evaluation of multiple criteria is also possible. This gives companies the leeway they need to be able to plan and invest over the long term. Trade unions too must exploit this leeway and engage in these issues.

- Trade unions are committed to shaping the energy transition in a way that promotes employment. This is about giving climate protection a socially sustainable form, i.e. protecting the climate while also safeguarding NRW as an industrial heartland. In practice that means: energy must remain affordable and energy must continue to be generated here, with a high level of efficiency. (Trade union congress resolution on energy policy)

The **experiences and assessments contributed by trade unions to the Climate Protection Plan** are mainly based on their own expectations. Union representatives have committed to supporting and helping to shape climate protection in NRW in line with their trade union ethos. Their goal is to ensure that the change is socially sustainable in order to avoid structural fracturing.

With this in mind, trade unions engaged in the process of developing the Climate Protection Act and Climate Protection Plan in North Rhine-Westphalia (NRW union regions). IG Metall, IG BCE, Verdi, IG BAU and DGB NRW participated in all six working groups involved in drawing up the Climate Protection Plan. The work undertaken by the various groups was extremely intensive. All interviewees described the discussion as open. DGB NRW was also represented in the coordination group, the central platform comprising some 40 stakeholders. The coordination group discussed and then evaluated the results of the working groups. The outcomes were incorporated into the state government's discussions on the Climate Protection Plan.

Looking back on the participation process, the trade union representatives saw two positive effects of the process:

- Firstly, they succeeded in influencing the Climate Protection Plan in line with trade union interests and in forming a counterweight to stakeholders with other interests.
- Secondly, the broad-based participation and discussion enabled convergence between the different stakeholders.

The trade union representatives did not always manage to carry their point: for example, in the interviews trade union representatives criticised the fact that some representatives of the ecological movement saw industry solely as the cause of the problem without recognising its potential to offer solutions. For methodological reasons, consideration was primarily given to point-source emissions when drawing up the Climate Protection Plan (source analysis: who is responsible

for emissions?). The issue of how much products made in NRW contribute to climate protection (product analysis) was ultimately not addressed. Examples include steel for wind turbines, insulation materials for improving the energy efficiency of buildings, and more durable products. Consequently, the contribution of products to climate protection was not given enough attention in the discussions. While this aspect was taken up by one of the working groups, a comprehensive product analysis was deemed to be too complex. Research is needed in this area to ensure that this important issue is properly reflected in future.

Trade unions take a critical view of the impact analysis findings and consider the study to be of very limited validity. The impact analysis assumes that the Climate Protection Plan will be successful and the climate protection targets will be met – which is by no means guaranteed. Thus, the social impacts also depend heavily on the model assumptions. These may serve as an initial guide but in no way do they reflect reality. Some interviewees described them as unconvincing. One particularly controversial finding of the impact analysis was that the energy-intensive industries will be winners from the Climate Protection Plan. A key prerequisite for this is very high levels of investment in energy saving in the short term, but there are currently no signs of this at all. According to the trade unions, this shows that the cause and effect relationships have not been sufficiently clarified. Monitoring is needed to identify the actual impacts of the climate change policy and make any necessary adjustments.

Other stakeholders' assessment of trade union involvement in the process of developing the Climate Protection Plan is somewhat curt: the unions are not seen as drivers of climate protection but rather, perhaps, as advocates for and constructive participants in climate protection.

3.2 Trade union activities and position on resource efficiency

Trade unions and works councils make little or no use of the state-level structures and funding instruments established to enhance resource efficiency in NRW. The consulting services offered by the Energy Efficiency Agency are not widely known among works councils. The Agency itself confirms that its consultancy work with small and medium-sized enterprises is mainly initiated via company management. This means that the consulting always focuses mainly on economic benefits and less on environmental issues.

