

Supplemental material for Hildén, M., Jordan A. and Rayner, T. 2014. Climate policy innovation: developing an evaluation perspective. *Environmental Politics* 23 (5), <http://dx.doi.org/10.1080/09644016.2014.924205>

S 1. The number of policies and measures reported according to the MMD in 2011 and the number that include quantitative projections of emission reductions

Country	Number of reported policies and measures (PAM)	Number of PAMs with quantitative projections of effects on GHG emissions
Austria	56	19
Belgium	107	58
Bulgaria	26	21
Cyprus	19	19
Czech Republic	47	47
Germany	83	39
Denmark	63	31
Estonia	33	27
Spain	40	19
Finland	49	19
France	186	24
Greece	24	24
Hungary	39	31
Ireland	47	47
Italy	45	45
Lithuania	14	12
Luxemburg	26	18
Latvia	42	8
Malta	98	98
The Netherlands	41	34
Poland	88	4
Portugal	50	42
Romania	18	0
Sweden	42	18
Slovenia	23	17
Slovakia	20	10
United Kingdom	43	43

S 2. Top 5 policies and measures with quantitative projected emission reductions as reported by countries in 2011

Country	Description	Expected reduction in 2015, Gg CO2 equivalents
Austria	1. Increase of fuel tax by 5 euro ct in three steps (2011, 2015, 2021)	3100
	2. Increased use of biodiesel, bioethanol and straight vegetable oil by blending them with fossil fuels (5%, measured by volume)	2110
	3. Enhanced fuel efficiency of cars; Raising market share of advanced engine technologies with low fuel consumption	833
	4. Group of measures including speed limits, promotion of biofuels and the dispersion of electric vehicles.	761
	5. Speed limits to be implemented area-wide	433
Belgium	1. Financial incentives for the rational use of energy (RUE) and RES through combination of regional subsidies and federal tax deduction for investments generating energy savings.	7426
	2. Benchmarking and voluntary agreements through contracts signed with public authorities. Targets are quantified by benchmarking (within 10% of the best performer) or by energy audit, considering all RUE investments which have a payback time under 4-5 years.	5358
	3. Covenants to reduce N2O emissions from nitric acid production	3361
	4. Green certificates provided to producers of green electricity for production that avoids the emission of CO2 compared with fossil fuel plant (natural gas CCGT) with requirements for a predefined (and annually increasing) percentage of green electricity supplied to end users. In case of failure, a penalty fee is due.	2857
	5. Improve and promote public transport by quantified targets, improved infrastructures and services, new parking places for cars and bicycles close to train stations, reducing fares for certain categories of travelers and promoting the combined use of bicycle and public transport	2450
Bulgaria	1. Through implementation of signed bilateral agreements, 26 projects have been approved for emission reduction.	6989
	2. Expansion of residential gasification.	2000
	3. Development and maintenance of nuclear energy production.	1150
	4. Rehabilitation, modernisation and improvement of the transmission and distribution networks to reduce loss of electricity and need for electricity production in coal-fired plants.	1100
	5. Rehabilitation, modernisation and improvement of the transmission and distribution networks for heat to reduce need for heat production in heat boilers.	950
Cyprus	1. Reduction of energy consumption in residential buildings by increasing energy savings.	345
	2. Development of renewable energy sources for heating and cooling through targets for the share of RES in heating and cooling.	285
	3. Development of renewable energy sources in electricity production through targets for the share of RES in electricity.	150
	4. Incentives for purchasing new vehicles with lower emissions	70
	5. Implementation of national action plan for promotion of public transport	70
Czech Republic	1. Preferential feed-in tariffs for electricity produced from renewable energy sources to support of RES use in power generation. The law defines minimal feed-in tariffs for electricity produced from RES and guarantees its long-term validity and obligation of distributors to connect sources using RES and	3027

