

# The politics of the German CO<sub>2</sub>-Building Rehabilitation Programme

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Received: 4 July 2012 / Accepted: 4 December 2012 / Published online: 30 December 2012  
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**Abstract** The German CO<sub>2</sub>-Building Rehabilitation Programme is widely considered as a very successful policy to reduce energy consumption from existing homes. Most assessments of the programme focused on the economics and technical aspects, but so far an analysis of the political processes that led to the creation and development of the CO<sub>2</sub>-Building Rehabilitation Programme is missing. Covering 10 years of the programme's history, this paper analyses the most important policy changes that happened over time and links them to various policy drivers. It shows that politics did indeed play an important role and can explain many of the changes that occurred.

**Keywords** Energy efficiency policy · Building refurbishment · Policy change · CO<sub>2</sub>-building rehabilitation programme

## Abbreviations

BMU Bundesumweltministerium [Federal Ministry for the Environment]  
BMVBS Bundesministerium für Verkehr, Bau und Stadtentwicklung [Federal Ministry of

Transport, Building and Urban Development]  
CBRP CO<sub>2</sub>-Building Rehabilitation Programme  
CDU Christlich Demokratische Union Deutschlands [Christian Democratic Union of Germany]  
CSU Christlich-Soziale Union in Bayern [Christian Social Union of Bavaria]  
FDP Freie Demokratische Partei [Free Democratic Party]  
KfW Kreditanstalt für Wiederaufbau [German Reconstruction Credit Institute]  
SPD Sozialdemokratische Partei Deutschlands [Social Democratic Party of Germany]

## Introduction

The German *Gebäudesanierungsprogramm* (CO<sub>2</sub>-Building Rehabilitation Programme, CBRP) is widely considered to be a 'big success' (IEA 2007). In recent years, the CBRP was subjected to various assessments that focused on the economics, the technological aspects and the effectiveness of the CBRP, all of which are very important issues. Due to this programme, Germany is labelled a 'front runner' (Murphy et al. 2012) in the area of energy efficient building refurbishment. Others highlight that Germany is one of the few countries in the world that has a large-scale funding programme for energy efficient refurbishment (Lowe 2009) and a successful example of 'long term

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financial efforts' with 'considerable impacts in terms of energy savings and CO<sub>2</sub> emissions reductions' (Boonekamp and Eichhammer 2007, p. 273). Furthermore, the literature on the CBRP included an analysis which demonstrated its significant economic benefits (Kuckshinrichs et al. 2010). Other studies focused more on the technical aspects of building design within the CBRP and the achieved carbon savings (Schroeder 2009), the integration of building codes and the CBRP (Galvin 2010) and the role of the CBRP for the development of 'very high energy performance standard of buildings' (Schimschar et al. 2011). Furthermore, Weiss et al. (2012) conducted a critical assessment of the shortcomings of residential existing energy efficiency instruments in Germany including the CBRP and Rosenow (submitted for publication) compared the CBRP to Energy Savings Obligations in the UK.

However, the centre of attention was the *policy* itself, but not the *politics* in the context of the implementation and development of the programme. Given the lack of existing studies of the CBRP around the *politics*, this paper focuses on the political dynamics that led to the evolution of the instrument over time. Such an analysis of the political processes could contribute to uncovering the strengths as well as the limitations and weaknesses of a policy instrument.

It is, therefore, the focus of this paper to investigate both how politics impacted on the CBRP and the political consequences of putting in place such a policy instrument. First, the paper summarises the theories used for the investigation. Second, it will briefly outline the history of loan programmes in the housing sector, show the significance of the CBRP in terms of its contribution to home energy efficiency policy and provide an overview of the architecture of the CBRP. Third, the main policy changes that took place over time are summarised. Fourth, the paper investigates which political drivers impacted on the CBRP and how the CBRP itself created new politics. Finally, the paper draws some conclusions.

The paper is based on extensive document analysis (official government documents from departments and the Bundestag, evaluations of the CBRP, documents provided by the administrator of the CBRP, media articles) and semi-structured interviews with experts in the field covering the most important stakeholders (see Table 1). In many cases, claims by the interviewees

could be backed up with official documents. Where claims are based on interviews, these are quoted throughout the paper.

### External pressures and policy feedback

For the purpose of this paper, a distinction is made between external pressures and policy feedback. *External pressures* are conceptualised as drivers from a wide range of possible sources that put pressure on the policy subsystem to change. These pressures can operate for a very short period of time, for example a few days, but also last several years or even decades. Short-term events are referred to as *systemic perturbations* whereas long-term pressures are called *subsystem spillovers* (Williams 2009). A good example of systemic perturbations is crises such as the 1973 oil crisis. Subsystem spillovers cover more gradual processes such as rising unemployment, increasing public debt etc. External pressures are not the consequences of the policy instrument itself, although it can contribute to them, but drivers conceptualised external to the policy subsystem.

*Policy feedback* instead falls into the former category. 'Because things are the way they are, things will not stay the way they are' (quoted in Cook 2007, p. 390)—this quote by the German playwright and theatre director Berthold Brecht sums up the principle behind policy feedback nicely. Obviously, the choice and calibration of policy instruments depends on politics (Freeman 1985), but 'new policies [also] produce new politics' (Schattschneider 1935, p. 288), a claim famously rephrased as 'policies determine politics' by Lowi (1972, p. 299). Hence, the 'direction of causation between policy and politics is [...] two-way' (John 1998, p. 8). This is because 'policy choices have political consequences' (Pierson 1993, p. 597) and 'policies, once enacted, restructure subsequent political processes' (Skocpol 1992, p. 58) such as rearranging resources and opportunity structures. Hence, 'policies [...] have their own lives, their own internal logic and goals: they not only passively adapt to external inputs, but indeed they actively influence external factors' (Capano 2009, p. 27). In a nutshell, 'policy feedback simply refers to how policies affect politics over time' (Béland 2010, p. 569).

The literature on policy feedback is extensive and covers many areas. Recently, Béland (2010) undertook