At the same time, the issue of resource efficiency is high on the agenda of, in particular, industrial trade unions and works councils in energy-intensive companies. Here are some example of activities in which trade unions and works councils are involved or in which they play a leadership role:

- Social partner dialogue on resource efficiency of aluminium products: a joint project between IG Metall and Gesamtverband der Aluminiumindustrie (GDA), with the support of the Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety. The aim of the dialogue is to promote innovative approaches to resource efficiency of aluminium products through a process of joint sectoral dialogue.

- Social partner project between Gesamtverband Kunststoffverarbeitende Industrie e.V., PlasticsEurope Deutschland e.V. and IG Bergbau, Chemie, Energie on "Increasing resource efficiency in the plastics industry". The project has found that, alongside the major contributions made to resource efficiency by products and production processes, organisation and personnel are also key to enhancing resource efficiency – as demonstrated by examples of behavioural improvements. Significant improvements in resource efficiency can be achieved, in particular, by allowing staff with a particular interest in the issue of resource efficiency to become more involved. This also has a positive impact on motivation and knowledge.

- To mark its 20th anniversary, IG BCE's Labour and Environment Foundation awarded an environmental prize for "Energy efficiency with employee participation". The award, worth a total of €25,000, was given for "successful measures to increase energy efficiency". The measures had to involve employees and make a practical contribution to environmental protection and sustainable development.

- To ensure that works councils can make thorough use of all the opportunities provided by the Works Constitution Act (BetrVG), IG BCE's Training, Knowledge and Seminars Association offers in-company training and situation analyses of resource efficiency for works councils and employee representatives.

- To kick start the improvement dynamic in companies, in partnership with works councils, SUSTAIN CONSULT teamed up with the consultancy GREAN to develop the 'resource check' for IG Metall. This tool, which is suitable for works councils in all industrial sectors, identifies potential areas for improvement and actions that could be taken to reduce material and energy costs.

- With energy and resource efficiency an increasingly hot topic for all companies, and codetermination partners needing to be encouraged to initiate and support energy and resource efficiency measures within their company, IG Metall has published two booklets aimed at bringing together scientific knowledge and works council experience to help works councils use their information and participation rights to foster a sustainable company policy. The booklets are entitled *Aktiv werden für Energieeffizienz – Leitfaden für Betriebsräte und Beschäftigte* (Taking action for energy efficiency – A guide for works councils and employees) and *Ressourceneffizienz erhöhen und Arbeitsplätze sichern – Ein Leitfaden für Betriebsräte* (Increasing resource efficiency and safeguarding jobs – A guide for works councils).

- In North Rhine-Westphalia, DGB NRW is currently championing a project called "More climate protection through participation".

IG BCE believes that the issue of **resource efficiency** is now long-established in companies and works councils, although the potential has yet to be fully exploited. Energy and resource efficiency measures have been implemented for a decade now, especially in primary-sector companies with works councils. The high level of interest in the subject among companies is primarily cost-driven, which is why the issue was addressed and put into practice early on. The same is true of the chemical industry, which has long been developing solutions to manufacture more efficiently with fewer resources and less energy. Nevertheless, here too there is still further untapped potential.

Looking beyond NRW's initiatives and successes to date in terms of conserving resources, works councils could and would like to do more on the issue of resource efficiency. However, in the cut and thrust of day-to-day business, this all too rarely happens. Initiating and driving resource efficiency within the company will always be an additional burden for works councils so long as the activities are not implemented in the company and tied in with existing instruments. For example, resource efficiency could be effectively combined with the company suggestions scheme, embedding it as one of the company's operating instruments.

3.3 Importance of climate protection and resource efficiency for works council and trade union action

The trade union interviewees no longer fear that the **NRW Climate Protection Act and Climate Protection Plan** could jeopardise industrial jobs. The Climate Protection Plan is a clear mandate for action by the state government, but none of it will be legally binding in the current legislative period. The unions therefore believe that neither the Climate Protection Act nor the Climate Protection Plan will entail regulatory interference in industrial structures; rather, their primary aim is to promote research and development, networks and investment. For works councils too, therefore, particularly in energy-intensive companies, there is no longer any reason to fear rising energy costs and associated negative repercussions on locations and employment.

