

Progress of the Greek NECP

Yannis Vougiouklakis
Vienna, 9 October 2018





Background Information on GIZ role

Technical support for energy planning, RES and EE

- Deutsche Gesellschaft für Internationale Zusammenarbeit / German International Cooperation (GIZ): German public company working world-wide on a non-profit basis in the field of international cooperation for sustainable development
- Implementation of the project “Technical support for energy planning, renewable energy and energy efficiency in Greece” (TARES++)
- Overall project objective: Improve the framework conditions in the Greek energy sector, in particular for the further development of RES and EE and achievement of the national RES and EE targets for 2020 and 2030
- Project financing: Structural Reform Support Service (SRSS) + German Federal Ministry for Economic Affairs and Energy (BMWi)
- Main beneficiary: Greek Ministry for Environment and Energy (YPEN)



Framework for the elaboration of the Greek NECP

- Need for a National Energy Plan (missing an updated long-term comprehensive national energy plan from 2010)
- New EU Regulation on the governance of the Energy Union

- Timeline A : end 2018, draft NECP
- Timeline B : end 2019, final NECP
- Timeline C : 2020 Long term climate and energy plan



Thematic topics of the NECP under the governance regulation

Decarbonisation

Energy Efficiency

Energy Security

Internal Energy
Market

R&I and
competitiveness

- The plan refers to all the 5 dimensions of the Energy Union
- The complementarities, links, interfaces and impacts among all these dimensions should be considered and assessed
- Common parameters, inputs, assumptions and relevant data should be used through out the plan

Description and Analysis of

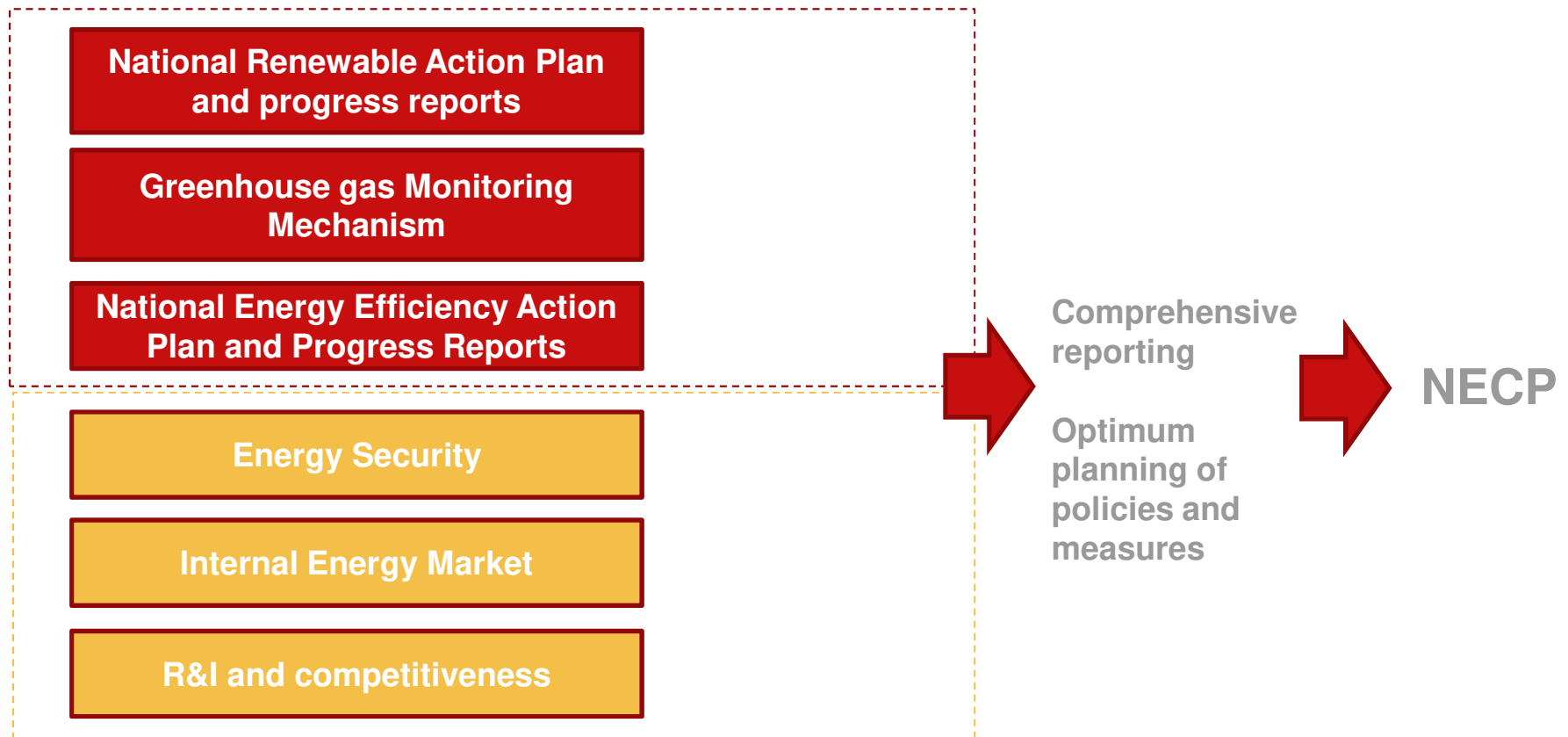
- **targets,**
- **Policies and Measures**