**Table 1** Interviews conducted

Number	Position of interviewee	Date of interview
1	Energy Research Institute, Researcher	5 August 2011
2	NABU, Energy Efficiency Expert	22 August 2011
3	BMWi, Civil Servant	23 August 2011
4	KfW, Member of Staff	28 September 2011
5	DENA, Member of Staff	27 September 2011
6	BMVBS, Civil Servant	24 October 2011
7	Researcher for Member of Parliament, Green Party	14 November 2011
8	Member of Parliament, SPD	15 December 2011
9	Member of Parliament, FDP	14 December 2011
10	Member of Parliament, CDU	15 December 2011
11	Researcher for Member of Parliament, The Left	15 December 2011
12	Member of Parliament, Green Party	19 December 2011

a comprehensive literature review, 17 years after Paul Pierson (1993) wrote his seminal paper on policy feedback. According to Béland, there are at least three classic types of policy feedback: state building, interest group mobilisation and lock-in effects. *State building* refers to an expansion of the administrative capacity of the state as a result of implementing a new policy which requires additional skills and systems. *Interest group feedbacks* describe the effect that ‘policies provide both incentives and resources that may facilitate or inhibit the formation or expansion of particular groups’ for example by creating “‘spoils’ that provide a strong motivation for beneficiaries to mobilize in favo[u]r of programmatic maintenance or expansion” (Pierson 1993, p. 599). Existing policies often cause *lock-in effects* that constrain, or even prevent, policy change (North 1990, 1998, 2005; Pierson 1993, 1994, 2000, 2001, 2004, 2009). This is because ‘public policies operating in a context of complex social interdependence will often generate increasing returns as well as high fixed costs, learning effects, coordination effects, and adaptive expectations’ (Pierson 1993, p. 608). In the energy literature, lock-in effects are often restricted to technology lock-in and analysis focuses on how technological and socio-economic aspects are intertwined creating powerful systemic barriers to change (Unruh 2000). However, the same applies to policies: Often new government agencies are created as a result of new political instruments, staff needs to be retrained, complex administrative procedures need to be established etc. Diverting from the status quo implies potentially costly changes within government organisations. Béland suggests three

supplementary types of policy feedback mechanisms based on more recent literature including *ideational and symbolic legacies*. Ideational and symbolic legacies embedded in existing policies may influence subsequent policies in multiple ways, for example by enabling or preventing actors to use symbols, categories and ideas that are represented in the policies that prevail.

In addition to the types of policy feedback outlined by Béland, there are also *negative feedback mechanisms*, i.e. processes as a result of policies that undermine the *status quo* (Weaver *ibid*). The English novelist Arnold Bennett once said that ‘any change, even a change for the better, is always accompanied by drawbacks and discomforts’ (Bennett 1912, p. 103). Drawbacks and discomforts of policies are precisely how negative feedback mechanisms are understood. For example, opposition from organised vested interests against the new policy regime is an obvious type of negative feedback (Schrad 2010). Whilst not all aspects of the historic changes of the CBRP can be explained by applying policy feedback theory and the concept of external pressures, it provides an interesting perspective on why the policy instrument changed over time.

## Background

### History

The CBRP is administered by the *Kreditanstalt für Wiederaufbau* (KfW), usually known as German Development Bank. KfW was formed in 1948 after

World War II as part of the Marshall Plan and since its creation KfW has run several loan and grant programmes related to housing refurbishment. The first programmes started in 1990, although their primary focus was not energy efficiency but modernising the housing stock in former East of Germany after reunification. Only with the *CO<sub>2</sub>-Minderungsprogramm* (CO<sub>2</sub>-Minimisation Programme), which started in 1996, did the KfW introduce a programme with the specific aim of reducing carbon emissions from the housing stock (Schroeder et al. 2011). By far the most significant loan and grant programme in terms of its budget was the CBRP which started in 2001 and is still running today.

The German government considers the CBRP as the most important policy instrument in terms reducing carbon emissions from the existing building stock (Deutscher Bundestag 2011a). Whether it actually is cannot be investigated easily given the fact that the required data are not publically available, and all evaluations of the programme were carried out by organisations funded by the Government and KfW. Also, there are no data available on the proportion of free riders, i.e. the number of retrofits that would have happened anyway and rebound effects. However, for the purpose of this paper, the actual significance is secondary; the focal point of interest is how the CBRP did become the flagship policy which it is framed by policy makers.

#### Basic architecture

The Federal Government funds the CBRP and enables the KfW to issue loans with an interest rate lower than the market rates. The responsible government department is the *Bundesministerium für Verkehr, Bau und Stadtentwicklung* (Federal Ministry of Transport, Building and Urban Development, BMVBS). BMVBS sets the framework of the programme, and KfW carries out the delivery according to BMVBS's specifications.

In addition to loans, some of the funding provided is used to issue grants. Making use of both federal funding and national as well as international capital markets, KfW offers financial products to finance housing refurbishment and construction. Homeowners, housing companies and public bodies can apply for loans at an intermediary bank which assesses the individual financial circumstances of the applicant. The intermediary

bank then forwards the application to the KfW, which approves the loan. Figure 1 outlines the model described above. While the programme changed over time, the core idea of providing low interest loans (and later grants) for energy efficient refurbishment and construction remained the same.

#### Main changes

The history of the CBRP is characterised by a lot of change. This section describes the most important alterations (as pointed out by interviewees and supported by documents) including (a) an increasing, though varying, budget for the CBRP; (b) the types of measures allowed; (c) the introduction of grants alongside loans and (d) programme restructuring.

#### Funding

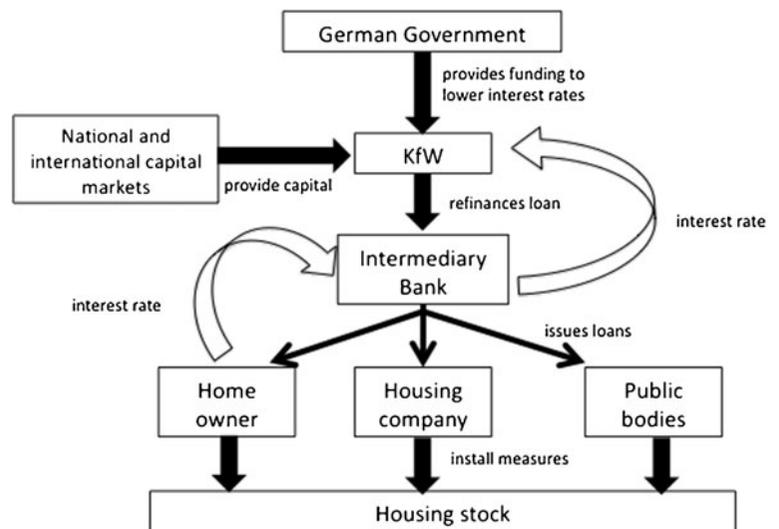
As already indicated, the annual funding by the federal Government to support the CBRP changed significantly over time. The loans issued by the KfW more or less follow the federal funding (Fig. 2), and on average the value of loans and grants issued is about 2.3× more than the federal funding provided in a given year (BMVBS 2011a, b). The federal funding is used to 'buy down' the interest rate, and KfW uses the international financial markets to access further resources for the CBRP.

Grants were only issued from 2007 onwards (see "Introduction of grants" section) but remained at comparably low levels when looking at the scale of loans provided by KfW. However, since their introduction in 2007, the amount of grant monies increased more than tenfold by 2010.

