



Low Carbon Ukraine

Policy advice on low-carbon policies for Ukraine

Supported by:



Federal Ministry
for the Environment, Nature Conservation
and Nuclear Safety

based on a decision of the German Bundestag

Reaching Ukraine's energy and climate targets

Dr. Georg Zachmann

Berlin/Kyiv, May 2021

Implemented by



Berlin
Economics

Introduction

Purpose

- UA has many strategies and targets
- Translating those into concrete policies is a challenge
- Ten measures for the next ten years

Process

- Stakeholder consultations with Ukrainian experts and policy-makers
- Written feedback on first draft

Available at:

- LowCarbonUkraine.com



SELECTED HIGH-IMPACT MEASURES

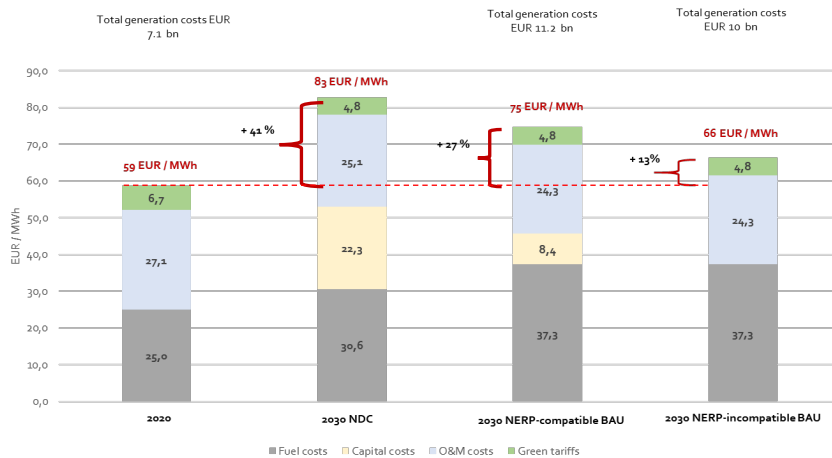
Reaching Ukraine's energy and climate targets

Georg Zachmann (editor)

Many energy and climate strategies & targets for 2030

NECP Draft (2021)

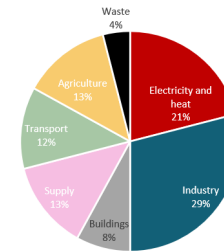
Average electricity generation costs (EUR/MWh), 2020, 2030 NDC and 2030 BAU



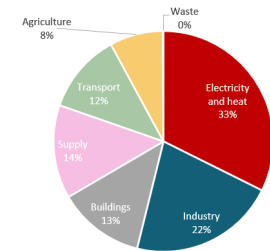
Source: Own analysis based on ODM model results

NDC2 (2021)

Share of sectoral GHG emissions in 2030



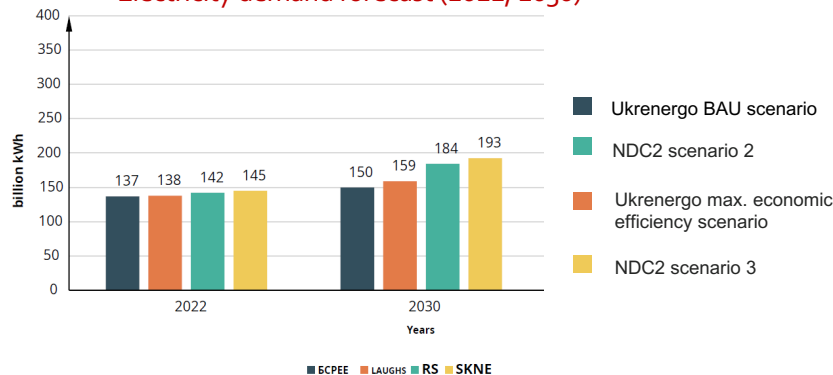
Share of GHG emissions reductions (2030 vs. 1990)



Source: Ministry of Environmental Protection and Natural Resources of Ukraine (2021)

Ukrenergo Adequacy Report (2021)

Electricity demand forecast (2022, 2030)