For all the five dimensions with additional reference to:

- **Regional cooperation**
- **Financing instruments**



Basis of reporting





Overview and preparation procedure of NECP (1)

Overview of the current policy situation

- Description of existing measures and policies
- Qualitative impact assessment analysis
- Prioritization of policies and measures
- Identification of KPIs and NECP indicators

National energy targets for 2020

- Updated trajectory
- Identification of critical aspects
- Accelerate regulatory interventions

National energy targets for 2030

Set up targets and sub-targets for:

- Emissions of greenhouse gases
- Renewable energy sources
- Energy efficiency
- Energy dependency and security of supply
- Operation of energy markets
- Addressing energy poverty issues
- Positive socio-economic impacts (e.g. GVA, jobs, intensity, competitiveness, R&D indicators)

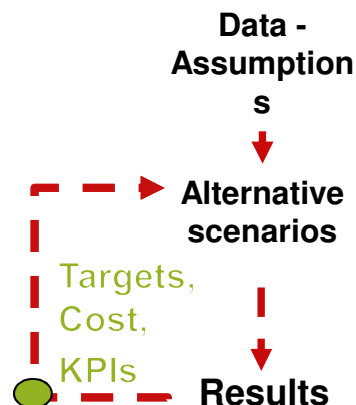


Overview and preparation procedure of NECP (2)

Forecasts for the Evolution of the Energy System 2030 (2040)

Policies and Measures

Impact Assessment



- Description of planned measures and policies
- Specific measures per thematic sub-module
- Impact on regional cooperation issues
- Financing measures

- Impact of planned policies and measures on the energy system and on greenhouse gas emissions and removals
- Assessment of the interaction of policies (between existing and planned policies and measures within a policy dimension and between existing and planned policies and measures of different dimensions)
- Macroeconomic, environmental and social impacts (in terms of cost and benefits as well as cost / benefit ratio) of planned policies and measures
- Impact of planned policies and measures on other Member States and on regional cooperation



Governance structure for the elaboration of the NECP

- Ministerial Council Act 27 on the “Establishment of the Greek National Energy and Climate Committee” of 27 December 2017
- Decision ΔΕΠΕΑ/οικ. 170744 of the Minister of Environment and Energy of 26 January 2018: Details of the NECP structures and processes
 - National Energy and Climate Committee
 - Governance Secretariat
 - Working Group for Policies, Measures and Models
 - Working Group for Analyses, Studies and Impact Assessment
 - 6 Technical Working Groups