#### Mix of measures

Over time, the scope of the CBRP with regard to eligible measures changed. Overall, the CBRP moved from strictly defined *Maßnahmenpakete* (packages of measures) towards an energy performance benchmark based on the *Energieeinsparverordnung* (Energy Savings Ordinance, EnEV) regulations on new buildings. EnEV sets out detailed guidelines of how to calculate the annual primary energy demand per square metre and rules concerning the heat transfer coefficient of different parts of the housing envelope. Note that the CBRP's

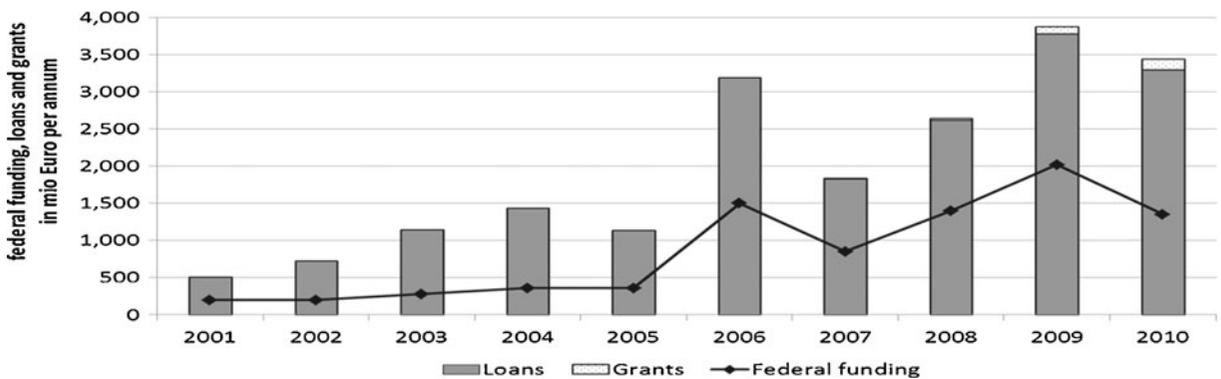
**Fig. 1** KfW schemes and financial arrangement. Source: created by author



requirements are exceeding the requirements in the EnEV for substantial building alterations.

The idea to set the standard according a defined benchmark already featured in the CBRP from the beginning: Package of measures 4 allowed a combination of defined measures with the condition that a certain performance in terms of kilograms CO<sub>2</sub> per square metre was met (note: not primary energy demand as in EnEV). Hence, while the types of measures permitted were restricted, the basic idea of defining a standard in terms of energy efficiency or carbon emissions already existed early on in the programme. However, it played a less important role and the concept of packages of measures dominated until 2007.

Then, alongside the packages of measures, a further option was introduced (alongside grants, see “Mix of measures” section) for buildings that were refurbished to the EnEV standard of new buildings or 30 % better than the EnEV requirements (Schimschar et al. 2011). The major change in 2007 was that this became the main principle of the programme and packages of measures were no longer required, although they co-existed until 2009 when the CBRP abolished them. Some have criticised the strict requirements and propose to relax the standards in order to allow for more cost-effective renovations as well so that more households could benefit and the effectiveness increased (Galvin 2010, 2012; Weiss et al. 2012; Weiss and Vogelpohl 2010). However, others criticise the CBRP



**Fig. 2** Federal funding of the CBRP and loans and grants issued. Source: based on BMVBS (2011a, b)

for setting too lax standards as they are not compliant with the long term CO<sub>2</sub> targets for the building sector (Bürger et al. 2012).

A second change the CBRP has gone through is the introduction of financial support for single measures which were not eligible for a long time. From August 2001 to March 2009, loans provided by the CBRP only funded packages of measures—single measures were explicitly not supported. For example, package of measures 1 included renewal of heating system, loft insulation and external solid wall insulation. Not until March 2009 did the CBRP provide funding for single measures too. Single measures included, for example, insulation of walls and roof, replacement of the heating system and replacement of doors and windows with more energy efficient ones.

### Introduction of grants

In addition to the existing low interest loans, grants were added to the scheme in January 2007. Grants could be used for the same packages of measures and for achieving the energy performance of a new building or better according to the EnEV. Single measures were also supported by grants after January 2009, the eligible measures had to be part of the package of measures 4 and the minimum requirements of the EnEV needed to be fulfilled. Homeowners could also get a grant worth 10 % of total investment (maximum 5,000 per property) for refurbishment of existing buildings if they achieved energy efficiency levels of new buildings. For refurbishment resulting in a 30 % more energy efficient building than new buildings at the time, 17.5 % of the total costs (maximum 8,750 euros per building) were provided as a grant. For carrying out packages of measures in existing buildings, 5 % of costs (maximum 2,500 euros per property) were paid by a grant (KfW 2006b).

### Programme structure

In the 2007 *Integriertes Energie- und Klimaschutzprogramm* (Integrated Energy and Climate Programme) agreed by the Cabinet in Meseberg (see “Climate policy” section), a substantial restructuring of all KfW programmes related to housing was announced for spring 2008 (BMU 2007). In March 2009, the promised restructuring was made public: The CBRP and the so-called ÖKO-PLUS energy efficiency refurbishment measures

of the *Wohnraummodernisierungsprogramm* (Housing Modernisation Program) 2005 were merged under the new umbrella named *Energieeffizient Sanieren* (Energy Efficient Refurbishment). Alongside the programme Energy Efficient Refurbishment, the new programme *Energieeffizient Bauen* (Energy Efficient Construction) was created which substituted the former programme *Ökologisch Bauen* (Ecological Construction), a KfW finance scheme for energy efficient construction of buildings (BAULINKS 2009). The new structure was intended to be more transparent and attractive to households. The changes also included the start of a funding stream for special measures such as advice by energy efficiency experts on refurbishment, replacement of storage heaters and optimisation of heating systems (KfW 2009).

### Analysis of policy drivers

Following the descriptive section, this part seeks explanations of the changes that happened over time. Most of the discussion below focuses on the budget of the CBRP because this is the component of the policy instrument most prone to politics. The technical aspects of the CBRP, i.e. which technologies it supports, the structure of the programme, the precise calibration of the loan and grant provisions is, in general, a matter for KfW and BMVBS to decide, although they do liaise with BMU and the *Bundeswirtschaftsministerium* (BMWi; Federal Ministry of Economics and Technology) on these issues (interview 6). KfW and BMVBS take input from stakeholders into account (they have to formally justify why they have or have not adopted an idea put forwards) and analyse any research on the CBRP and related matters (for example, research commissioned by the *Umweltbundesamt* (Federal Environment Agency)). There are, however, also occasions on which requests are made by politicians which concern the more technical aspects of the CBRP. For example, the introduction of grants was an addition to the programme explicitly proposed by the coalition of CDU, CSU and SPD in their coalition agreement (CDU, CSU and SPD 2005). This idea was not new; for example, one of the CBRP evaluators, Professor Manfred Kleemann, demanded the introduction of grants already in 2004, arguing that households adverse to debt would not benefit from a loan scheme and the introduction of grant would be more effective (BAULINKS 2004). It also featured in

one of the evaluations of the programme carried out for the Umweltbundesamt (Diefenbach et al. 2005). Overall, the involvement of party politics in the technical aspects of the CBRP is, however, limited and the case sketched above is an exception.

The paper proceeds now with a discussion of the policy drivers responsible for the non-technical aspects of the programme, i.e. the overall scale. In order to do this effectively, this paper uses an approach that clusters different episodes according to themes rather than reconstructing the history chronologically, an approach that is common in case study analysis (Hartley 2004). While one could attempt to reconstruct the development of the CBRP chronologically, an approach that clusters different episodes according to themes seems more promising as a first step toward uncovering the causal mechanisms of change.