The opportunities associated with the state's climate protection activities lie in the example they set and the signal they send out. The decisive factor will be whether companies innovate and invest in low-carbon technologies. Innovation and investment in new climate-friendly products, production processes and services could help to boost employment as well as benefiting the environment.

For IG BCE, there are questions about the sustainability of the strategies and measures developed in the participation process:

- The Climate Protection Plan risks being overtaken as a political issue by current energy-policy issues such as the future of lignite power plants in the Rhenish coalfields. Some 10,300 full-time jobs at power company RWE

itself and up to 34,000 jobs in areas surrounding the open-cast mining facilities and power stations depend on lignite. IG BCE in Berlin has weighed into this debate with its own proposals for meeting the 2020 climate protection targets without the loss of thousands of jobs in the coalfield.

- For IG BCE, the commission of enquiry into the future of the chemical industry in NRW with regard to sustainable raw material bases, products and production processes (April 2013 to April 2015) is of greater significance. The commission was asked to discuss issues within the sector of future importance to NRW, with the aim of formulating long-term, cross-party recommendations for action by parliament. Issues covered included alternative raw materials to oil, environmentally compatible production processes and materials, new storage technologies in electrochemistry, the imitation of environmentally friendly natural processes in industry and the future of hydrogen technology.

DGB believes that NRW has all the material, political, scientific and cultural prerequisites to achieve economic development with low energy and resource consumption while drastically reducing GHG emissions. The accelerated ecological modernisation of an industrialised state offers special opportunities for generating new economic momentum and sustainable jobs. The planned project "More climate protection through participation", championed jointly by DGB NRW and the NRW Efficiency Agency, is a tangible embodiment of this.

In networks such as KlimaDiskurs.NRW, trade unions are working together with businesses, associations, environmental non-governmental organisations (NGOs), local authorities, scientific institutions and churches to overcome conflicts. The creation of a political framework (Climate Protection Act, Climate Protection Plan) does not by any means resolve all the conflicts. KlimaDiskurs.NRW addresses these conflicts and brings stakeholders together for discussion. It offers a platform for discussing and defining actions based on understanding and joint action by all parties involved, to make climate protection work. It is the stated intention of KlimaDiskurs.NRW to incorporate trade union issues more fully, to mobilise works councils and to involve employees in the journey towards sustainable development within NRW.

Resource efficiency is of greater significance for trade unions and works councils and is seen as a long-term perspective and strategy for maintaining industries in NRW – despite the fact that they rarely make use of the support instruments provided by the state. The reasons for this are as follows:

- Firstly, it should generate direct impacts within companies which will help to reduce costs other than personnel expenses.

- Secondly, it spurs innovation and investment that will help to safeguard locations and jobs. Resource efficiency in companies is mostly cost-driven and hence in the interests of both social partners.

To put it bluntly, there is still a big gap between a) activities at political level (e.g. the Climate Protection Act and Plan) and the associated state institutions including resource efficiency instruments involving the relevant trade unions, and b) implementation in companies with the involvement of employee representatives. At the same time, trade unions and works councils see the issue of resource efficiency and its implementation at company level not only as an opportunity to protect the environment and cut costs but also to boost participation and recruit members.

Employee participation is a necessary precondition for identifying and developing ideas about resource-efficient company operations. Similarly, without the active involvement of employees, measures to promote resource-efficient production will be difficult to implement. There is therefore an urgent need to open up resource efficiency as an action area for works councils and to make the issue more accessible for works councils and employees. However, this can only happen if resource efficiency is combined with the existing instruments of works council action, such as company suggestions schemes or non-standard collective agreements.

