ACRP

Interim Report – Activity Report

Program control:
Climate and Energy Fund

Program management:
Kommunalkredit Public Consulting GmbH (KPC)

1 Project Data

Short title	BALANCE	
Full title	Balancing climate and social housing policies in the transformation to a low carbon society: Designing integrated policy mixes for Austria	
Project number	B769944	
Program/Program line	ACRP 10th Call for Proposals	
Applicant	JOANNEUM RESEARCH Forschungsgesellschaft mbH, LIFE Dr. Sebastian Seebauer	
Project partners	University of Vienna, Faculty of Social Science, Department of Sociology RWTH Aachen University, Institute for Future Energy Consumer Needs and Behavior	
Project start and duration	Project start: 01.05.2018	Duration: 24 months
Consecutive number of interim report	Interim report 1	
Reporting period	from 01.05.2018 to 30.04.2019	

Synopsis:
Austria's low carbon transformation needs to reach climate targets without negatively impacting the social agenda. BALANCE designs policy mixes in the domain of housing which reconcile climate and social policy measures. In an iterative process, secondary socio-economic data and household surveys serve to assess current policies, while economic modelling and choice experiments help to assess future policy mixes. A stakeholder assisted synthesis validates and refines the findings from the empirical policy assessments.

2 Technical /Scientific Description of the Project

2.1 Project abstract

1. **Initial situation / motivation of the project**

Austria has set out on an ambitious pathway towards low carbon transformation. For this historical endeavour to be successful, policy fields need no longer be conceived as isolated silos, but should be harmonised and balanced in order to leverage synergies and to cushion detrimental side-effects. BALANCE takes up this call and designs low carbon policy mixes that reconcile the climate and social policy arenas in the domain of housing. Housing, on the one hand, contributes significantly to Austria's carbon emissions and, on the other hand, is pivotal for reducing social inequality.

2. **Objectives of the project**

BALANCE applies an empirical inter- and transdisciplinary framework to understand climate and social policy as interlinked and mutually reinforcing fields. First, the project analyses impacts of currently implemented climate and social policies in the housing domain on both climate and social targets. Building on these insights, BALANCE designs future low carbon policy mixes that integrate measures from both policy spheres in order to align climate with social targets. The derived policy mixes are validated by and disseminated to relevant stakeholders.

3. **Project structure and methodology**

BALANCE is structured as an iterative process of design and assessment, which results in low carbon policy mixes that are environmentally effective and socially fair. BALANCE consists of five interlocking substantial work packages (WP1 is tasked with project management):

- WP2 compiles the targets and instruments currently active in the climate and social policy fields.
- WP3 undertakes an ex-post impact assessment of current Austrian climate and social policies.
- WP4 acts as recurring pivotal point for synthesising and weighting findings towards future policy mixes and policy integration across the climate and social arena.
- WP5 conducts an ex-ante impact assessment of future policy mixes.
- WP6 disseminates results to the academic and practical community.

4. **Results and conclusions of the project stage concerned**

Housing conditions are addressed by climate policy in retrofitting buildings and by social policy in providing affordable and adequate housing. Both policy spheres intersect in Austria, but disjunct

policies undermine efforts at alleviating energy poverty. Energy poor and generally poor population segments similarly live in low-quality and inefficient housing. Despite complex interrelations, climate and social policy suffer from fragmented jurisdictions and lacking inter-sectoral coordination. Structural investments and the provision of cheap, livable housing conflict due to the tenant/landlord dilemma. Renovation subsidies, rent regulation and personalized energy support currently are narrowed to their own policy sphere and do not accurately target the energy poor. Acknowledging that energy poverty, income inequality and poor housing conditions are inherently linked underlines the need to mainstream climate with social policy. Yet, drastic reductions in carbon emissions seem hardly conceivable without a certain redistribution of wealth to the less affluent.

5. Outlook to the next project stage

The tenant/landlord dilemma has been identified as one of the central barriers to the rapid transposition of energy-efficient building renovation on the one hand and the provision of affordable, liveable housing for all on the other hand. Moreover, stakeholder interviews and the EU-SILC secondary data analysis highlighted the importance of the private/public (housing) dilemma, i.e. the importance of the redistributive function of social (housing) policies. Therefore, options for burden sharing between renters and owners and the role of public policies will receive special consideration in the upcoming project stage. WP2's analytical framework is to be revised and possibly directed to neighbouring policy fields as the project progresses. Depending on the identified barriers in WP2 and the derived findings of WP3, the methodological approach in WP5 will be discussed and adapted if necessary, for instance to a partial equilibrium model. Other WPs and Tasks remain as foreseen in the original project proposal.

2.2 Contents and results of the project

1. **Description of the targets originally defined for the reporting period**

WP objectives applicable to the reporting period were:

- Mapping the Austrian landscape of targets and policies (WP2)
- Assigning governance actors to policies (WP2)
- Identifying accuracy, leverage and effectiveness of specific policies (WP3)
- Cross-checking and validating results with real-world experience (WP4)

2. **Description of the preliminary results and milestones of the reporting period**

Note: The WP2 and WP3 results reported here draw heavily on the working paper by Seebauer, S., Friesenecker, M., Eisfeld, K. (2019). Coordinating climate and social housing policies to alleviate energy poverty: An analysis of targets and instruments in Austria; see section 2.3.

WP1 Project management (40% completed)

Besides concluding funding and consortium agreements, WP1 covered ongoing project management work and meetings (kick-off meeting on 28 May 2018 in Vienna, interim project meeting on 15 Oct 2018 in Vienna, plus monthly status updates via Skype teleconferences). The project website https://balance.joanneum.at/ is online and links to all project output; materials are added to the website as they are produced in the course of the project.

WP1 established and convened the project advisory board as requested in the funding contract. The advisory board is staffed by two representatives of the Federal Ministry for Sustainability and Tourism: R. Spitaler and C. Lamport. The first board meeting on 11 Dec 2018 was leveraged as an additional expert interview in WP2 (see Table 3).

WP2 Analytical framework (80% completed)

The current Austrian climate strategy clearly favors more energy efficient technologies over energy taxes (BMNT & BMVIT 2018). Three policy targets affect renters in existing buildings:

- First, the annual rate of retrofitting existing private buildings with improved insulation shall be increased to 2% in the 2020-2030 period.
- Second, energy awareness of citizens shall be improved. This entails empowering households to manage their own energy consumption, increasing consumer demand for energy efficient products and services, and enabling active participation of citizens on the electricity market (e.g. via self-consumption/feed-in of decentrally produced energy).
- Third, starting from 2025, oil-powered heating boilers aged 25 years or older shall be exchanged for heating systems using renewable energy; thus, by 2050, the entire stock of oil

heating systems will be substituted. This exchange of heating systems shall be done in a socially compatible manner avoiding social hardship.