The following drivers of change have been identified based on suggestions from interviewees and qualitative content analysis of documents:

- Climate policy
- Supporting the construction industry
- Recession
- Budgetary considerations
- Change of minister

Of course, these mechanisms are not distinct, but interrelated—for example, the change of key personnel (in this case a new Federal Minister who gave a lower priority to building refurbishment) intersected with debates around the public deficit, arguments that were used by the Minister when amending the budget for the CBRP. Similarly, supporting the struggling construction industry and attempts to alleviate the impacts of the recession are clearly linked. However, separate analysis helps to approach this task in a more structured manner than a chronological reconstruction would allow. The analysis draws on the theories of policy feedback presented in part 2 of the paper.

### Climate policy

Climate policy was one of the main drivers for the development of the CBRP (interviews 1–12). Climate policy constituted an external pressure falling into the category of *subsystem spillovers* due to the gradual and long-term nature of the driver. While climate change policy affects a whole range of different sectors, it is particularly relevant for home energy efficiency

policy because homes in Germany are responsible for a large proportion of total carbon emissions.

At the time of the inception of the CBRP, climate change mitigation was already a defined policy area, but this took many years. For a detailed history of early German climate policy, see Fleischer (1997). However, progress on low carbon refurbishment was slow, and no explicit energy efficiency policy instrument was in place to provide finance for refurbishing existing buildings. The only loan programmes that existed focused on improving the housing stock in East Germany following reunification but contained only very modest energy efficiency provisions. Also the existing CO<sub>2</sub>-Reduction Programme that started in 1996 did not achieve the scale and the depth of refurbishments required to generate significant enough carbon emission reductions, mainly because it focused on single measures (Schroeder et al. 2011), but also because of the limited budget for the programme.

An important change in government took place in 1998: After 16 years in power, the conservative liberal coalition lost the election and was succeeded by the *Sozialdemokratische Partei Deutschlands* (Social Democratic Party of Germany, SPD) and *Bündnis 90/Die Grünen* (Green Party). Part of the coalition's agenda was the introduction of additional funding measures for building refurbishment in order to achieve further CO<sub>2</sub> reductions (Jänicke and Zieschank 2011). Such a programme was prepared and discussed in detail as part of the so-called Theme Dialogue *Arbeit und Umwelt* (Work and Environment) of the *Bundesumweltministerium* (Federal Ministry for the Environment, BMU) and the *Bündnis für Arbeit, Ausbildung und Wettbewerbsfähigkeit* (Alliance for Work, Education and Competitiveness), an umbrella organisation including representatives of the Federal Government, the unions and employer associations (Richter 2003). Organisations included in the Theme Dialogue were the unions, environmental NGOs and construction industry associations. In the final report, the sub-working group *CO<sub>2</sub>-Minderung im Gebäudebestand* (CO<sub>2</sub>-Reduction in the Building Stock) proposed a programme similar to the CBRP but with a much higher budget of 7.5 billion euros per year (Bundnis für Arbeit 2000). Clearly, the aim of Alliance for Work was not only climate protection but also job creation.

In 2000, the coalition government set out the *Nationales Klimaschutzprogramm* (National Climate

Protection Programme) which restated the commitment to a 25 % reduction of CO<sub>2</sub> emissions by 2005 based on 1990 levels (BMU 2000). Alongside other measures, the National Climate Protection Programme started the CBRP, and the federal government provided about 200 million euros for three consecutive years. The funding for the CBRP was based on the revenues from auctioning the Universal Mobile Telecommunications System licenses that generated more than 50 billion euros. All of the revenues were used to reduce the national debt resulting in lower interest rate payments (about 2.6 billion euros per year). Part of this reduction of interest rate payments provided the financial resources for the CBRP in the early days of the programme (Deutscher Bundestag 2002). It was also announced that a decision about an extension of the scheme lasting at least 2 years would be made in 2003 when putting together the 2004 budget.

#### First extension

In May 2003, the Government announced the promised extension of the CBRP to 2005, providing an additional 160 million euros annually (i.e. 360 million euros in total) taken out of the revenue of the *Ökosteuer* (ecological tax), an incremental increase of taxes on energy. The increased funds and the extension of the CBRP were presented as carbon reduction measures in the context of national climate policy (BMU 2003). Other aspects such as job creation were clearly secondary in the press statement released by BMU, BMVBS and KfW but were referred to as additional effects of the CBRP (see more in section on construction industry).

#### Second extension

In his policy statement in March 2005, Chancellor Schröder announced a second extension of the CBRP keeping funding levels constant. The second extension of the CBRP also featured in the 2005 National Climate Protection Programme where it was presented once more as an important programme to save carbon emissions. For the medium and long term, the Government promised to cut GHG emissions by 40 % by 2020 based on 1990 levels under the condition that the EU commits to a 30 % reduction over the same period (BMU 2005).

#### New coalition government increases funding

In September 2005, a new coalition government was elected. The coalition consisting of the SPD and the Green Party was succeeded by a coalition led by the conservatives union of *Christlich Demokratische Union* (Christian Democratic Union, CDU) and *Christlich-Soziale Union in Bayern* (Christian Social Union of Bavaria, CSU) with the SPD as the junior partner. The change in government did not, however, lead to a significant shift with regard to the CBRP and its priority (interview 1). To the contrary, early in 2006, the new government announced an increase in the CBRP's funding: For the period 2006–2009, the Government promised to allocate 4 billion euros, a significant increase of the programme's funding base. The additional funds more than quadrupled the existing budget for the CBRP. Climate change did not, however, play a major role at that point—issues around the recession and job losses in the construction industry dominated the debates at the time (interviews 4, 6). The changes made were clearly framed as measures to support growth and particularly small- and medium-sized companies (also see “Supporting the construction industry” and “Recession” sections), whereas climate change is only mentioned sporadically in the press release (Bundesregierung 2006) and was not the top priority at the time.

#### Meseberg proposals

An important framework of German energy and climate policy was the result of a cabinet meeting in Meseberg in 2007. The cabinet put together the Integrated Energy and Climate Programme, which sets a national target to reduce carbon emissions by 40 % by 2020 based on 1990 levels (BMW<sub>i</sub> 2007 and BMU 2007). The programme contained a list of 29 policy proposals and amendments, some of which relate to energy efficiency in buildings. With regard to the CBRP, it was agreed that the programme would be stabilised at current levels until 2011 and restructured to make it more effective (BMU 2007; BMW<sub>i</sub> and BMU 2007). The proposal of restructuring the programme was not made in isolation by the Cabinet-BMVBS and KfW considered restructuring the CBRP as well and already prior to the Cabinet decision at Meseberg (interview 6). The discussions around the CBRP at Meseberg were primarily driven

by climate change considerations, given the focus of the Integrated Energy and Climate Programme on climate change (interview 8).