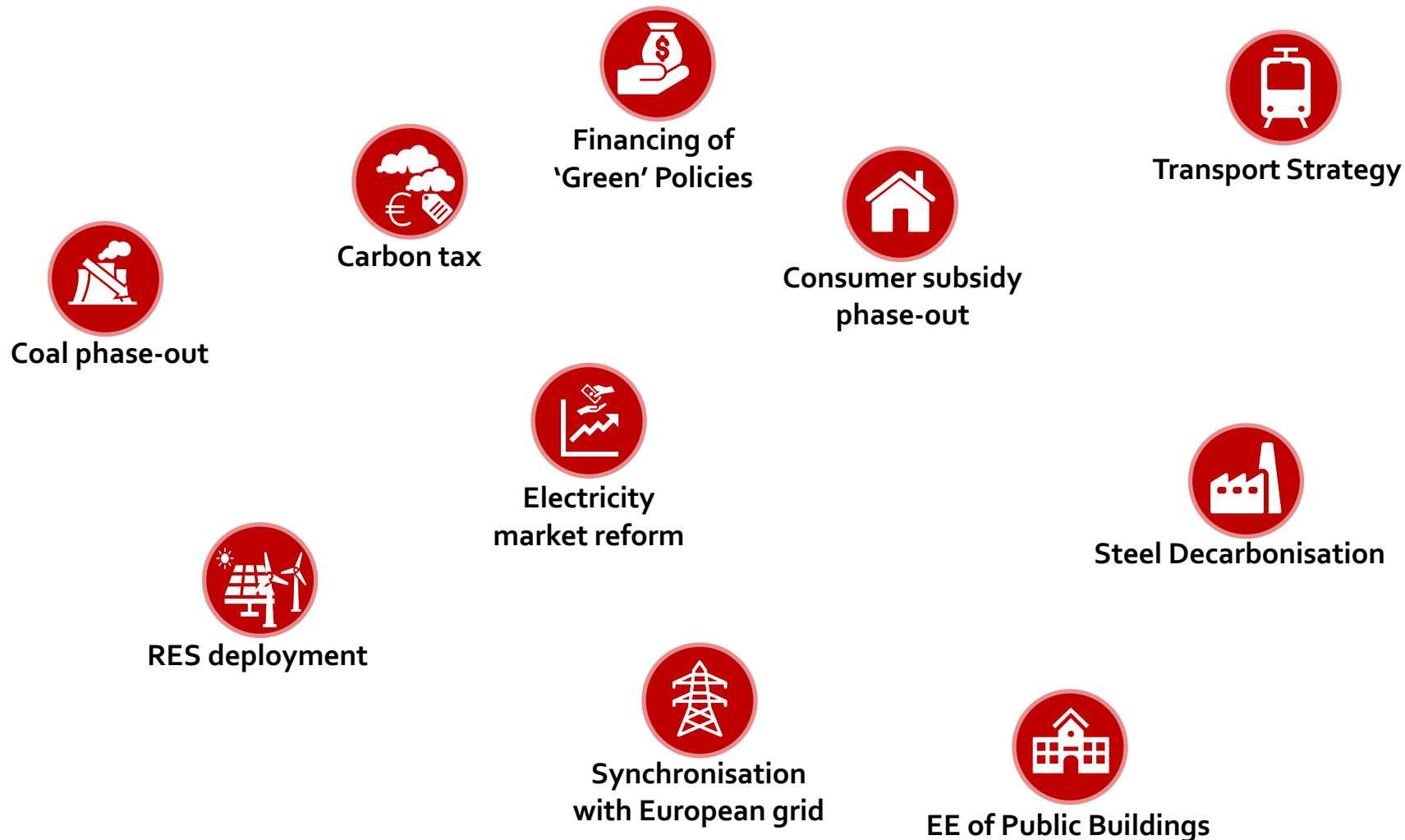


+ NEEAP
+ NREAP
+ EnergyStrategy 2035
+ NERP
+ ...

10 Policy Proposals

1. **Financing** options for 'green' policy measures
2. **Carbon Tax**
3. **Phasing-Out Consumer Subsidies** in Ukraine
4. Reforming the **Electricity Market**
5. A Cost-efficient Deployment of **Renewables**
6. **Synchronising** Ukraine's and Europe's electricity grids
7. A Socially Sustainable **Coal Phase-Out** in Ukraine
8. Decarbonising the **Steel Sector** in Ukraine
9. Low-Carbon **Transport** Policies for Ukraine
10. **Energy Efficiency** in Public Buildings

Why these 10 policy proposals?



Proposals concrete, not comprehensive!