National Committee for the Energy and Climate

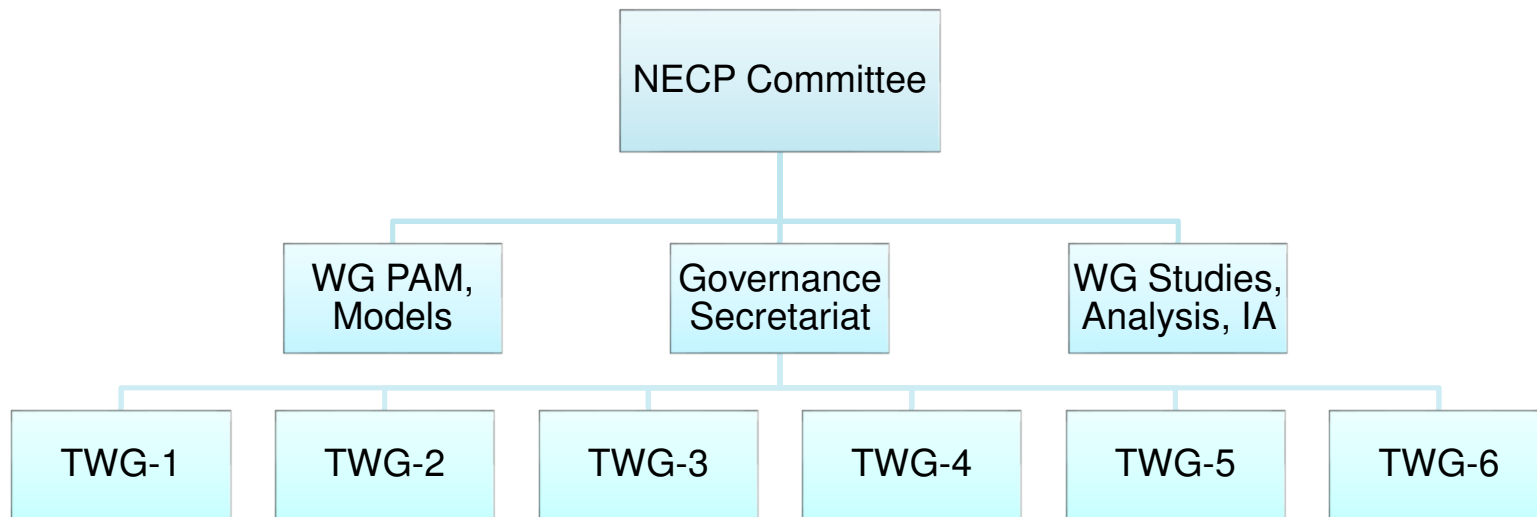
- **Responsibilities of the NCEC:**

- i. The formulation of the national targets, priorities, measures and roadmap for the national energy plan
- ii. The elaboration of the NECP under the EC Governance Directive
- iii. The analysis and assessment of the various energy scenario for the development of the national energy system
- iv. The design and promotion of energy policies and actions
- v. The coordination for the contribution of the relevant institutional bodies in the context of the NECP
- vi. The coordination and conclusion of the necessary consultation at national and regional level
- vii. The supervision of the consultation process with the EC for the finalization of the NECP
- viii. The overall supervision of all the relevant processes for the NECP elaboration

NCEC committee consists of 20 members, which are representing ministries, public agencies, authorities, energy market operators, experts



NECP structures and processes



TWG-1 Emissions of Greenhouse Gases	TWG-2 Renewable Energy Sources	TWG-3 Energy Efficiency
TWG-4 Energy Security	TWG-5 Energy markets	TWG-6 Research, Innovation and Competitiveness



Formulation of the NCEC

- Ministry of Energy and Environment (Responsible entity for NECP)
- Ministry of Economy and Development
- Ministry of Finance
- Ministry of Infrastructure and Transport
- Ministry of Foreign Affairs
- General Secretariat for Research and Technology
- Hellenic Statistical Authority
- Regulatory Authority for Energy
- Transmission System Operator
- Electricity Market Operator
- Distribution System Operator
- Natural gas transmission system operator
- Centre for Renewable Energy Sources and Energy Efficiency
- Hellenic Hydrocarbon Resources Management company
- Energy Experts