Austrian social policy approaches the overarching target of decreasing poverty and social exclusion as a cross-sectional issue touching a multitude of policy fields: retirement, labor market and unemployment, social insurance and health, care-taking and family but also minimum income schemes and poverty prevention (BMASK 2018).

- The policy target of affordable housing has historically been implemented in the rental sector (Bundeskanzleramt 2013, 2017). On the one hand, housing policy uses a multilevel, semi-/public institutional structure and legal regulations to create affordable segments via communal, limited-profit, and rent-regulated housing (Matznetter 2002; Mundt 2018). These building-centered instruments are complemented by general housing benefit payments, housing support as part of the minimum income scheme, and winter fuel payments.
- Ensuring adequate housing conditions for renters is uncontested among Austrian policy makers, but there is considerable ambiguity and discretion on criteria for mold, humidity, leaking roofs or other building shortcomings.

Tables 1 and 2 summarize reciprocal impacts that may arise when pursuing the respective climate or social policy targets. Vague target definitions restrict this analysis to a qualitative comparison. Still, underlying dynamics emerge: The climate targets of building insulation and changing heating systems play together well with the social target of adequate housing conditions; as an example for synergy between targets, thermal retrofitting of buildings in overall bad condition offers the opportunity to renovate derelict installations at the same time at low additional costs. Further convergence arises from building energy awareness: Enabling households to actively manage their energy demand (e.g. with time-variant electricity tariffs administered via smart meters) resonates well with the social claim to empower the disadvantaged.

Critical divergence lies between refurbishing existing buildings versus decreasing poverty and providing affordable housing. Insulating building envelopes or changing heating systems may increase rents as upfront investment costs need to be paid back and higher rents are charged for the improved housing quality. The classic split incentives dilemma may result in the landlords passing (part of) the investment costs on to their renters, which may overtax the financial capabilities of low-income residents. In consequence, low-income renters may be forced to relocate to cheaper, low-quality housing they can still afford, eventually inciting residential segregation or gentrification of urban quarters. Crowding out to cheap housing may also apply to households just above the poverty threshold, who might be affected disproportionately, as they are not entitled to social welfare payments buffering increased housing costs. However, direct housing benefit payments increase the disposable household income and may allow energy poor residents to finance at least minor investments in housing quality and energy efficiency.

Table 1. Mapping of climate and social targets (long version for discussion with experts).