Agriculture



Financing of
'Green' Policies



Transport Strategy



Carbon tax



Consumer subsidy
phase-out



Chemical industry



Coal phase-out



Electricity
market reform



Steel Decarbonisation



RES deployment



Gas sector

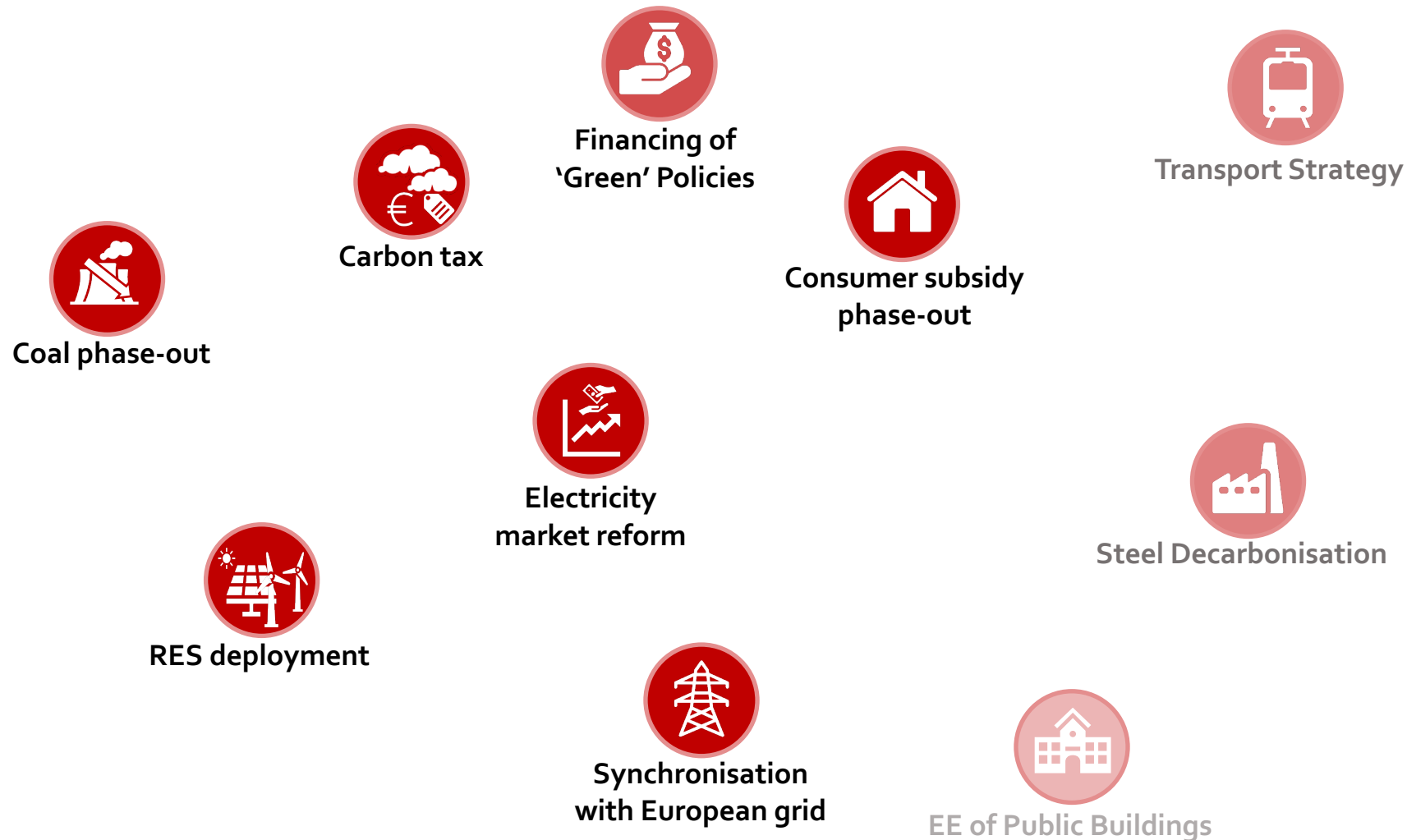


Synchronisation
with European grid

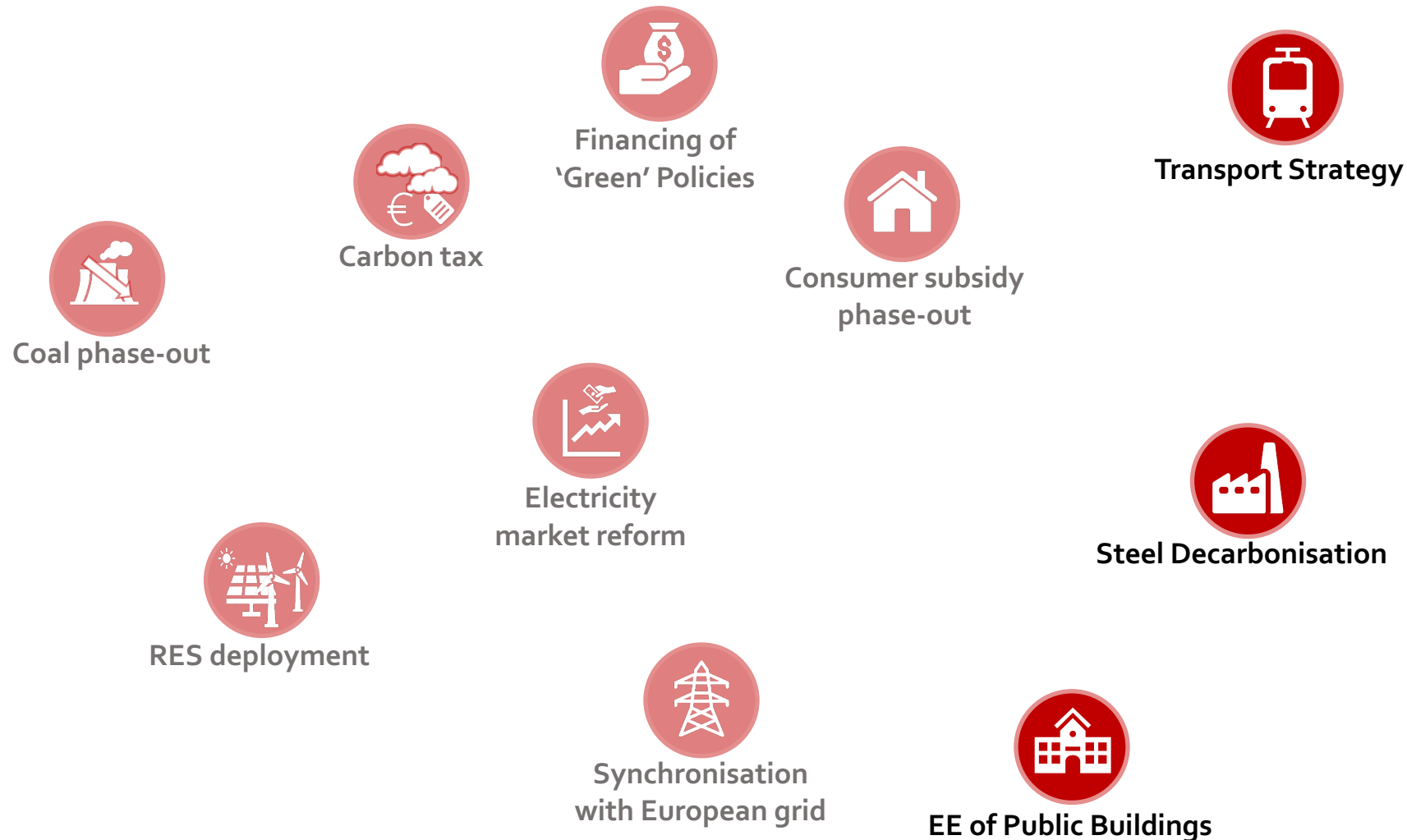


EE of Public Buildings

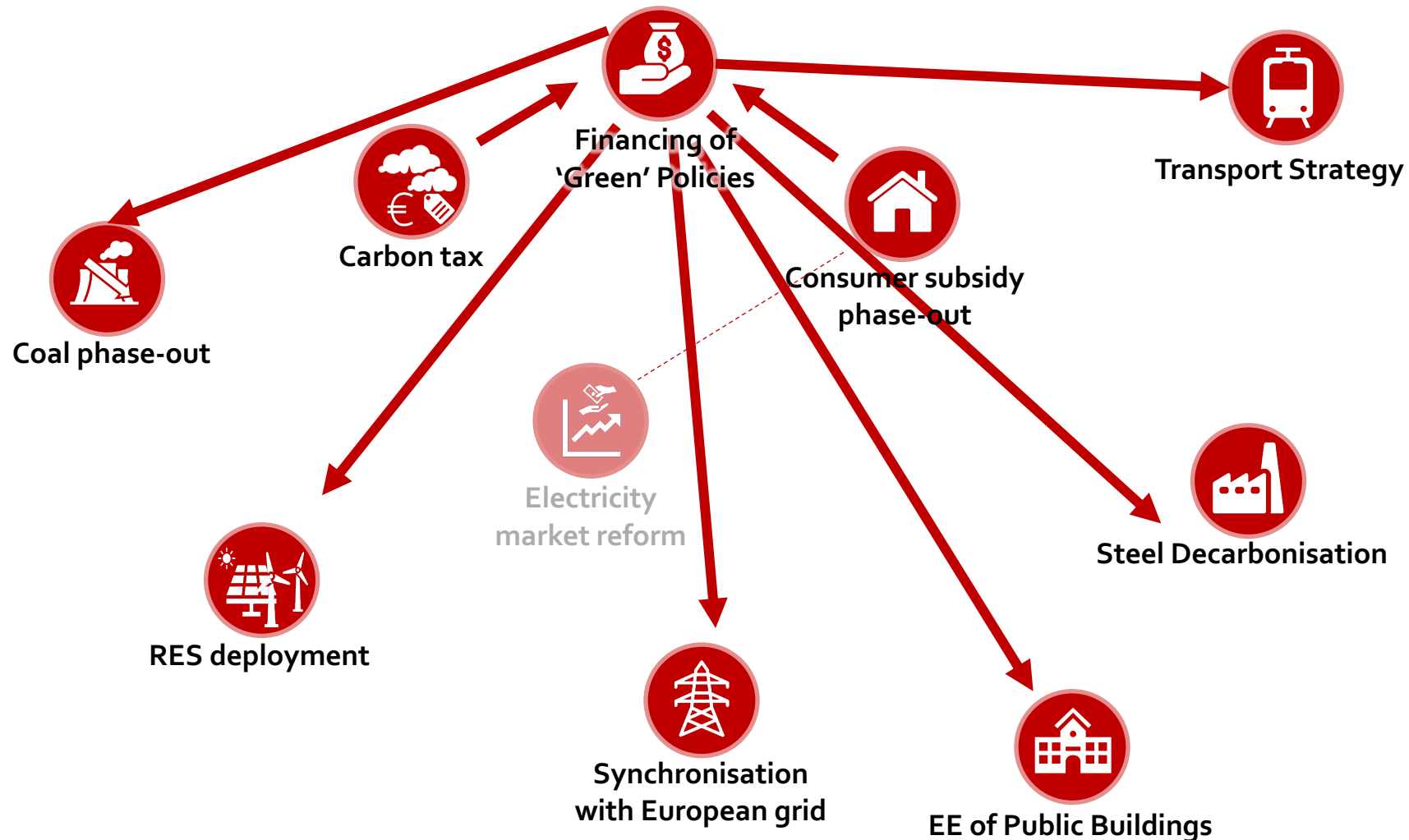
Electricity as core-vector of future energy system