		purchase the electricity from RES.	
	2.	Subsidies to enterprises and industries for promoting energy efficiency and use of RES.	1346
	3.	Promoting the selection of office appliances available for bulk purchases; information support for all consumers	969
	4.	Support through investment subsidies for the construction of low-energy family houses in passive standard, full or partial insulation of existing houses and introduction of RES for water heating financed from sold emission allowances.	864
	5.	Inspection of energy labeling of appliances in shops, testing the electrical appliances; Financial support for information campaigns promoting energy-saving electrical appliances.	786
Germany	1.	Electricity conservation; Total effect from new measures regarding power consumption.	34554
	2.	Renewable Energy Act; Guaranteed feed-in tariffs; Market penetration of power production using renewable energy sources	12998
	3.	Change of dispatch of fossil fuel-fired power plants due to feed-in of electricity from renewable energy sources and due to increasing CO2 price	6772
	4.	Electricity conservation; Total effect from existing measures regarding power consumption	5865
	5.	Incentives for investors; Energy rehabilitation of buildings	5100
Denmark	1.	Taxes on fossil fuels.	3700
	2.	Information campaign on fuel consumption of new cars	600
	3.	Measures to reduce greenhouse gas emissions from agriculture	0,0
	4.	Ban on ammonia treatment of straw.	0,0
	5.	Manure applied to areas without crops shall be ploughed in within 6 hours.	0,0
Estonia	1.	Feed-in tariffs and investment support under different schemes.	946
	2.	Feed-in tariffs.	409
	3.	Introduction of obligation of 5-7% biofuel share in liquid motor fuels and 50% biofuel share in liquid fuels for public transport	193
	4.	Fuel economy related labeling of new cars, information and training on energy efficient driving	181
	5.	Support for construction of small combined heat and power plants, fuel-switch to renewable energy sources at existing boiler houses (< 4MW), energy conservation through the improvement, reconstruction and expansion of district heating networks.	126
Spain	1.	Economic bonus system for wind power generation and the development of national transport networks and wind turbines adapted to marine conditions.	18332
	2.	Economic bonus system for photovoltaic power generation. Specific programs with incentives for innovative projects. Support the development of low-cost equipment and architectural integration.	5052
	3.	Economic bonus for solar thermal power generation. Public support for investment, for the implementation of demonstration projects, and promotion of the components industry for this sector.	4653
	4.	Development of measures provided for measures to ensure compliance with the greenhouse gases reduction targets.	3160
	5.	Establish measures for recovery, recycling, reclamation and destruction of substances that deplete the ozone layer and on the production, import, export and use of products and equipment containing or relying on these substances.	2108
Finland	1.	Production subsidy for electricity produced from renewable energy and other measures e.g. investment subsidies.	1400
	2.	Voluntary energy efficiency agreements.	1300
	3.	The Act on Biofuel Distribution Obligation (446/2007 and amendment	780

	1420/2010).	
	4. The Act on the production subsidy for electricity produced from renewable energy (1396/2010)	540
	5. Bundle of additional P&M related to buildings	500
France	1. French biofuel plan completed by the national plan of action for energy renewables; Improvement of the efficiency of transport modes used.	7640
	2. Energy saving certificates; Economizing energy use.	7320
	3. Tax credit for sustainable development; Improving the energy performance of existing buildings.	6070
	4. Limitation of emissions of fluorinated gases used as refrigerants; Reduce emissions of fluorinated gases.	3640
	5. Eco-design of equipment; Economizing energy use.	3560
Greece	1. Gradual decommissioning of old inefficient thermal power units and commissioning of new ones – increase the share of natural gas used in electricity production.	16022
	2. RES for electricity production; Promote electricity generation from renewable sources.	13965
	3. Full implementation of the National Energy Efficiency Action Plan; Energy efficiency measures targeting non-ETS sectors (industry, residential and tertiary sectors).	4167
	4. Additional RES for electricity production; Wider use of renewable energy for electricity generation.	2651
	5. Partial implementation of the National Energy Efficiency Action Plan; Energy efficiency measures targeting non-ETS sectors (industry, residential and tertiary sectors).	1787
Hungary	1. General promotion of policy according to the Renewable Energy Action Plan; Increase the share of renewables within total energy consumption.	3680
	2. Lifetime extension and capacity increase of the Paks nuclear plant; Extension of technical lifetime by technical measures, increase of the capacity by improving efficiency and control systems; Increase the share of nuclear energy within the energy mix.	3050
	3. Compulsory use of renewable energy at subsidized prices.	920
	4. Mandatory share of biofuels within the traded amount of fuels, heavy fines for non-compliance.	711
	5. Subsidy for energy efficiency improvement projects in residential building.	564
Ireland	1. Renewable energy will contribute 30% of gross electricity consumption (total electricity generated plus net imports) in 2020.	1701
	2. Retrofit - residential component; Energy efficiency improvements in existing residential buildings.	600
	3. SEI Large Industry Programme and Energy Management Standard EN.	386
	4. Renewables penetration to increase from 3% in 2020 under WEM to 20% under WAM by 2020.	330
	5. Efficient Boiler standard introduced as part of the revision of the Building Regulations.	299
Italy	1. National Action Plan for Renewable Energy 2010.	6842
	2. Emission standard for new cars, improve efficiency of passenger cars.	5400
	3. Green Certificate - budget law 2008; Increase electricity generated from renewable sources.	4165
	4. Infrastructural measures: Improve transport infrastructure with completion of high capacity and high speed networks and tuning of regional networks for commuting and transporting of goods.	3750
	5. White certificates supporting energy saving during by improving energy efficiency in the civil sector.	3301
Lithuania	1. JI projects in chemical industry; Decrease N2O emissions from production of nitrogen fertilizers and chemical products.	1467