			PRIMÄR			SEKUNDÄR						
		Sozialpolitik	**Leistbares Wohnen**	**Adäquate Qualität der Ausstattung in der Wohnung**	**Vermeidung von Armut und sozialer Exklusion**	**Vermeidung residentieller und sozialer Segregation**	**Verringerung von Altersarmut**	**Verringerung von Energiearmut**	**Stärkung der Wohnungsgemeinnützigkeit (auch Subziel Leistbarkeit)**	**Vereinfachung und Neuregelung der Mietregulierung**	**Schaffung und Erhalt von kommunalen Wohnbau (auch Subziel Leistbarkeit)**	**Wohnungs- & Hauseigentumsbildung erleichtern**
	Klimapolitik		Nettokaltmiete, Betriebskosten, Bruttokaltmiete (Netto + BK), Wohnkostenbelastung, Anteil der Wohnkosten am Haushaltseinkommen	Wohnungskategorie A-D, Energiekennzahl aus dem Energieausweis (angenähert über Baujahr + eventuelle Sanierungsmaßnahmen) für Wohnung, Wohnzufriedenheit,	Armutsindikatoren und Wohnungskosten (Nettokaltmiete + Betriebskosten + Heizung & Warmwasser) Anteil der Gesamtkosten am verfügbaren Haushaltseinkommen Überbelag von Wohnungen	Einkommensdurchschnitt und Bandbreite der Einkommensverteilung im Stadtteil/Dorf Segregationsindex/Dissimilaritätsindex/räumliche Konzentration von kritischen Gruppen (z.B. Alleinerzieher/niedrige Einkommen/Migranten)	Gesamtkosten Wohnkostenbelastung für 65+/Mindestpensionsbezieher: Anteil der gestamten Wohnkosten am verfügbaren Haushaltseinkommen	Anteil Heizkosten an anderen Wohnkosten (im Vergleich zu Durchschnitt), Anteil Heizkosten an verfügbaren Haushaltseinkommen (im Vergleich zu Durchschnitt)	Anteil der Wohnungsgemeinnützigkeit an allen Wohnungen Bandbreite und Maximalwerte für sanierteleinsanierte Wohnungen wie auch der Mieten	Bandbreite und Maximalwerte der Mietzinsen je Wohnungs-/Gebäudekategorie, insbesondere Kategorie D Wohnungen,	Anteil des kommunalen Wohnbaubestands Anzahl von neu errichteten kommunalen Wohnbauten, Bandbreite und Maximalwerte der Mieten	Anteil der Eigenheimbesitzer, Anteil an Mietkaufwohnungen unter allen gemeinnützigen Wohnungen, Anteil der in privates Eigentum übernommenen gemeinnützigen Wohnungen
PRIMÄR	**CO2-Emissionen reduzieren auf max. 5 Mio t im Gebäudesektor bis 2030**	Emissionen im Gebäudesektor, Heizwärmebedarf in kWh/m²a der österreichischen Gebäude	Höhere Investitionskosten durch neue OIB Gebäudestandards --> höhere Nettokaltmieten der Mieter, aber niedrige Betriebskosten durch geringere gemeinschaftlich abgerechneten Heizkosten	OiB Richtlinien zu Gebäudehüllen, Fenster, Türen, etc. --> adäquate Qualität der Wohnungsausstattung; optimierte Wohnungsgrößen	Höhere Investitionskosten durch neue OIB Gebäudestandards --> höhere Nettokaltmieten, aber Reduktion der gemeinschaftlich abgerechneten Heizkosten (BK) sowie für die laufenden Heizkosten der Wohnung	Investitionen werden hauptsächlich im Luxussegment umgesetzt --> soziale Polarisierung des privaten Mietwohnungsmarktes inklusive schwindenden Niedrigpreissegment am Wohnungsmarkt; Konzentration energetisch guter/schlechter Wohnungen in einzelnen Stadtviertel	wie Ziel Armut und soziale Exklusion, nur bezogen auf ältere Personen	laufende Heiz- und Warmwasserkosten sinken	Durch das Prinzip der Kostendeckung und der Beschränkung der Gewinnentnahmen steigt die Nettomiete in moderaten Ausmaß und die Einsparungen der Betriebskosten und Heizkosten kommen stärker zu tragen; Eventuelle Zuzahlungen der Miete?	Je nach Ausrichtung: Bei der jetzigen Bundesregierung ist eine Derreulierung und Reduzierung des geschützten Mietsegments (Stichwort Altbau, Kat. D) zu erwarten --> vermehrt Investitionen in die Renoverung des Altbaubestands, aber Mietsteigerung für Mieter ohne Deckelung	Durch die Deckelung der Mieten nach Kategoriemietsins und der Regelungen der Wohnbauförderung kommen die Einsparungen der Betriebskosten und Heizkosten kommen stärker zu tragen; Eventuelle Zuzahlungen der Mieter?	
	Sanierungsquote von durchschnittlich 2% bis 2020 und 2030, Bund als Frontrunner mit Einsparung von 48,2 GWh bei Gebäudebestand im Bundesbesitz	Sanierungsquote im privaten Wohnsektor, differenziert nach Baujahr und Gebäudeform Sanierungsquote: gemeinnützigen Wohnungen Sanierungsquote kommunaler Wohnbau	Investitionssumme für Renovierung muss durch Hausbesitzer (Rücklagen) aufgebracht werden --> Nettomieten erhöhen sich i.d.R.; (Ausnahmen: bestehende Verträge, Mietzinsregulation (Altbau), geförderte Wohnungen); Betriebskosten verringern sich um die Einsparungen bei gemeinschaftlich abgerechneten Heizkosten	Durch Renovierung kommt es zu einer besseren Fassadendämmung, besseren Fenster, besseren Heizung in Wohnräumen beseitigt Schimmelbefall und besserer Heizwärmebedarf	Investitionssumme für Renovierung muss durch Hausbesitzer aufgebracht werden --> höhere Nettokaltmieten, bei Einsparungen der Betriebskosten und laufenden Heizkosten --> das Niedrigpreissegment (Kategorie D Wohnungen) am Wohnungsmarkt wird kleiner und ärmere Bevölkerungsschichten sind stärker auf Gemeindebauwohnungen angewiesen	Schwerpunktsetzung auf Sanierung ganzer Stadtviertel/Wohnblöcke --> einkommensschwache Haushalte können sich es nicht leisten, dorthin zu ziehen bzw. dort zu bleiben --> räumliche und soziale Polarisierung am privaten Wohnungsmarkt	wie Ziel Armut und soziale Exklusion, nur bezogen auf ältere Personen	laufende Heiz- und Warmwasserkosten sinken	Investitionssumme für Renovierung muss durch Hausbesitzer aufgebracht werden --> i.d.R.geförderte Sanierung und kostendeckende Mietzinsbildung; Eventuelle Zuzahlungen der Miete?	Investitionssumme für Renovierung muss durch Hausbesitzer aufgebracht werden --> höhere Nettokaltmieten; bei ungeförderten Wohnungen direkt (Ausnahme Altbau), bei geförderten Sanierungen wird der Mietsteigerungseffekt abgefedert; Betriebskosten verringern sich um die Einsparungen bei gemeinschaftlich abgerechneten Heizkosten	Investitionssumme für Renovierung muss durch Kommune aufgebracht werden --> begrenzte Mittel für Förderung; Durch die Deckelung der Mieten nach Kategoriemietzins und der Regelungen der Wohnbauförderung kommen die Einsparungen der Betriebskosten und Heizkosten kommen stärker zu tragen, Eventuelle Zuzahlungen der Mieter?	
	Ab 2025 müssen 25 Jahre alte fossile Heizkessel durch erneuerbare Heizungssysteme ersetzt werden	Anzahl entfernte Heizkessel, - Anteil Öl/Kohle/Gas an allen Heizsystemen in privaten Wohngebäuden	Investitionssumme für neues Heizsystem muss durch Hausbesitzer (Rücklagen) aufgebracht werden --> Nettomieten erhöhen sich i.d.R. (Ausnahmen: bestehende Verträge, Mietzinsregulation (Altbau), geförderte Wohnungen); Betriebskosten verringern sich um die Einsparungen bei gemeinschaftlich abgerechneten Heizkosten		Investitionssumme für neues Heizsystem muss durch Hausbesitzer aufgebracht werden --> Nettokaltmieten erhöhen sich, aber laufende Betriebskosten und Heizkosten reduzieren sich	wird vorrangig in Premium-Objekten umgesetzt, billiger Wohnraum wird vernachlässigt --> räumliche und soziale Polarisierung des Wohnungsmarktes	wie Ziel Armut und soziale Exklusion, nur bezogen auf ältere Personen	Heizkosten können unverändert bleiben	Investitionssumme für neues Heizsystem muss durch Hausbesitzer aufgebracht werden --> Nettokaltmieten erhöhen sich moderat (Kostendeckungs-/Gemeinnützigkeitsprinzip), aber laufende Betriebskosten und Heizkosten reduzieren sich; Eventuelle Zuzahlungen der Miete?	Investitionssumme für neues Heizsystem muss durch Hausbesitzer aufgebracht werden --> Nettokaltmieten erhöhen sich, aber laufende Betriebskosten und Heizkosten reduzieren sich	Investitionssumme für neues Heizsystem muss durch Hausbesitzer aufgebracht werden --> Nettokaltmieten erhöhen sich, aber laufende Betriebskosten und Heizkosten reduzieren sich, Eventuelle Zuzahlungen der Mieter?	
SEKUNDÄR	**Endenergieverbrauch Richtwert von 1050 Petajoule bis 2020 & Primärenergieeffizienz um 25-30% verbessern**	Energieverbrauch (kontrollieren um Heizgradtage, Haushaltsgröße, Wohnfläche), Primärenergieeffizienz einer Öl-/Kohle-/Biomassefeuerung, - Wohnfläche pro Person	Effizienteres Heizsystem passend zum Haustyp -> höchster Impact von Investitionskosten & niedrigerer Brennstoffbedarf -> geringere Heizkosten für Allgemeinflächen (siehe zB: klimaaktiv Heizungsmatrix)		Effizienteres Heizsystem passend zum Haustyp -> höchster Impact von Investitionskosten & niedrigerer Brennstoffbedarf -> geringere Heizkosten für Allgemeinflächen (siehe zB. klimaaktiv Heizungsmatrix)	Vorrangig im Luxussegment	wie Ziel Armut und soziale Exklusion, nur bezogen auf ältere Personen	wie Ziel Armut und soziale Exklusion, nur bezogen auf energiearme Personen	wie Ziel Leistbarkeit, nur bezogen auf gemeinnützigen Sektor	wie Ziel Leistbarkeit, nur bezogen auf private Mietwohnungssegmente	wie Ziel Leistbarkeit, nur bezogen auf kommunalen Wohnbau	
	Energiebewusstsein in der Bevölkerung erhöhen	Wissen über Energiesparmaßnahmen in der Bevölkerung	besseres Wissen wie man Heizkosten spart	richtiges Lüftverhalten verbessert das Raumklima und den Heizwärmebedarf; Größe der Wohnung an Bedarf angepasst	besseres Wissen wie man Heizkosten spart		wie Ziel Armut und soziale Exklusion, nur bezogen auf ältere Personen	wie Ziel Armut und soziale Exklusion, nur bezogen auf energiearme Personen	besseres Wissen wie man Heizkosten spart, bezogen auf gemeinnützigen Sektor	besseres Wissen wie man Heizkosten spart, bezogen auf private Mietwohnungssegmente	besseres Wissen wie man Heizkosten spart, bezogen auf kommunalen Wohnbau	
	Ausstieg von fossilen Heizmitteln sozial verträglich gestalten	Akzeptanz erneuerbarer Energien auch bei höheren Kosten	Investitionskosten nicht auf Mieter übertragen oder durch Förderungen abfedern		Heizkosten können unverändert bleiben;		Maßnahmen für ältere Menschen	Maßnahmen für energiearme Menschen				
	Umstellung auf ausschließlich erneuerbares Bio-Methan im öffentlichen Gasnetz	Anteil erneuerbares Bio-Methan am gesamten Gasverbrauch	Keine Umbaukosten da Gasleitungen vorhanden; höhere oder gleichbleibende Heizkosten?		Heizkosten können unverändert bleiben;		keine zusätzliche Investition erforderlich	keine zusätzliche Investition erforderlich	keine zusätzliche Investition erforderlich	keine zusätzliche Investition erforderlich	keine zusätzliche Investition erforderlich	
	Bis 2030 100% des österreichischen Stroms aus erneuerbaren Energiequellen	Anteil des Stroms der aus erneuerbarer Energie erzeugt wird			höhere Netzgebühren wegen Netzintegration schwankender Energieerzeugung			höhere Netzgebühren wegen Netzintegration schwankender Energieerzeugung				