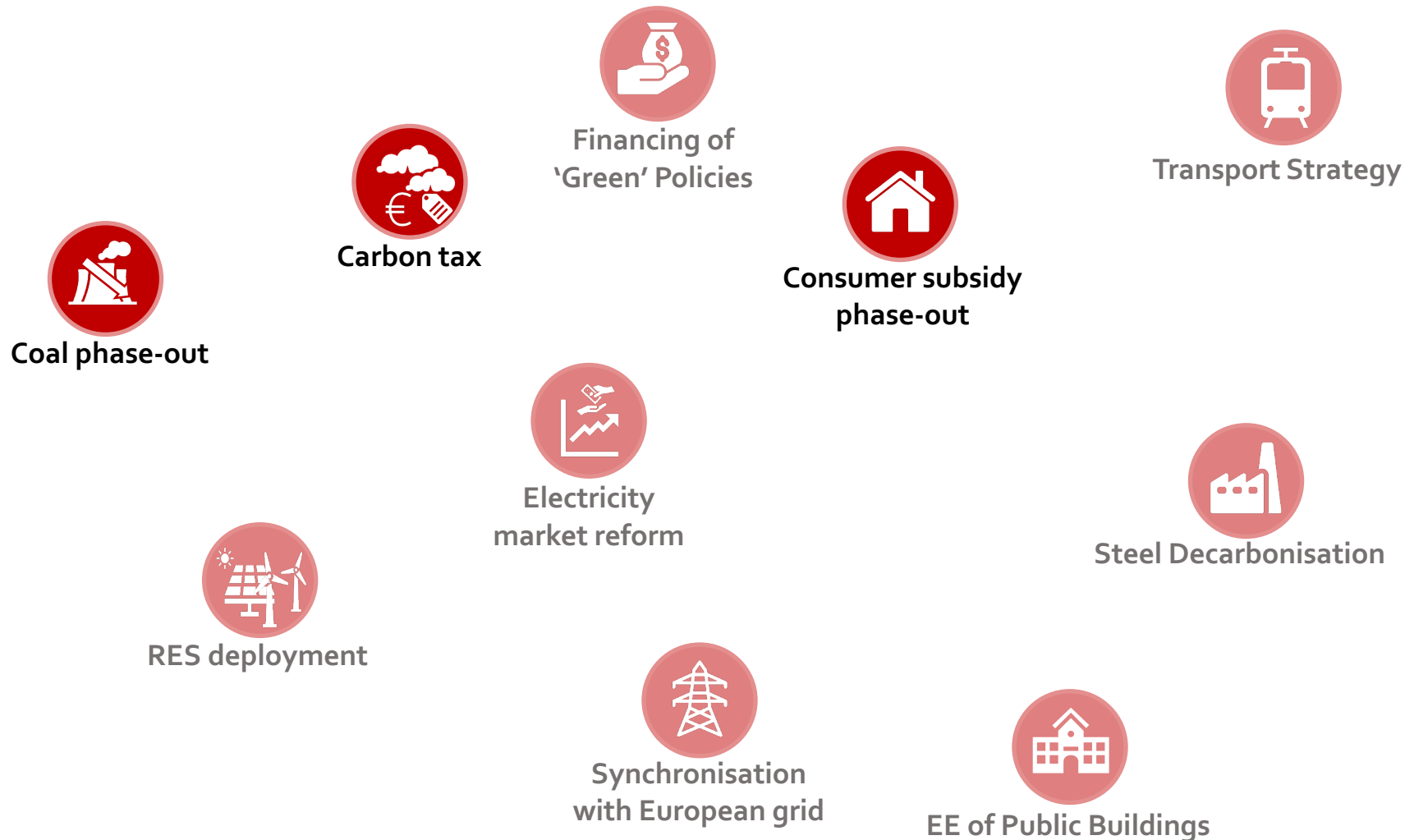
But electricity alone is not the answer