Members to appoint focal points in order to facilitate the administrative process among all the relevant organizations for the collection of data and to provide studies in the context of the NECP



Governance Secretariat : role-responsibilities

- Organisational Management for the elaboration of the NECP
- Organise public consultation events
- Elaborate NECP material to be used for public events and meetings
- Organise technical meetings with market stakeholders
- Facilitate the cooperation and collaboration among the various WGs
- Advice to the NCEC for timeplan adjustments and context of the NECP



Working Group for Policies, Measures and Models: role-responsibilities

- To assess and analyze the current framework of policies and measures in all the NECP dimensions (input from TWGs)
- To collect and validate all the relevant data for the elaboration of the NECP (input from TWGs)
- To set-up and conduct the energy modelling analysis
- To propose the policies and measures that should be described in the context of the NECP (input from TWGs)
- To formulate proposals for the necessary financing instruments
- To support the consultation at regional level
- To elaborate the relevant chapters of the NECP



Working Group for Analyses, Studies and Impact Assessment: role-responsibilities

- To identify needs for studies in the context of the NECP and to organize/supervize their conduction (RAE involvement)
- To collect all the necessary studies performed by institutional bodies relevant to the NECP and to assess their results
- To support the conduction of the socio-economic impact assessment



Thematic Working Groups: role-responsibilities

- To deliver reports on the existing framework
- To gather relevant and necessary data
- To perform impact assessment of the existing framework
- To propose additional studies
- To consultate with stakeholders
- To assess the proposed measures and policies
- To evaluate the results of the energy modelling analysis



Data collection process

- Official energy balance data
- Updated demographic projections
- Macro-economic projections (e.g. GDP, sectoral activity and growth rates)
- Development plans from Operators (e.g. energy infrastructure expansion plans, system adequacy studies)
- Official sectoral statistical data (e.g. building activity, transport, household income)
- Data from market stakeholders (e.g. heat pumps, solar thermal, biomass)
- Figures and data from projects under the NSRF2014-2020
- Inputs/assumptions for CO₂, Fuel prices (common EC)
- Techno-economical assumptions for technologies (e.g. technical potential, unit commissioning/decommissioning, projections of CAPEX, utilization factors)
- National regulatory scheme (e.g. nZEB specific consumption figures, RES-E plants under development)