#### Introduction of the EnEV standard

A major restructuring of the CBRP followed in 2009 (see “[Mix of measures](#)” and “[Programme structure](#)” sections), which was based on the principle of defining a required energy performance in relation to the EnEV. Right from the start of the programme, there were requests for redesigning the CBRP in such a way giving more flexibility to potential beneficiaries. For example, in 2003 the Hans-Böckler-Foundation of the *Deutscher Gewerkschaftsbund* (German Confederation of Trade Unions) commissioned a report which proposed to move to system whereby the refurbished building has to achieve a performance benchmark measured in kilograms CO<sub>2</sub> per square metre or another standard for example those included in the EnEV (Richter 2003). The general idea behind using the EnEV to set the benchmark for the CBRP was that policy makers liked the idea of leaving it up to the homeowner and independent experts which technologies they deem most suitable in order to achieve the benchmark (Richter 2006).

#### Supporting the construction industry

Although the primary objective of the CBRP today clearly is to reduce carbon emissions (interviews 1, 2, 4, 5, 12), the CBRP always had strong links to policies supporting the construction industry. References to job creation and stimulating higher turnover in the construction industry can be found throughout the CBRP’s development, and it undoubtedly was an important driver. Employment effects were also used as an important argument when justifying other policy initiatives such as the feed-in tariffs (Frondel et al. 2010). When a programme similar to the CBRP was first proposed in 1999/2000 by the Alliance for Work, job creation played an important role, particularly because the unions were important players within the alliance (see “[Climate policy](#)” section). At certain times, considerations about the construction industry overshadowed the climate policy objectives and there were several examples where the CBRP was changed primarily because of its effect on employment and growth in the construction sector.

#### Declining turnover and employment in the construction industry

Between 1995 and 2010, the number of jobs in the German construction industry almost halved with turnover declining by more than 30 % in the same period (Statistisches Bundesamt 2012b). While the trend appears to have changed after 2006, the industry is still stagnating (Fig. 3).

Reasons for the decline of the construction industry are manifold: demographic effects, i.e. stagnating population, tailing off of the infrastructure upgrade in East Germany, competition from abroad, lower demand for new buildings and decreasing public investment in infrastructure (Ottnad and Hefele 2006). In light of this trend, policy makers justified the CBRP from the beginning not just with its contribution to climate policy objectives, but with the positive effects on the construction sector (Deutscher Bundestag 2000).

#### Increasing emphasis of positive impacts on construction industry

As described in “[Climate policy](#)” section, the government extended the CBRP in 2003 to 2005 providing an additional 160 million euros annually. Alongside the objective to reduce carbon emissions, the contribution of the CBRP to job creation and preservation in the construction industry was stressed by both the *Bundesbauminister* (Federal Construction Minister), Manfred Stolpe, who stated that the increased budget for the CBRP would secure 18,000 jobs in the construction industry (Reimer 2003) and the *Umweltminister* (Environment Minister), Jürgen Trittin, who claimed that the program had become a ‘job machine’ (BMU 2003).

Also when announcing the second extension of the CBRP in March 2005, Chancellor Gerhard Schröder referred to the need to support jobs in the construction industry particularly in small and medium enterprises (Bundesregierung 2005b). This was confirmed in the *20-Punkte-Programm: Zur Stärkung von Konjunktur und Wachstum* (Twenty Point Programme for Economic Growth), in which the federal government promised to provide 720 million euros for the scheme’s extension, again with a reference to the construction industry alongside with climate policy objectives (Bundesregierung 2005a).

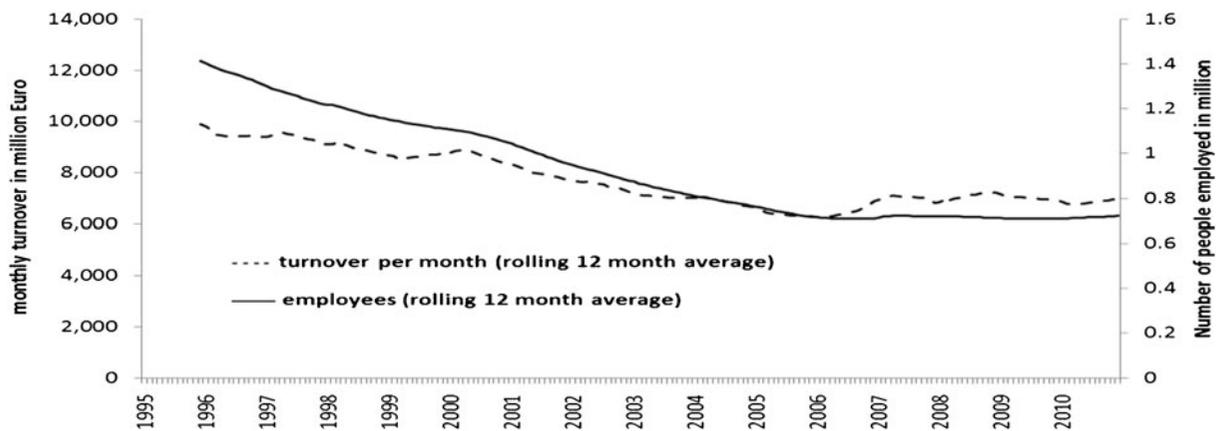


Fig. 3 Turnover and employment in the German construction industry 1995–2010. Source: based on Statistisches Bundesamt (2012b)

Arguments with regard to job creation eventually became the main argument for extending the programme in 2006 when the newly elected conservative/social democratic coalition government modified the CBRP once again. An increase in the financial resources provided was announced after a Cabinet meeting in Genshagen as part of a programme for economic growth and employment. For the period 2006–2009, the Government promised to allocate 4 billion euros, a significant increase in the programme’s funding base (Bundesregierung 2006). The first of the three reasons for the increase named by Construction Minister Wolfgang Tiefensee was job creation and keeping jobs in the construction industry. In a press release, KfW and the government argued that the increase in funding would have immediate positive effects on employment (KfW 2006a). Interviewees also supported the view that around the year 2006 job creation in the construction industry played a major role (interview G4).

The reason why the CBRP was picked as the instrument to address the decline of the construction industry and unemployment in general is that the CBRP is perceived to support economic activities with a high labour intensity whereas other areas have a much lower labour intensity (Doll et al. 2008). It also fits with the dominant approach to labour policy in Germany (see “*Recession*” section for more detail). Shortly after the increase in the CBRP’s funding base support for single measures was introduced in 2007, mainly a result of an increased programme budget and the recognition that houses which were recently

refurbished may only require one or two measures and a whole house upgrade would be too costly.

Also, grants offered support for households with few financial resources. Hence, the introduction of single measures broadened the scope of the CBRP making funding available to more buildings not just because of a larger budget but also as a result of opening the programme up to households who previously had not benefited from it. There were also lobbying groups demanding the introduction of grants: Haus & Grund, an association of homeowners, argued for the introduction of grants for a long time but only when the funding was increased substantially their demands were successful.