4 Key lessons from a trade union perspective

Development and employment policies are increasingly linked to environmental issues. Trade unions support the political climate objectives. However, the transition process must be shaped in such a way that employees are not the losers of the process. The industrial base must be part of this process. Meeting the climate targets by a policy of de-industrialisation would be the wrong strategy.

The pathway to a low-carbon economy can be an opportunity for more and better jobs. The challenge is managing, not avoiding, risks on the way to a low-carbon economy. The trade unions need to deal with green growth concepts in a long-term perspective. No single player alone – politics, economy, civil society – can manage the challenges of climate change and the social and economic impacts.

Effective multi-stakeholder dialogue on green and labour issues is an important element of the transition process. Consequently, the role of trade unions is changing. The traditional role – the protection of workers – is still of existential relevance for trade unions: issues like wage setting, health and safety, working conditions, etc. But at the same time there are new non-traditional fields of action such as developing future perspectives for a company or a region, getting involved

in innovation topics, awareness raising for green topics, providing knowledge and tools, and building new coalitions and alliances e.g. with civil society actors.

Against the backdrop of these altered challenges and the resultant need for a reappraisal of the role of trade unions, a number of possible action strands can be pinpointed:

- Climate protection activities or improving resource efficiency must 'fit' with the company. Few if any companies employ people with the sole job of promoting climate protection, so these activities need to be tied in with the company's target system. From a works council and trade union perspective, climate protection activities are always worthwhile if they result in improved working conditions. From the employer's perspective, they are particularly worthwhile if they increase revenue or reduce costs sustainably. Particularly in the case of resource efficiency enhancement activities, there are often scenarios in which both parties benefit, with improved working conditions leading to a reduction in the reject rate, for example. **Such win-win situations are thus more often a feature of resource efficiency enhancement activities than other types of improvement project. They can be implemented by both parties with relatively little conflict and are therefore conducive to a properly understood, green social partnership.**

- Improvements in resource efficiency often go hand-in-hand with improvements elsewhere (as with health and safety in the example above). This is due not least to the fact that such improvements are often cross-cutting in nature, so that genuinely sustainable solutions do not (or should not) take place in isolation (with a single measure in a single department). **Resource efficiency enhancements can therefore also be an effective vehicle for implementing other improvements in the company.**

- Disagreements within the company (e.g. due to the employer's wish for a deviation from the area-wide collective agreement) are also opportunities for works councils and trade unions to suggest potential improvements. Improvements not carried out in the past offer a good excuse to scale back any employee concessions. Areas where experience suggests many improvements are possible relate to resource efficiency enhancements. **Consequently, any well-designed negotiating process involving demands from the employer can help to improve resource efficiency and climate protection at company level.**

- Typical resource efficiency enhancements implemented in companies relate to machinery and equipment – or more generally: technology. Far less attention is paid to improvements in organisation and work – partly because these are not normally the core competencies of the company decision-makers responsible for improvement.

Works councils and trade unions, on the other hand, are particularly well qualified to make improvements in this area. **Consequently, works councils and trade unions can effect substantial improvements in resource efficiency in the hitherto neglected area of organisation and work. This could (almost) be termed their USP, not least because of their breadth of vision.**

- At a political level, trade unions are often involved in political decision-making processes on climate protection and resource efficiency. At least, they are asked for their positions and are given a hearing. As a number of examples have shown (e.g. development of the European emissions trading scheme or reform of the Renewable Energy Act (EEG) in Germany), the effectiveness of trade union involvement can be significantly increased when a successful connection is made to the company level. Case studies, a well-prepared example of a typical company situation or substantiated estimates of the implications for the sector or subsector, e.g. backed in each case by the potential staff impacts of proposed rules, are key instruments in influencing political processes. **Consequently, a clear company or sectoral connection combined with a well-founded analysis is a way of increasing the impact of trade unions at political level on the issues of climate protection and resource efficiency.**

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