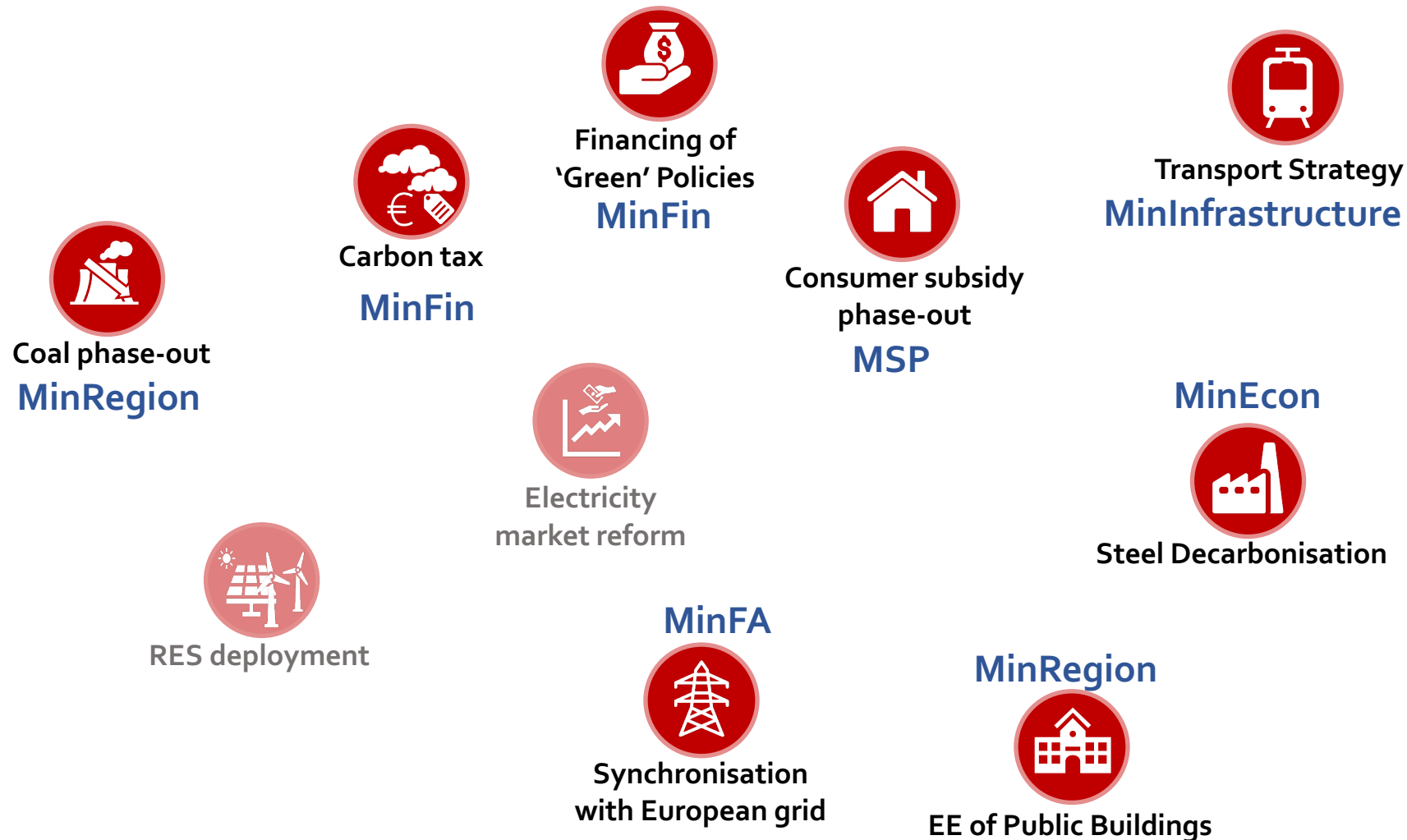
Financing of necessary investments is key