Based on the policy feedback literature, one would expect that the decline of the construction industry to have a *negative* effect on the CBRP assuming decreasing lobbying power over time. However, the struggling construction industry was used as an argument for expanding the CBRP rather than scaling it down due to the perceived positive impact of the programme on employment and economic activity, which constitutes another form of positive policy feedback. This suggests that the different types of policy feedback interact rather than operating in isolation.

### Recession

Another driver that had an impact on the CBRP more recently was the recession triggered by the global financial crisis in 2008. Aware of the positive effects on economic activity and employment, the German

government used the CBRP as an instrument to stimulate the economy which will be illustrated in this section.

Following the financial crisis, the economic situation in Germany worsened considerably and the economy contracted by 1.9 % in the last quarter of 2008 compared to the previous year, followed in 2009 by 6.5 % in the first quarter, 7.4 % in the second quarter and 5 % in the third quarter (Statistisches Bundesamt 2012a). Never before since World War II had the German economy suffered a recession of such scale (Butterwegge 2012). It was in this context that the government considered potential measures to help stimulate the economy when the CBRP was modified. The financial crisis clearly falls into the category of systemic perturbations: Although the CBRP's contribution to economic prosperity was stressed also prior to 2008, it was only then that the programme was amended explicitly with the intention of triggering private investment to help overcoming the recession.

In 2008 there was a debate, at times controversial, as to what kind of initiatives the government should put in place to stimulate economic growth. The SPD drafted a programme aimed at generating investment worth 60 billion euros, part of which was the 3 billion euros increase in funding of the CBRP that was later incorporated in the *Konjunkturpaket I* (Economic Stimulus Package I) (Süddeutsche Zeitung 2008). In contrast, the CDU/CSU proposed tax breaks for high income earners and new cars (Focus 2008). However, Chancellor Angela Merkel was in favour of a non-traditional economic recovery package targeted at specific sectors of the economy triggering further private investment (Frankfurter Allgemeine Zeitung 2008). The CBRP fitted into this category, and it is widely regarded as a programme that generates significant private investment (Kuckshinrichs et al. 2010); for example, in 2009 the ratio of public investments to private investments as a result of the CBRP was estimated to be 1:9 (BMVBS 2010). Therefore, according to the then parliamentary group leader of the SPD, Peter Struck, the increase in funding for the CBRP was one of the measures which was not contested when the coalition government discussed potential measures (Zylka 2008).

As a result of those discussions, in November 2008 the government published a first investment programme as a response to the recession. Part of the 15 point programme Economic Stimulus Package I was a

promise to top up the CBRP and other KfW programmes for the period 2009–2011 by 3 billion euros (BMWi and BMF 2008). Shortly after the programme was published, KfW announced an increase of grants for packages of measures from previously 5 to 7.5 % of total costs (KfW 2008).

While the government always used climate policy-related arguments when justifying previous extensions and funding increases, the document presenting the Economic Stimulus Package I did not contain a single reference to climate change or environmental issues. This indicates that at times the driver for the modifications made was merely the recession and the perceived need to stimulate economic growth (interview G4). Because the CBRP is perceived widely as triggering private investment, it was used as one of the tools the government utilised to fight the recession. The validity of claims that every euro spent as part of the programme leads to almost 10 euros of private investment is questionable and based on reports commissioned by KfW and BMVBS. It is, however, beyond the scope of this paper to assess the robustness of the figures presented by government officials. More importantly for the argument is that across political party lines the programme is *perceived* to be a vehicle that can be used to mobilise private investment (interviews 1, 7, 8, 9, 10, 11, 12).

Using public policy for job creation has a long legacy in Germany (Sommer and Rosenthal 2012). Historically, Germany allocated significantly more public expenditure to active labour market programmes than the UK (Bonoli 2010; Kluge 2010). According to Chung and Thewissen (2011), in times of economic slowdown, Germany tends to employ labour market policies that are intended to keep the workforce in the labour market in order to preserve their skills, an approach that is seen as crucial in Germany to maintain its comparative advantage (Hall and Soskice 2001). The perceived positive effects of the CBRP on employment and economic activity, and the recognition that policy makers should make use of such instruments to stimulate the economy and the labour market, fall into the category of *ideational and symbolic legacies* (Béland 2010). This is different in other countries such as the UK, where energy efficiency policy historically has not been driven by labour market policy (Rosenow 2011, 2012). Interestingly, the increase in the CBRP's budget automatically had negative short-term consequences for public spending, an

issue that became the centre of a controversial debate shortly afterwards (see “Budgetary considerations” section).

### Budgetary considerations

An additional driver of the CBRP was the debate around public debt and the implications for public spending. All interviewees agreed that budgetary issues played an important role for the development of the CBRP (interviews 1–12).

While public debt had been rising continuously over the last decades and the reasons are manifold, following the financial crisis and during the recession it increased at a much faster pace than in the years before (Fig. 4). The last time public debt increased so quickly in Germany was after reunification in the early 1990s (Streeck 2010).

The main reasons for the rapid increase in public debt as a proportion of GDP around 2008/2009 are the two economic stimulus packages which required a large amount of public funding (see section on the recession) and the bailing out of the banks during the financial crisis (Statistisches Bundesamt 2010) going hand in hand with lower, and at times even negative, economic growth leading to a reduced tax revenue.

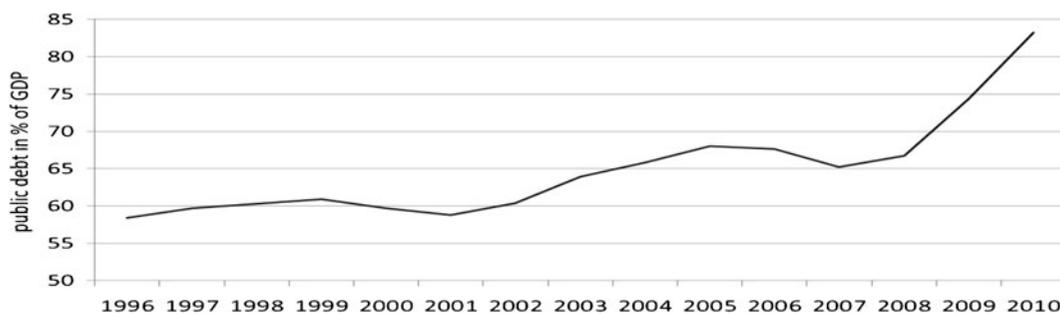
The German constitution sets a limit to how much additional net debt the government can take on every year. An amendment called *Schuldenbremse* (debt brake) was introduced in 2009 which limited the amount of additional debt that the government could take on in the future to 0.35 % of GDP per year. Essentially, the debt brake required both the Federal Government and the Länder to balance the budget without additional debt. This rule will be introduced

gradually from 2011 to 2016 and only in emergency situation it is allowed to violate the rule (Renzsch 2010). There is a connection between the debt brake and the two stimulus economic packages discussed before: The large amount of public spending and the required additional debt could only be justified with a commitment to limit the budget deficit in the future (Dietrich 2009), a commitment that would impact also on the CBRP’s funding later on.