Table 2. Mapping of climate and social targets (short version as included in the working paper).

	Decrease poverty and social exclusion	**Affordable housing**	**Adequate housing conditions**
Increase rate of renovation of existing buildings	- Investment costs lead to increased rents - Poor residents are pushed to remaining cheap low-quality housing - Heating costs decrease initially, but may rise again from rebound effect + Operating costs for shared building areas decrease	- Higher costs for communities and cooperatives to provide affordable housing - Investment costs lead to increased rents + Operating costs for shared building areas decrease	+ Reduction of humidity, draft, mold + Improvement of indoor air quality reduces the risk of respiratory diseases + Increased quality of life
Build energy awareness	+ Energy literacy leads to savings in heating costs	+ Energy literacy leads to savings in heating costs	+ Venting behavior improves indoor air quality + Floor area and size of household appliances are better aligned with household needs
Phase out oil heating systems in a socially compatible manner	- Implemented last in cheap, non-premium property - Investment costs lead to increased rents - Poor residents are pushed to cheap low-quality housing + Regulations specifically targeted at low-income households allow them to catch up	+ Pursued in communal and limited-profit housing - Obligatory investments in existing buildings limit available budgets for providing new housing	+ Substituting in-flat stoves improves indoor air quality

+ = Positive, concerted, reinforcing impact. - = Negative, contradictory, hindering effect.

Contributing to WP2 as well as to WP4, semi-structured qualitative expert interviews with federal and local administrations and from policy interest groups were conducted. In November to December 2018, key actors from Austrian public administration, NGOs and energy utility companies were interviewed (Table 3). Interviewee selection adopted a process of theoretical and snowball sampling; the circle of interviewees was consecutively expanded until theoretical saturation was reached, i.e. the key roles and dynamics in the climate and social sphere had been addressed. All interviews were conducted face-to-face, were audio-recorded and lasted about an hour. The experts validated a draft version of the policy target matrix (similar to Table 1), offered practical experiences on the exemplary policy instruments and pointed to grey literature (ensuring coverage in the document analysis). In addition, experts' knowledge helped to develop targeted questions for the Vienna survey that soon starts in WP3.

Table 3. List of interviewed experts.

Name	**Institution**
Rainer Spitaler, Christopher Lamport	Federal Ministry for Sustainability and Tourism, Section IV/4 Energy efficiency and buildings, and Section IV/1 Climate policy coordination
Manfred Zauner	Federal Ministry for Labour, Social Affairs, Health and Consumer Protection, Section V European, international and social issues
Georg Fellner	MA50 Housing research, City of Vienna
Marianne Steiner	Executive Office for the Coordination of Climate Protection Measures, City of Vienna
Sandra Schimmler	Social welfare office, City of Graz
Wolfgang Götzhaber	Environmental protection office, City of Graz
Christina Veigl-Guthann, Florian Pichler, Harald Poidl	E-Control, the Austrian energy market regulator
Christoph Streissler, Walter Rosifka, Robert Mödlhammer, Lukas Tockner	Chamber of Labour Vienna
Karl Snieder, Mario Matzer	Chamber of Labour Styria
Maria-Elisabeth Bruckl	Caritas Verbund-Stromhilfefonds
Angelika Vaverka	Wien Energie, a regional energy utility company
Christoph Reinprecht	Department of Sociology, University of Vienna

Although awareness for energy poverty as an issue cutting across policy spheres is growing, virtually none of the interviewed key actors reports any current attempts at systematic coordination between climate and social policy. While they acknowledge cross-sphere impacts and trade-offs, governance practice is firmly restricted to the actors' functions and jurisdictions within their policy silos. For

instance, in the mindsets of social and housing actors the topic of energy poverty solely lies in the responsibility of environmental or energy departments. Persistent policy silos also manifest in fragmented responsibilities for housing issues between federal and provincial administrations or in the absence of interdepartmental liaisons. It comes as no surprise that the Austrian Climate and Energy Strategy (BMNT and BMVIT 2018) mentions the alleviation of energy poverty but the annual status report of the Ministry of Social Affairs does not (BMASK 2018).