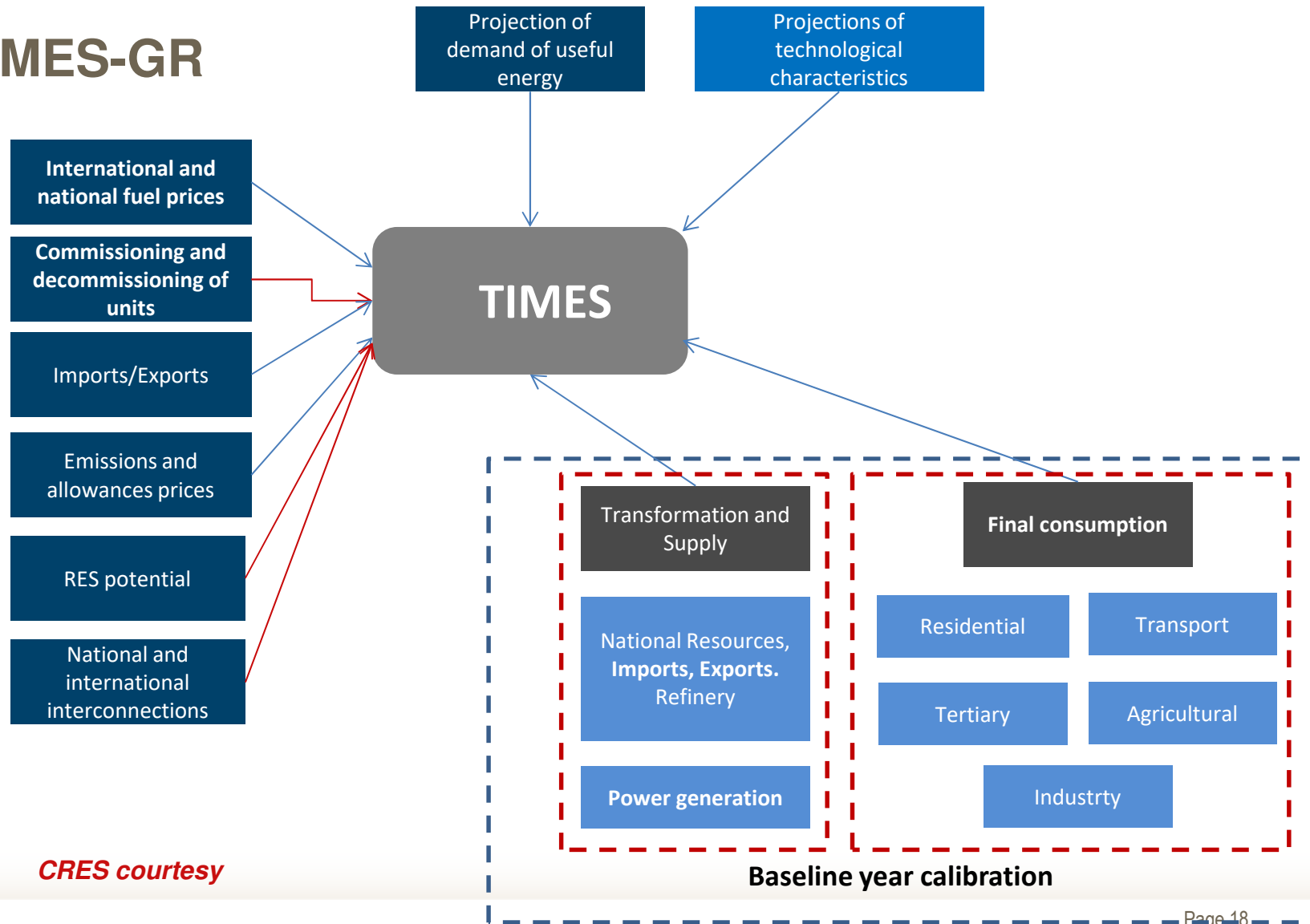
Energy modelling analysis

Implementing body: CRES

- TIMES (main energy model),
- WASP-IV (least-cost development of the electricity system)
- HISIMUL (hourly simulation of electricity market)
- ProbSim (simulation of the power generation system under high levels of vRES generation)