### Budgetary cycles

Already before the debt brake had an impact on the CBRP in 2010, there were discussions about the amount of funding available in 2010. Demand for loans and grants in 2009 was higher than expected, and the funding allocated to the CBRP in the budget was not sufficient to provide for all applicants. In August 2009, federal funding for 2009 was raised by an extra 750 million euros taken from the budgets of the CBRP of 2010 and 2011. Hence, total federal funding for 2009 was more than 2 billion euros (BMVBS 2011b). Bringing forwards funding from later budgets is not an unusual process, but this step led to a controversial debate.

As a result of the increased spending in 2009, only 1.1 billion euros were left in the CBRP’s budget for 2010. The reduced funding in 2010, which resulted from the shifting of funding from 2010 to 2009, was heavily criticised by various associations and NGOs. In a campaign the reduced funding was framed as cuts to the funding of the CBRP (CAMPACT 2010), a claim that is technically not correct given that the budget was simply spent earlier meaning that for the whole commitment period 2009–2011 the overall funding did not decrease (interviews 2, 3, 4, 6, 11).



**Fig. 4** Public debt in Germany as a proportion of GDP. Source: based on Statistisches Bundesamt (2008, 2011)

## Impact of debt brake

In June 2010, a leaked letter to the coalition MPs from the Minister of the BMVBS, Peter Ramsauer, unveiled that cuts of around 50 % of the CBRP were planned for 2011 in addition to the already reduced budget (due to bringing forwards funds to 2009) leaving the scheme with only 436 million euros for 2011 (Ramsauer 2010). The argument was that the debt brake would not allow for the programme to continue at current levels. Also, it was argued by the Coalition Government that low interest rates would enable investors to find loans elsewhere. Both the SPD (Deutscher Bundestag 2010b) and the Green Party (Deutscher Bundestag 2010c) put forwards a motion not to authorise the cuts. All the major associations with an interest in housing (including the construction industry, housing corporations, homeowners, tenants) opposed the cuts (BAULINKS 2010). Also the Deutsche Energie-Agentur (German Energy Agency, DENA), criticised the proposed cuts and demanded to increase the funding to 5 billion euros per year, i.e. more than ten times the proposed level (ENBAUSa 2010).

## Creation of a new funding mechanism

Due to mounting pressure, the government eventually announced that the CPRB would receive an extra 500 million euros for the year 2011 increasing the funds available from 436 million euros to 936 million euros (Deutscher Bundestag 2010a). The money was supposed to come out of the *Energie- und Klimafonds* (Energy and Climate Fund), a Government owned fund to finance climate policy, energy storage technologies, electric vehicles, energy efficiency measures and renewable energy. The fund should be financed by the large energy suppliers which were obliged to pay a tax on profits due to delaying the phase-out of nuclear power plants and windfalls gained from free EU Emissions Trading Scheme permits. Note that the fund was not specifically introduced to finance the CBRP—it was supposed to provide funding for a range of activities.

The introduction of the Energy and Climate Fund meant that for the first time in the history of KfW loan and grant programmes part of the funding was not based on the budget alone, but also on a separate fund. Precisely for that reason government argued that the fund offered more long-term certainty because of its independence of budgetary considerations that take

place year on year (Deutscher Bundestag 2011b). Minister Peter Ramsauer stated:

I always stressed that we need continuous and stable funding; because a lot of businesses specialised in the area of CO<sub>2</sub>-Building Rehabilitation. One cannot ramp up their activities in one year and slow them down in the next year. [author's translation] (Ramsauer 2011)

This is an interesting statement given the fact that the Minister himself proposed to cut the CBRP's budget just a year before.

The announcement of the new finance mechanism was heavily criticised in a common press statement by a wide range of organisations including construction industry associations, tenant organisations, consumer associations and environmental NGOs. Their main objections related to the overall level of funding, which they deemed too low, and the uncertainty of the payments through the Energy and Climate Fund (Mieterbund 2010). Interviewees representing the Green Party shared those concerns (interviews 7, 2) and a Member of Parliament of the SPD stressed that it is important to keep the funding for the CBRP under control of the parliament rather than implementing funding streams independent from the federal budget (interview 9).

The critics were right: As already said, the fund was supposed to be financed to a significant extent via a tax on windfall profits from extending the phase-out of nuclear energy. However, after the nuclear accident at Fukushima, the German government decided to revert from the extension of the phase-out and speed up the phasing out process. Therefore, the windfall tax was made obsolete and could no longer fund the Energy and Climate Fund (Deutscher Bundestag 2011c). In addition to the funding issues around the windfall tax on profits from extending the phase-out of nuclear power, there were also problems with the second funding stream, the revenues from auctioning EU ETS permits: Permit prices fell below 10 euros per tonne of CO<sub>2</sub>, way below the anticipated 17 euros when designing the Energy and Climate Funds (Bloomberg 2012). Ironically, the aim of providing finance for the CBRP independent of the federal budget in order to reduce the unstable funding and dependence on budgetary cycles led to even more uncertainty about the future funding of the programme. This caused controversial political debates with the opposition demanding

to put the CBRP back into the overall budget (Deutscher Bundestag 2012). Paradoxically, even Minister Ramsauer, who previously announced the 50 % spending cut for the CBRP in 2010, urged the Coalition to revoke the cuts and top up the CBRP in 2012 to make up for the reduced funding coming from the Energy and Climate Fund (Neuerer 2011). However, Members of Parliament of the CDU and FDP suggested that even if there were shortfalls in the Energy and Climate Fund, the CBRP would not be affected significantly by any funding cuts (interviews 10, 11). For 2012, this prognosis proved correct, but this could only happen due to a special loan arrangement made to shift funds from the regular budget to the Energy and Climate Fund.

This is an interesting case whereby an expansion of a policy instrument driven by positive policy feedback (the perceived positive effect on the economy) had knock-on effects in the form of negative policy feedback (higher public spending). In a sense, the controversies around the funding of the CBRP are inherent in the policy instrument's architecture that is highly dependent on annual budgets. The increasing uncertainty about the CBRP's financial resources, i.e. the lack of long-term budget stability, can be classified as negative feedback in the 'form of slow-developing consequences of a policy regime's internal logic that take a while to develop and/or become more severe over time' (Weaver 2010, p. 139). In order to provide more long-term stability with regard to the CBRP's financial resources, a budget independent Energy and Climate Fund was subsequently introduced. However, it looks like the introduction of the fund may have caused the opposite being based on rather unreliable finance sources itself. Again, even though unintended, the modified finance structure started to generate negative policy feedback in the form of unreliable funding for the programme.

#### Change of minister

There is plenty of evidence that 'ministers do make a difference because they develop their own style at the head of the ministry' (Chabal 2003, p. 45). Tied in with other drivers such as budgetary constraints, the change of personnel at ministerial level in late 2009 had an impact on the CBRP. Peter Ramsauer (CSU) succeeded Wolfgang Tiefensee (SPD) as minister of the BMVBS. Of course one would expect some alteration of priorities following the change in government,

but Ramsauer's appointment appeared to have an impact far beyond party politics in this case.