WP3 Assessment of current climate and social policies (40% completed)

The analysis of climate and social policy in terms of their effects on each other and on energy poverty proceeded in three steps:

1. In order to identify critical segments, indicators on income inequality, poverty and energy poverty were cross-referenced against housing market structures (such as legal status, construction period, housing segments) and housing conditions (such as housing/heating costs, heating system) in Austria. Secondary data analysis used the national sample of the 2016 European Union Statistics on Income and Living Conditions (EU-SILC) survey. This national microdata comprises 6,000 households, provided by courtesy of Statistics Austria.
2. Synergies and conflicts between climate and social policy targets were mapped in a matrix following Wackerbauer et al. (2011). The matrix is based on a document analysis of the national social and climate policy architecture. The selection of documents focused on main national laws, regulations, strategies, party programs, coalition agreements, major programs from (sub-)national administrations as well as policy documents from non-governmental organizations.
3. An in-depth analysis of exemplary policy instruments, namely renovation subsidies, rent regulation and personalized energy support, elaborated neglected or even counterproductive effects on the climate and social policy spheres. This analysis builds on the multiple benefits toolset of IEA (2014). The three policy instruments are assessed regarding: (i) accuracy, whether the instrument targets and reaches critical population segments; (ii) leverage, whether the instrument addresses the core drivers of energy poverty and housing inequality; and (iii) effectiveness, the real-world impact of the instrument (see also Chelimsky 1995; Nagarajan and Vanheukelen 1997). The accuracy assessment refers to the critical segments identified in the first step during secondary data analysis.

Regarding step 1 secondary data analysis, across several definitions of energy poverty and general poverty, critical segments relevant for policy design were identified (Table 4): tenants in urban areas, who appear across various definitions; the private rental segment, which implies high heating costs and bad housing conditions; buildings constructed between 1945 and 1980, as they are highly energy inefficient. Thus, housing is a central lever for climate as well as social policy - efforts of one policy sphere will most likely also affect the other policy sphere.

Table 4: Prevalence of housing characteristics among generally poor and energy poor population segments (as included in the working paper).

					Total housing costs [1]	Heating costs [2]	Tenure status: Renting [3]	Multistory apartment house [4]	Equi-valized floor area [5]	Renewable energy [6]	Rental segments			Construction period 1945-1980 [7]
											Private rental	Limited-profit housing	Communal housing	
			in EUR	in %	in %	in %	in %	in %	in m²	in %	in %	in %	in %	in %
Poverty indicators	(a) Inequality per equivalized disposable income per year	Highest Quintile	> 34,613	20.00	10.70	1.70	28.40	44.33	123.05	26.17	51.92	41.30	6.78	29.33
		Higher Quintile	26,977 - 34,613	20.00	13.80	2.60	30.83	42.75	114.62	24.43	37.98	47.81	14.21	36.00
		Mid Quintile	21,548 - 26,976	20.00	16.50	3.30	35.58	45.83	107.44	20.49	35.17	46.65	18.18	42.75
		Lower Quintile	16,187 - 21,547	20.00	20.80	3.80	43.83	51.00	101.13	16.10	37.33	40.23	22.44	44.50
		Lowest Quintile	< 16,186	20.00	36.80	5.67	54.67	59.75	86.78	12.81	46.09	30.46	23.44	43.25
	(b) At risk of poverty [8]		14,217	13,72	42.07	6.51	55.41	60.51	83.76	13.15	48.61	29.17	22.22	42.41
	(c) At risk of poverty and social exclusion [9]		n.a.	17,23	38.16	5.80	57.54	63.15	82.5	12.44	45.26	31.05	23.68	41.78
Energy poverty indicators	(i) Expenditure-based: > 10% Heating costs [10]		n.a.	4.23	50.00	15.37	24.73	28.02	107.03	14.29	69.05	16.67	14.29	52.75
	(ii) Self-reported: arrears on utility bills or adequately warm or housing faults [11]		n.a.	15.21	24.80	3.72	57.62	60.97	92.4	12.31	43.58	30.53	25.88	38.29
Combined indicator	(b/i+ii) At risk of poverty or >10% Heating Costs and arrears on utility bills or adequately warm or housing faults [12]		n.a.	7.03	41.33	6.85	68.81	68.35	76.5	9.09 *	49.31	24.31	26.39	41.28

Source: Statistics Austria, EU-SILC 2016; N=6000 households; row percentages displayed; *only limited valid as based on N<20

Regarding step 2 matrix analysis of policy targets, the climate and social policy sphere intersect in their shared focus on improving housing quality. However, currently the two policy spheres are narrowed to their own interests and hardly consider critical segments in the other sphere.

Climate policy efforts towards building retrofitting and phasing out oil heating neglect social side-effects. The respective instruments are targeted towards homeowners. The particularly inefficient segment of buildings constructed in 1945-1980 is not addressed explicitly. Because of low funding rates mainly mid- or high-income households apply for the offered subsidies, who might undertake the refurbishment anyway. Renovation subsidies clearly fail to reach the most vulnerable group of tenants and are not tied to social criteria like income. Disadvantaged households do not benefit from common subsidy schemes for several reasons: because they do not have the financial capacity to invest in retrofitting; because Tenancy Law keeps them from demanding a retrofit from their landlord; and because they might have more pressing problems due to multiple deprivations.

Many energy poor households experience high vulnerability on the private rental market. Rental Law does not address the tenant/landlord dilemma and rather enables landlords to renovate dwellings at increased social costs. Tenancy Law does not regulate rents in the 1945-1980 building segment. Personalized support may ease the symptoms of energy poverty resulting from these shortcomings, but its case-by-case approach seems too costly to be up-scaled to the entire low-income and energy poor population of Austria. The limited-profit and communal segments do offer rent regulated and comparatively affordable housing. These segments are not able to supply residential space for all low-income households though, as they also have to be open for mid-income households to prevent spatial concentration of poverty.

Regarding step 3 in-depth analysis of exemplary instruments, we studied subsidies for building renovation as a typical climate policy instrument, rent regulation and renter protection as a typical social policy instrument, and personalized support for energy poor households as an innovative scheme that grew out of the energy poverty debate in Austria. These three instruments are evaluated regarding their accuracy, leverage and effectiveness towards achieving the above mentioned policy targets.