Social impacts need to be addressed



Modern energy and climate policy goes beyond MENR and MinEnergo



More details and your feedback in the thematic panels

1. Financing options for 'green' policy measures
2. Carbon Tax
3. Phasing-Out Consumer Subsidies in Ukraine
4. Reforming the Electricity Market – **Matti Supponen**
5. A Cost-efficient Deployment of Renewables – **Clemens Stiewe**
6. Synchronising electricity grids – **Lucas Feldhaus**
7. A Socially Sustainable Coal Phase-Out – **Manuel v.Mettenheim**
8. Decarbonising the Steel Sector in Ukraine – **David Saha**
9. Low-Carbon Transport Policies for Ukraine
10. Energy Efficiency in Public Buildings – **Frank Meissner**



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Implemented by:



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Annex

Why these 10 Policy Proposals?

Five Dimensions of the Energy Union -> [NECP]	security	internal market	energy efficiency	decarbonisation	competitiveness
Financing options for 'green' policy measures	o	o	o	o	o
Carbon Tax		o	o	X	
Phasing-Out Consumer Subsidies in Ukraine		o	o	o	X
Reforming the Electricity Market	o	X	o	o	o
RES Auctioning	o	o		X	o
Synchronising Ukraine's and Europe's electricity grids	o	X		o	X
A Socially Sustainable Coal Phase-Out in Ukraine		o		o	X
Decarbonising the Steel Sector in Ukraine			o	X	X
Low-Carbon Transport Policies for Ukraine	o		o	X	o
Energy Efficiency in Public Buildings	o		X	X	o

Five Dimensions of the Energy Union (NECP)

Fiscal Instruments:



Carbon tax



Financing of
'Green' Policies

Energy Consumption (Sectoral Strategies)



Consumer subsidy
phase-out



Steel Decarbonisation



Transport Strategy



EE of Public Buildings

Electricity Production



Coal phase-out



RES deployment

Electricity Market & Grid



Electricity
market reform



Synchronisation
with European grid

(1) Security

Fiscal Instruments:



Carbon tax



Financing of
'Green' Policies

Energy Consumption (Sectoral Strategies)



Consumer subsidy
phase-out

Electricity Production



Coal phase-out



RES deployment

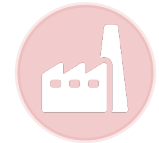
Electricity Market & Grid



Electricity
market reform



Synchronisation
with European grid



Steel Decarbonisation



Transport Strategy



EE of Public Buildings

(2) Internal Market

Fiscal Instruments:



Carbon tax



Financing of
'Green' Policies

Energy Consumption (Sectoral Strategies)



Consumer subsidy
phase-out

Electricity Production



Coal phase-out



RES deployment

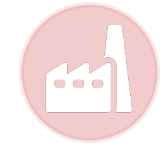
Electricity Market & Grid



Electricity
market reform



Synchronisation
with European grid



Steel Decarbonisation



Transport Strategy



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(3) Energy Efficiency

Fiscal Instruments:



Carbon tax



Financing of
'Green' Policies

Energy Consumption (Sectoral Strategies)



Consumer subsidy
phase-out



Steel Decarbonisation



Transport Strategy



EE of Public Buildings

Electricity Production



Coal phase-out



RES deployment

Electricity Market & Grid



Electricity
market reform



Synchronisation
with European grid

(4) Decarbonisation

Fiscal Instruments:



Carbon tax



Financing of
'Green' Policies

Energy Consumption (Sectoral Strategies)



Consumer subsidy
phase-out

Electricity Production



Coal phase-out



RES deployment

Electricity Market & Grid



Electricity
market reform



Synchronisation
with European grid



Steel Decarbonisation



Transport Strategy



EE of Public Buildings

(5) Competitiveness

Fiscal Instruments:



Carbon tax



Financing of
'Green' Policies

Energy Consumption (Sectoral Strategies)



Consumer subsidy
phase-out

Electricity Production



Coal phase-out



RES deployment

Electricity Market & Grid



Electricity
market reform



Synchronisation
with European grid



Steel Decarbonisation



Transport Strategy



EE of Public Buildings

Why these 10 Policy Proposals?