	2.	Implementation of Nitrates Directive; Minimise the groundwater pollution of nitrates and reduce emissions.	1200
	3.	Afforestation of low fertility soils.	840
	4.	Technological changes in cement industry to reduce GHG emissions.	500
	5.	Increasing renewable energy use in district heating sector.	191
Luxemburg	1.	Increase the share of "second generation" biofuels in road fuel sales.	374
	2.	Introduction of the so-called "kyoto cents" on road fuel sales.	309
	3.	Transposition of directive 2003/30/EC on biofuels.	150
	4.	More restrictive energy efficiency standards for new or renovated residential buildings.	62
	5.	Vehicle tax based on CO2 emissions.	20
Latvia	1.	Wide range of information based measures targeted at national industry sectors.	147
	2.	Allocation of funds from sale of emission rights to CO2 emissions reduction by implementing RES based heat and electricity production technologies.	87
	3.	Investments in energy efficient building renovation co-financed from the EU Regional Development Fund.	61
	4.	Biofuel Mix Obligation Requirement requiring 4.5-5% bioethanol mix is obligatory for the gasoline of "95" trademark. 4.5-5% biodiesel mix is obligatory for diesel fuel.	46
	5.	Income from sale of GHG emissions rights are partly allocated for CO2 emissions reduction by decreasing energy consumption in public buildings.	19
Malta	1.	Capping and extraction of gases from the engineered non-hazardous waste landfill. Extracted gases to be utilised for power generation when available.	71
	2.	European Regional Development Fund (ERDF) Grant scheme.	25
	3.	Optimisation of reverse osmosis process, energy reduction in water transfer and distribution network, and improve energy efficiency at Malta shipyards.	22
	4.	Government grant schemes provided for PV systems	21
	5.	Upgrade buses, more routes, more frequent and have more efficient services	19
Netherlands	1.	Planned new feed in premiums; Increase energy production from renewable sources.	10050
	2.	Existing subsidy scheme renewable energies through feed in premiums.	3800
	3.	Include N2O emissions from particular sources in the ETS; N2O reduction measure and opt in emission trading scheme.	2130
	4.	Demonstration projects CCS ; Demonstration of CCS to increase its use.	840
	5.	EU standards new vehicles.	640
Sweden	1.	Carbon dioxide taxes to reduce use of fossil fuels in many sectors.	17000
	2.	Vehicle fuel taxes encouraging more energy-efficient vehicles and eased the introduction of vehicle biofuels.	2300
	3.	Rules on municipal waste planning, rules on producer responsibility for certain goods, tax on landfilling of waste, prohibition of landfilling of combustible and organic waste; Investment aid for agricultural biogas production and energy switch and improved energy efficiency in the framework of the rural development programme.	1700
	4.	Tax relief on biomass fuels.	1700
	5.	EU Requirements on new vehicles CO2 emissions.	1000
Slovenia	1.	Technological modernisation of thermal power stations; Reduction of the specific emissions in the generation of electricity with installation of new units.	1897
	2.	Emissions from transit transport; Decrease emissions from road transit transport.	1013
	3.	Promoting electricity generation from RES; Increase electricity production from RES.	490
	4.	Promoting use of RES for heat generation; Increase use of RES for heat generation; buildings.	210

	5.	Promoting use of biofuels; Increase the use of biofuels in transport sector.	165
Slovakia	1.	Requirements for higher share of biofuel in gasoline and mineral oil, and duty to provide information on the share of biofuels in transport petrol and diesel.	1162
	2.	Measures improving energy efficiency in buildings.	843
	3.	Goals for air quality in energy production and the assessment of air quality.	606
	4.	Goals for air quality in industrial energy use, the assessment of air quality.	358
	5.	Goals for air quality in other energy uses, the assessment of air quality.	301
UK	1.	Renewables Obligation delivered through financial incentives.	15200
	2.	EU level voluntary agreements on CO2 from cars, backed up by changes to company cars taxation and vehicle excise duty.	7600
	3.	Additional renewables in generation with target of 30% renewables in electricity generation by 2020. To be achieved through netter planning, connecting to the grid and financial incentives.	7515
	4.	Building Regulations 2002, 2006 & 2010, including 2005 condensing boiler update. Building Regulations set standards for design and construction which apply to most new buildings and many alterations to existing buildings in England and Wales. Improve energy efficiency of buildings	6340
	5.	National Products Policy to set minimum energy efficiency standards for products on sale. Mandating energy efficiency labeling of appliances.	6295