In Austria, subsidies for building renovation are offered by federal ("Sanierungsscheck", renovation check) and provincial ("Wohnbauförderung", housing support) administrations (Umweltbundesamt 2018). Federal and provincial funding complement each other; renovation activities are allowed to receive funding from both sides. Housing support is a long-standing instrument for activating the housing market. After peaking in 2010, the overall amount of subsidies and the number of funded renovations declined continuously, both on the federal and the provincial level (Amann, Mundt, and Wieser 2014; BMNT 2017). Improving housing quality clearly addresses the structural causes of residential carbon emissions and, albeit less comprehensively, energy poverty. The theoretically high reduction in energy consumption however can easily be diluted if the renovation covers only part of the building or if rebound effects occur. The subsidy scheme does not seem particularly effective towards achieving climate targets, as the overall renovation rate still remains below expectations. Apparently, the scheme mainly reaches those who already plan for a renovation and for whom the subsidy is a windfall profit. Only homeowners can apply which excludes or at least hinders the access of energy poor renters to this policy instrument. For a pronounced social angle, the current subsidy regime could offer higher funding rates (or a negative tax, or a tax refund) to buildings owned or inhabited by low-income residents, or could prioritize particularly inefficient buildings from the 1945-1980 construction period. For resolving the tenant/landlord dilemma, subsidies could prescribe a cost sharing scheme that assigns less burden to low-income renters.

Most interviewed policy actors consider rent regulation and renter protection the most effective for guaranteeing affordable housing, since rents constitute the highest share of housing costs. Rent regulation in Austria is administered by historically grown governance within the federal state architecture. Whilst the Act on Tenancy Law and the Limited-Profit Housing Act are federal laws, housing subsidization is under provincial jurisdiction. This multi-level legislation partitions the Austrian housing market into private, limited-profit and communal housing segments, which fall within different forms of rent regulation. The Act on Tenancy Law prescribes reference rents for multi-apartment buildings constructed before 1953 and rented ownership apartments before 1945. The system of reference rents is largely fragmented, since reference rents may be surcharged or undercut depending on building condition, location and other criteria. Private landlords may take advantage of these loosely defined criteria. Legal rules on financing building renovation between tenants and landlords are similarly fragmented. Tenants in limited-profit housing contribute regular rent surcharges to a reserve fund managed by their housing association; this reserve fund may be used for maintaining as well as for improving housing quality. As a consequence, heating costs and bad housing conditions are lower in this segment. The Tenancy Law, on the other hand, does not

prescribe earmarked reserve funds for private rental and communal housing, but landlords are obliged to maintain their buildings properly. Although regulating rents relieves a major cost burden for energy poor households, the accuracy and effectiveness of this policy instrument are impaired by its fragmented coverage of selected building segments. Energy poor households in private rental would profit from a Tenancy Law reform that expands rent caps and regulation on sharing renovation costs between tenants and landlords to all building segments. Such a reform would also support the climate policy target of increasing the renovation rate.

Personalized support for energy poor households in Austria grew out of a series of pilot projects (Brunner, Spitzer, and Christanell 2011; Christanell, Mandl, Leitner, et al. 2014; Proidl 2009). Practice-oriented field research developed and evaluated energy counselling methods for energy poor households that subsequently inspired institutionalized support schemes. Personalized support schemes have the merit of high flexibility to local contexts and household needs. Their eligibility criteria cater to multiple deprivation instead of a simple income thresholds; this circumvents a tedious political debate on an agreed energy poverty definition and ensures that those receive help who need it most. However, the high effort for enacting this tailored approach limits the number of households that can be reached, and therefore suggests a negligible contribution to the overall climate and social policy targets of reducing carbon emissions and inequality. Moreover, social workers as gatekeepers may make biased decisions on who enters the scheme. Personalized support schemes can only indirectly address the structural, building-level drivers of energy poverty and domestic energy consumption. Experts report that energy poor renters are reluctant to negotiate with their landlords for improvements in building efficiency, as they are afraid of having to move out once their time-limited tenancy contract terminates and fear being pushed to substandard poor quality housing.

WP4 Stakeholder assisted synthesis (25% completed)

Renting is the dominant living situation among energy poor households (Bouzarovski, Petrova, and Sarlamanov 2012), therefore the rental sector in Austria presents a good case to explore how social and climate policy impact each other. The focus on tenants in existing buildings also takes into account that the bulk of residential carbon emissions occurs from heating in existing houses, which makes large-scale investments in refurbishing these buildings necessary, and that the interplay of renting and large investments comes up against the crucial barrier of the tenant/landlord or split incentives dilemma.

The tenant/landlord dilemma is a main hindrance in financing building renovation, thermal retrofitting or changing the heating system (Ugarte 2016). Resolving this dilemma implies critical tradeoffs between climate and social policy targets: Market uptake could be accelerated by weakening rent caps, easing billing regulations for heating costs, or opening maintenance reserve funds for non-repair purposes. However, this would undermine the social rationale these caps and regulations were originally introduced for, and low-income renters will presumably be displaced to substandard housing. Compromise most likely lies in curbing the monthly back payments of tenants

for structural improvements similar to rent caps, as it is currently done in the Austrian limited-profit housing segment. Yet, this only works with open-ended tenancy contracts; if the time limit of the tenancy contract is shorter than the payback period of the investment, additional rules are needed to balance the contributions and benefits of individual tenants. Overcoming the intricacies of the tenant/landlord dilemma calls for an extensive Tenancy Law reform.

WP5 Assessment of future low carbon policy mixes and *WP6 Policy recommendations* are pending and are scheduled to be completed in the upcoming project stage.

3. Description of difficulties encountered in the pursuit of the targets during the reporting period (if any)

Fragmented legislation in the housing sector, particularly on rent regulation in Tenancy Law and other pertinent legal acts, makes it difficult to construct future policy mixes that align with current legal frameworks, are simple enough to be tested in economic models and household surveys, but at the same time offer targeted remedies for inefficient buildings or disadvantaged population segments. Continued transdisciplinary exchange with stakeholders shall help to connect research findings to the policy situation on the ground. Furthermore, the fragmented landscape between different provinces due to Austria's federal state architecture makes it necessary to focus on selected provinces. In our case, this will be the metropolitan regions in Styria and Vienna.

The fragmented landscape of policy targets also makes it difficult to specify strict and concise indicators for policy evaluation as originally foreseen in WP2. Strategy documents tend to be written in vague language (e.g. the Austrian Climate and Energy Strategy stating that the phase-out of fossil fuel powered heating systems shall be done in a "socially compatible manner"). The interviewed experts generally question the practical relevance of policy strategies. We instead intend to frame policy evaluation according to qualitative criteria:

- Accuracy: Does the policy target those people who need it most? Does the policy reach critical population segments in both the climate and the social arena?
- Leverage: Does the policy address the household characteristics which have the strongest influence on climate and social indicators?
- Effectiveness: Does the policy contribute to achieving its specific and general targets? Do the actual impacts coincide with the intended impacts the policy was designed for?
- Actor and Agendas: Who are critical actors and vested interests that lead to barriers in policy deployment, financial resources, etc.?