As already mentioned in "Budgetary considerations" section, Ramsauer announced in June 2010 that the CBRP's budget would be cut by 50 % in 2011 (Ramsauer 2010). Ramsauer's announcement was followed by unusually harsh criticism: The *Bundesvereinigung Spitzenverbände der Immobilienwirtschaft* (Federal Union of Real Estate Associations, BSI), a federation of the large real estate associations, claimed that the cuts were 'nonsense' and 'economically and fiscally wrong' (BSI 2010). On a similar note, the *Bundesverband deutscher Wohnungs- und Immobilienunternehmen* (Federal Union of German Housing and Real Estate Associations, GDW), a real estate association, labelled Ramsauer's decision a 'crass political misjudgement' (GdW 2010).

More interestingly, however, Ramsauer also faced opposition by his own ministry: the parliamentary state secretary of the BMVBS, who belonged to the *Freie Demokratische Partei* (Free Democratic Party, FDP), demanded publically to increase funding for the CBRP to a level of 3 billion euros per year. This was just 1 day before Ramsauer defended the cuts in parliamentary debates (Schäfer 2010). Furthermore, just a few weeks earlier, the Environment Minister Norbert Röttgen, also belonging to the CDU/CSU, criticised the cuts in a leaked confidential paper. In the paper, he said that the 'cuts will lower the refurbishment rate massively and will have drastic impacts on the economy and the job market' [author's translation] (Rheinische Post 2010). Also the responsible rapporteur of the CDU/CSU in the parliamentary budget committee and the spokesperson for construction and transport expressed their regret about the cuts (Spiegel 2010).

The opposition from within his own ministry and party shows that Ramsauer did not simply represent an official party or ministry position, but rather followed his own agenda on the matter. Interviewees described him as a 'transport minister' primarily interested in transport infrastructure but not in buildings (interviews 1, 2, 5, 7, 9, 10, 12). It is rather unusual that a minister is not fighting for his budgets, one interviewee stated (interview 2). One should, however, also take into account the ongoing debates at the time around budget constraints and the debt brake. Ramsauer linked his arguments to this debate and embedded the cuts in a

**Table 2** Mechanisms of policy change and drivers of CBRP

Mechanism	Driver
External pressures— subsystem spillovers	Climate change policy
External pressures— systemic perturbations	Financial crisis
Positive policy feedback	Perceived positive employment effects
	Perceived economic stimulus
Negative policy feedback	Increased public spending

wider discussion about public spending. It seems that, while impossible to prove, a different minister with more balanced priorities giving more consideration to the overall coalition parties' positions would probably have reacted differently and have tried to prevent the cuts to the CBRP's budget.

Ramsauer's appointment is interesting with regard to the impact of negative policy feedback: It seems that different ministers are more receptive to negative (or positive) policy feedback, for example because they have their own agenda and different priorities, such as Ramsauer. Hence, in some cases negative policy feedback has an effect and in others it has not, at least not at the same moment in time.

## Conclusions

While the CBRP is a fairly technical and sophisticated policy, its history is marked by frequent, and often unpredictable, changes as a result of politics. Politics has affected the CBRP in various ways—in supporting its expansion, but also in constraining the Programme's effectiveness. Throughout the CBRP, climate policy has been a major progressive driver (in the sense that it led to the expansion of the programme), but with varying degrees of importance. Other drivers, such as support for the construction industry and job creation, sometimes reinforced the pressure from climate change policy, but there were also incidents where changes occurred primarily as a result of other pressures, for example after the financial crisis when the CBRP was used as a vehicle to mobilise investment. However, additional pressures, such as budgetary constraints or the change of minister, had regressive impacts on the programme. In these cases, it seems like 'politics determined policy'.

However, there is also evidence for the reverse arrow whereby 'policy determined politics'. For example, during the recession the government used the CBRP as a tool to stimulate economic activity. But this initiative had important *negative* policy feedback effects: The enlargement of the CBRP led to higher public debt, which in itself was used by the responsible minister as an argument to cut the CBRP's budget later on. Hence, the initial expansion of the programme ironically contributed to stagnation, and almost contraction, of the CBRP's funding base. This was partly a result of appointing a minister with different priorities who was more receptive to negative policy feedback as it fitted with his own agenda.

A form of *positive* policy feedback is that with growing budgetary size, the CBRP also attracted strong lobby groups across different sectors including industry associations, unions, homeowners, tenants and environmental NGOs making it more and more difficult for the government to reduce the funding for the programme, a classic case of positive policy feedback. Also, policy makers across political party lines perceive the CBRP as a policy that has positive economic effects and creates jobs (interviews 1, 7, 8, 9, 10, 11, 12) and therefore is in line with the ideational and symbolic legacies of German labour market policy.

Table 2 summarises the different mechanisms of policy change found and relates them to the drivers of the CBRP. Note that most of the political dynamics discussed relate to the budgetary changes. The technical changes described in "Mix of measures", "Introduction of grants" and "Programme structure" sections are less prone to politics and mainly a result of learning from past experience with the administration of the programme (see for example Richter 2006). Whereas budgetary changes are subject to approval from the ministry, the cabinet and parliament, most of the technical specifications are decided by KfW and BMVBS bilaterally based on past experience with the programme. One interviewee pointed out that the reason for this is that the technical details of the CBRP and EnEV, on which the CBRP is based, are extremely complex and not widely understood by politicians. That technical details of policy instruments are often dealt with by civil servants and experts is not unusual and in line with the theoretical literature on policy learning (Hall 1993).

There are a number of observations that can be made:

First, the funding mechanism and dependence on annual budgets put significant strain on the programme in recent years and poses a risk to the long-term stability of the CBRP. It is likely that a programme funded by public expenditure will always be caught by political tensions around public spending by default. Many interviewees stressed that the unpredictability of funding had negative effects on the market in the past (e.g. interviews 7, 9, 10, 12), although one interviewee disagreed and stated that the private housing market would not be effected to a large extend (interview 1). These concerns are also raised in the literature (Weiss et al. 2012).

Second, in the past, short-term political decisions were accompanied by unintended consequences unfolding over the medium and long term. A good example is the creation of the Energy and Climate Fund, which was supposed to provide more funding stability and fill the finance gap created by budget cuts. In fact, the funding base for the CBRP is now even more fragile than it was ever before.

Third, if the carbon reductions required for reaching the ambitious climate targets are going to be achieved with the CBRP, a long-term strategy is needed to provide the resources for the programme. Otherwise, it is likely that, like in the past, political opportunism and short-termism may prevail.

**Acknowledgments** This research was funded by the UK Research Councils as part of the Demand Reduction Theme of the UK Energy Research Centre and the Heinrich Böll Foundation. The author would like to thank Ray Galvin, Nick Eyre, Gavin Killip, Ruth Mayne, Tina Fawcett, Sarah Darby, Jo Hamilton and the two anonymous reviewers for their valuable comments.

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