Sectors ->	electricity	industry	transport	buildings
Financing options for 'green' policy measures	o	o	o	o
Carbon Tax	X	X	o	o
Phasing-Out Consumer Subsidies in Ukraine	o			o
Reforming the Electricity Market	X	o	o	
RES Auctioning	X			
Synchronising Ukraine's and Europe's electricity grids	X			
A Socially Sustainable Coal Phase-Out in Ukraine	o			
Decarbonising the Steel Sector in Ukraine	o	X		
Low-Carbon Transport Policies for Ukraine			X	
Energy Efficiency in Public Buildings				X

Sectors

Fiscal Instruments:



Carbon tax



Financing of
'Green' Policies

Energy Consumption (Sectoral Strategies)



Consumer subsidy
phase-out

Electricity Production



Coal phase-out



RES deployment

Electricity Market & Grid



Electricity
market reform



Synchronisation
with European grid



Steel Decarbonisation



Transport Strategy



EE of Public Buildings

Electricity

Fiscal Instruments:



Carbon tax



Financing of
'Green' Policies

Energy Consumption (Sectoral Strategies)



Consumer subsidy
phase-out



Steel Decarbonisation



Transport Strategy



EE of Public Buildings

Electricity Production



Coal phase-out



RES deployment

Electricity Market & Grid



Electricity
market reform



Synchronisation
with European grid

Industry

Fiscal Instruments:



Carbon tax



Financing of
'Green' Policies

Energy Consumption (Sectoral Strategies)



Consumer subsidy
phase-out

Electricity Production



Coal phase-out



RES deployment

Electricity Market & Grid



Electricity
market reform



Synchronisation
with European grid



Steel Decarbonisation



Transport Strategy



EE of Public Buildings

Transport

Fiscal Instruments:



Carbon tax

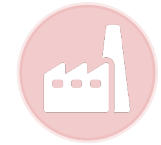


Financing of
'Green' Policies

Energy Consumption (Sectoral Strategies)



Consumer subsidy
phase-out



Steel Decarbonisation



Transport Strategy



EE of Public Buildings

Electricity Production



Coal phase-out



RES deployment

Electricity Market & Grid



Electricity
market reform



Synchronisation
with European grid

Buildings

Fiscal Instruments:



Carbon tax



Financing of
'Green' Policies

Energy Consumption (Sectoral Strategies)



Consumer subsidy
phase-out

Electricity Production



Coal phase-out

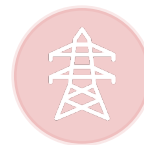


RES deployment

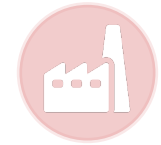
Electricity Market & Grid



Electricity
market reform



Synchronisation
with European grid



Steel Decarbonisation



Transport Strategy



EE of Public Buildings

Why these 10 Policy Proposals?

Fiscal and distributional effects ->	progr. distrib.	short term fiscal	long term fiscal
Financing options for 'green' policy measures	-	-	+
Carbon Tax	o	+	+
Phasing-Out Consumer Subsidies in Ukraine	o	+	+
Reforming the Electricity Market	+		+
RES Auctioning	-	-	
Synchronising Ukraine's and Europe's electricity grids	+	-	o
A Socially Sustainable Coal Phase-Out in Ukraine	+	+/-	o
Decarbonising the Steel Sector in Ukraine	-	-	+
Low-Carbon Transport Policies for Ukraine	+	-	+
Energy Efficiency in Public Buildings		-	+

Fiscal and distributional effects

Fiscal Instruments:



Carbon tax



Financing of
'Green' Policies

Energy Consumption (Sectoral Strategies)



Consumer subsidy
phase-out



Steel Decarbonisation



Transport Strategy



EE of Public Buildings

Electricity Production



Coal phase-out



RES deployment

Electricity Market & Grid



Electricity
market reform



Synchronisation
with European grid

Progressive Distribution

Fiscal Instruments:



Carbon tax



Financing of
'Green' Policies

Energy Consumption (Sectoral Strategies)



Consumer subsidy
phase-out



Steel Decarbonisation



Transport Strategy



EE of Public Buildings

Electricity Production



Coal phase-out



RES deployment

Electricity Market & Grid



Electricity
market reform



Synchronisation
with European grid

Short-term fiscal effects

Fiscal Instruments:



Energy Consumption (Sectoral Strategies)



Electricity Production



Electricity Market & Grid



Long-term fiscal effects

Fiscal Instruments:



Energy Consumption (Sectoral Strategies)



Electricity Production



Electricity Market & Grid