Enquiring data availability and quality for the joint repository in WP3 revealed that microdata of the EU-SILC survey is the most comprehensive dataset available with regards to housing costs, heating, energy costs and housing conditions besides Microcensus microdata. Microcensus data, however, has limited coverage of renters only, and does not disaggregate rent and operating costs. We

refrained from establishing a joint data repository because of this data limitation in combination with a lack of stringent indicators for policy evaluations and focused on the qualitative policy evaluation.
Access to energy poor households remains challenging, as this group shows little affinity to standardised surveys that are distributed as print questionnaires in German language. The upcoming Vienna survey aims to improve response rates by on-site contact and questionnaire delivery with the help of students participating in a related university course. The challenge to reach energy poor households also required an extensive pre-testing phase. First, pre-tests were undertaken with international students in a related university course at UNIVIE. Second, on-site pre-tests at municipal housing were made. Furthermore, extensive preparation with the housing association (Wiener Wohnen) on sampling buildings as from the survey population and on elaborating questionnaire distribution procedures leads to a delayed start of the WP3 Vienna survey.

4. Description of project progress "highlights"

Due to the complex nature of housing legislation and policy in federal Austria, an extra effort of interviewing 19 experts (Table 3), was undertaken in order to gain an in-depth understanding of the Austrian governance set-up and its actors. This will help us in the later project stage to design integrated and target-group specific policies. The interviews revealed a profound lack of coordination between the climate and social policy spheres in Austria. Both spheres are vaguely aware of each other, but did not yet set concrete steps towards aligning their respective policy efforts. The willingness of the interviewed circle of experts to actively comment on and contribute to the debate on cross-cutting issues underscores that BALANCE meets current policy interests. We sincerely hope to carry this momentum to the upcoming project stage.
The groundwork for raising the awareness of cross-links between the climate and social policy spheres was laid with WP3's secondary data analyses of interconnections between energy poverty, poverty in general and housing conditions in different housing segments. The quantitative comparison of energy poverty, general poverty measures and income inequality and housing structures and conditions is unique and has reached attention by other researchers (see Table 4).

2.3 Description of dissemination and publication measures

Project website

The website https://balance.joanneum.at/ provides up-to-date information on the project, research activities and results as well as dissemination activities.

Journal articles under review

Seebauer, S., Friesenecker, M., Eisfeld, K. (2019). Coordinating climate and social housing policies to alleviate energy poverty: An analysis of targets and instruments in Austria. Since 31 Mar 2019 under review at *Energy Sources, Part B: Economics, Planning, and Policy*, Special Issue on "Energy Poverty Alleviation: Effective Policies, Best Practices and Innovative Schemes". This paper is available as working paper on the project website.

Held conference presentations

Madlener R. (2019). Zunehmende Ungleichheiten bei Einkommen und Energiekonsum in der Energiewende. Plenary talk at the 11th Internationale Energiewirtschaftstagung IEWT, 13-15 February 2019, Vienna (AT).

Friesenecker, M. (2019). Coordinating climate and social housing policies to alleviate energy poverty: An analysis of targets and instruments in Austria. Paper presentation at Engager (COST) workshop on socio-ecological justice, 13-17 March 2019, Erfurt (DE).

Seebauer, S., Eisner, A., Friesenecker, M., Eisfeld, K., Kazepov, Y. (2019). Balancing climate and social housing policies in the transformation to a low carbon society: Designing integrated policy mixes for Austria. Poster presentation at the 20th Austrian Climate Day, 25-26 April 2019, Vienna (AT).

Kazepov, Y., Friesenecker, M., Eisfeld, K., Seebauer, S. (2019). Équilibrer le climat et les politiques de logement social: concevoir un ensemble de politiques intégrées pour l'Autriche. Presentation at Colloque Innovation et territoires face aux inégalité, 22-25 May 2019, Rimouski (CAN).

Upcoming conference presentations

Eisfeld, K. (2019). Coordinating climate and social housing policies to alleviate energy poverty: An analysis of targets and instruments in Austria. Paper presentation at the Conference of the European Network for Housing Research ENHR, 27-30 August 2019, Athens (GR).

Madlener R. (2019). Energy Prosumage, Energy Poverty, and Energy Justice. Plenary talk at the 16th International Association for Energy Economics European Conference, 25-28 August 2019, Ljubljana (SLO).

Stakeholder outreach

The expert interviews conducted in WP2 served as an entry point to debate project topics and results with key persons and institutions dealing with housing issues from a climate or social perspective. This expert circle was contacted with the purpose to inform about project progress and the project website. It is intended to involve the stakeholders in discussing upcoming project results.

University teaching

The project is used as a case study in “Research Practice 1: Researching the interplay between environmental and social policies” (LV-Nr. 230033) during the summer term 2019, at the Department of Sociology of the University of Vienna, held by Y. Kazepov, K. Eisfeld and E. Mocca.

Moreover, the distribution of the online questionnaire of the project is used as a case study in “Empirical Social Research” (LV-NR. 230014) during the summer term 2019, at the Department of Sociology of the University of Vienna, held by K. Eisfeld.

Research activities and publications arising from BALANCE contribute to the cumulative doctoral thesis of K. Eisfeld on “Rethinking being green - A cross-country comparison of pro-environmental behavior in Austria and Sweden” (working title), scheduled for completion in 2020.

Similarly, the micro-econometric modelling approach to break down the economy-wide effects of housing policies for different social strata is intended to contribute to the doctoral thesis of A. Eisner on “The Impact of Energy Communities on the Electricity Market and the Economy” (working title), scheduled for completion in 2021.

3 Presentation of Costs

Please note the following: Payment of the installment due, based on the volume of support committed in the contract and on information provided in the corresponding report, does not mean that the expenses submitted are accepted as eligible. The eligibility of expenses is established after completion of the project through a detailed review of project costs by KPC. The last installment is paid out after approval of the final report and the final statement of expenses and subsequent adoption by the support management department of KPC.

3.1 Table of costs for the reporting period

The following table provides an aggregated overview of the costs incurred by the applicant and the project partners in the reporting period, broken down by staff costs, capital expenditure, travel expenses, administrative and material expenses, and third-party costs.
All figures in EURO. Stated costs refer to the reporting period from 01 May 2018 to 30 Apr 2019.

Cost category	**Eligible total costs according to contract**	**Cumulative costs of the reporting period** Total costs for the consortium*	**Applicant JR** Costs in the reporting period	**Partner 1 UNIVIE** Costs in the reporting period	**Partner 2 FCN** Costs in the reporting period
Staff costs	213.663	46.889	21.770	25.119	0
Capital expenditure	0	0	0	0	0
Travel expenses	5.250	1.290	1.290	0	0
Administrative and material expenses	30.396	21	21	0	0
Third-party costs	0	0	0	0	0
Total	249.309	48.200	23.081	25.119	0

* Sum total of costs incurred / cost category of the applicant and all partners

3.2 Statement of costs in the reporting period

JR: Costs incurred are as planned mainly staff costs. Travel expenses were used for project meetings as well as for participation in scientific conferences. JR staff costs incurred during the business year 2019 are preliminarily calculated based on hourly rates from 2018. Eventual discrepancies will be corrected in the final report.

UNIVIE: Costs incurred only for staff costs. Travel expenses were not incurred, since project meetings were held in Vienna or via Skype.
FCN: No costs were incurred in the reporting period, as FCN's activities are scheduled for the upcoming project stage.

3.3 Cost reclassification

JR: Claudia Fruhmann has left JR by Nov 2018. Her support role to lead economist V. Kulmer is taken over by Anna Eisner, a doctoral student in climate and energy economics.
UNIVIE: Roberta Cucca has left UNIVIE to take up a position at the Norwegian University of Life Sciences (NMBU). Her project responsibilities are covered by Michael Friesenecker, which holds the foreseen position of the junior researcher. Additional in-kind support is covered by Kristina Eisfeld. M. Friesenecker is on paternal leave from May to Nov 2019. During this period, Anna Brenner acts as temporary replacement, whereas K. Eisfeld acts as interim contact person at UNIVIE.
M. Friesenecker, K. Eisfeld and A. Brenner are well qualified for these roles, as they contribute expertise on housing policies, poverty & inequality, environmental behaviour and quantitative methods.
All CVs of new project staff are provided in the Appendix.

4 Outlook

The tenant/landlord dilemma has been identified as a central barrier to the rapid transposition of energy-efficient building renovation on the one hand and the provision of affordable, liveable housing for all on the other hand. Moreover, stakeholder interviews and the EU-SILC secondary data analysis highlighted the importance of the private/public (housing) dilemma, i.e. the importance of the redistributive function of social (housing) policies. Therefore, the upcoming household surveys and policy analyses will put the tenant/landlord dilemma on centre stage: how it plays out in practice, which options for burden sharing between renters and owners exist, how these options are accepted among residents, and which benefits and drawbacks are associated with these options and the role of public policies.
An important upcoming project step is a survey among residents in non-retrofitted and recently retrofitted communal housing in Vienna, and the replication/expansion of this survey among energy poor households in Graz. Pretesting of the Vienna survey materials was concluded in May 2019 and printing of questionnaires started at the time when this interim report was finished, so field work will commence by June 2019.
WP2's analytical framework is to be revised and possibly directed to neighbouring policy fields as the project progresses. Various methodological approaches are currently assessed in order to study in detail the distributive impacts of future low carbon policy mixes in WP5. In the original project

proposal a CGE model is linked with a QUAIDS demand model. The advantage of this approach is that production demand side of the economy are represented, with special focus on the latter by using detailed demand functions for numerous households. However, the drawback is that the level of disaggregation regarding consumption goods, socio-economic characteristics and number of households in the QUAIDS model is limited. A different approach, with focus on household consumption and distributional impacts on a high level of resolution, is a partial equilibrium model. This approach allows studying welfare and household effects with a high level of detail, while abstracting from the production side of the economy (Seebauer et al. 2015). The latter implies that production based policies can only be implemented by deriving scenarios from pertinent macroeconomic modelling studies (a variety of these modelling experiments have been undertaken for Austria, e.g. Kulmer and Seebauer 2019, Kulmer et al. 2014, Bachner et al. 2018, Kirchner et al. 2019)

Other WPs and Tasks remain as foreseen in the original project proposal. Returning to the circle of experts (see WP2 results) for an integrative stakeholder workshop is planned for Autumn 2019. The ultimate project aim remains to design integrated policy mixes where climate and social policy elements are aligned in reach and stringency and are connected to specific actors and agendas in policy deployment.

4.1 Time schedule

The original project workflow diagram is adapted to account for the later project start in May 2018, to reflect the previous project stage, and to conform to minor delays as compared to the original time schedule. Milestones will be revisited in the upcoming project stage as results from policy evaluation are fed back in the policy design and integration process.

Table 5: Adapted GANTT diagram.

	2018								2019												2020			
	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4
WP1: Project management	M1.1					M1.2							M1.3											M1.4
WP2: Analytical framework					M2.1	M2.2												M2.3						
WP3: Assessment of current climate and social policies								M3.1							M3.2 M3.3	M3.4								
WP4: Stakeholder-assisted synthesis						M4.1												M4.2					M4.3	
WP5: Assessment of future low carbon policy mixes																				M5.1		M5.2 M5.3		
WP6: Policy recommendations						M6.1	M6.2				M6.4						M6.3							M6.4 M6.5

MILESTONES

WP1
M1.1: Kick-off meeting
M1.2: Project team meetings
M1.3: Interim report to Climate & Energy Fund
M1.4: Final report to Climate & Energy Fund

WP2
M2.1: Matrices of climate and social targets and indicators completed
M2.2: Climate and social governance landscape completed
M2.3: International climate and social case studies completed

WP3
M3.1: Data repository established
M3.2: Survey of beneficiaries of winter fuel payments completed
M3.3: Survey of tenants in social housing completed
M3.4: Ex-post policy assessment completed

WP4
M4.1: List of stakeholders completed
M4.2: First integrative stakeholder workshop held
M4.3: Second integrative stakeholder workshop held

WP5
M5.1: Linkage of CGE model and microeconomic model completed
M5.2: Quantification of effects of the policy mixes completed
M5.3: Choice experiment completed

WP6
M6.1: Dissemination plan developed
M6.2: Project website set up
M6.3: Intermediate revision and re-alignment of the dissemination plan
M6.4: Scientific publications submitted
M6.5: Policy briefs published

4.2 Planned Cost schedule

Costs in the remaining project phase will be predominantly staff costs, plus travel expenses for participation at international conferences and material costs for field work (survey and choice experiment).

5 Signature

I herewith confirm that the report in its entirety has been accepted by the project partners.

Graz, 29.05.2019

Place, date

Signature of the applicant (coordinator)

Appendix

CV Anna Brenner
CV Kristina Eisfeld
CV Anna Eisner
CV Michael Friesenecker

Seebauer, S., Friesenecker, M., Eisfeld, K. (2019). Coordinating climate and social housing policies to alleviate energy poverty: An analysis of targets and instruments in Austria.
Proofs of the submission to *Energy Sources, Part B: Economics, Planning, and Policy*