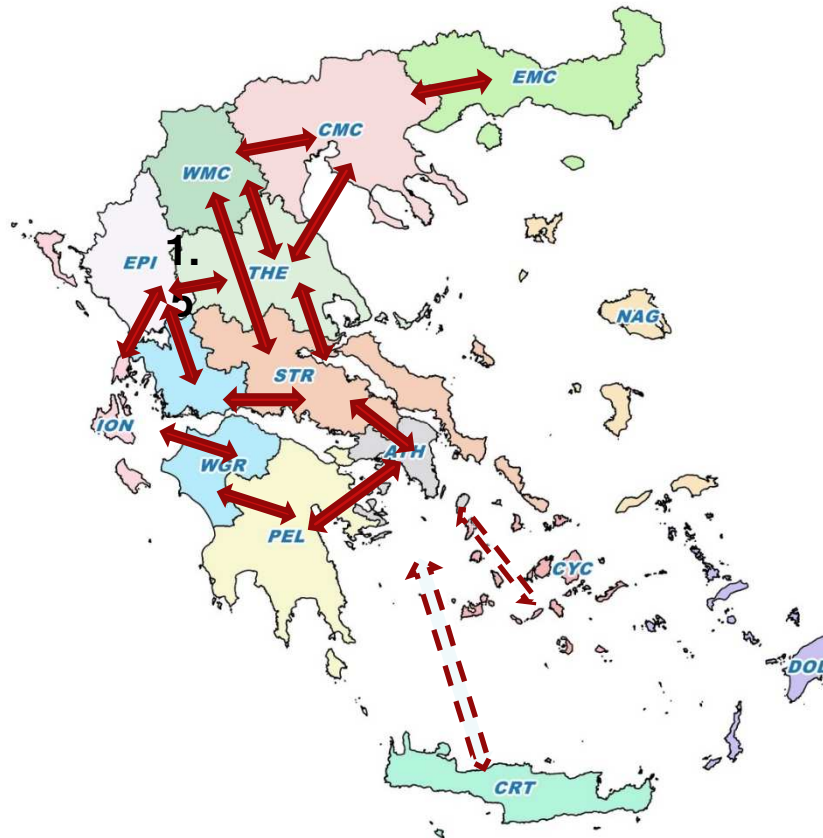
TIMES-GR



CRES courtesy



Multi-Region TIMES GR



CRES courtesy



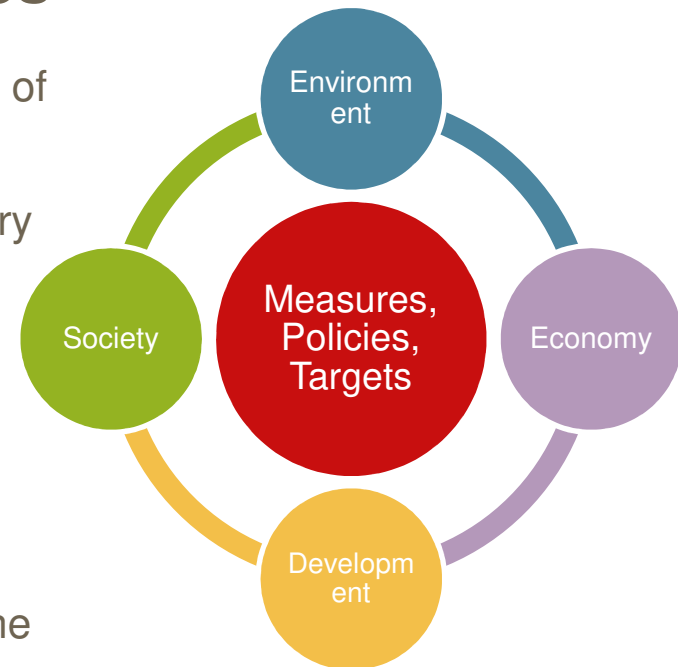
Targets

- Reduction of GHGs emissions
- Share of RES in gross final consumption ($\geq 30\%$)
- Share of RES in transport
- Energy efficiency target in terms of FEC ($\geq 30\%$)
- Energy savings in terms of end-use measures
- Address energy poverty issues
- Empowerment of the consumer and protection from high end energy prices
- Enhance competition of the energy markets
- Interconnection of the Non-Interconnected Islands
- Lower energy dependency and improve security of energy supply
- Mobilize the necessary investments
- Increase competitiveness and national added value
- Promote innovative products and services and enhance labour potential in the energy sector



Priorities for the selection, analysis and planning of policies and measures

- Benchmarking of policies and measures in terms of cost-efficiency
- Identification, sizing and planning of the necessary investments and needed financing instruments
- Coordination of cross-sectoral policies and measures
- Identification of needs for legislative, regulatory amendments
- Integration of national targets and measures in the Strategic Plans of the national energy bodies
- Socio-economic impact assessment of the proposed policies and measures
- Impact assessment on the evolution of the domestic end-use energy prices



**Conduction of a Strategic
Impact Environmental
Study in 2019**



Example of analytical work for the impact assessment and benchmarking of policies

- Work carried out by the TARES++ project



Assessment of co-benefits of clean energy technologies

- Analysis of co-benefits of clean energy technologies and measures by the Institute for Environmental Research and Sustainable Development (IERSD) of the National Observatory of Athens (NOA)
- Definition of main climate change mitigation, RES and EE technologies and the corresponding technical and economic parameters
- Harmonization of input data (e.g. technology cost parameters) with assumptions under the national energy scenarios (CRES)
- Analysis of economic (net direct, indirect and induced effects on employment, gross value added and income), environmental (reduction of greenhouse gas and air pollutant emissions) and health benefits

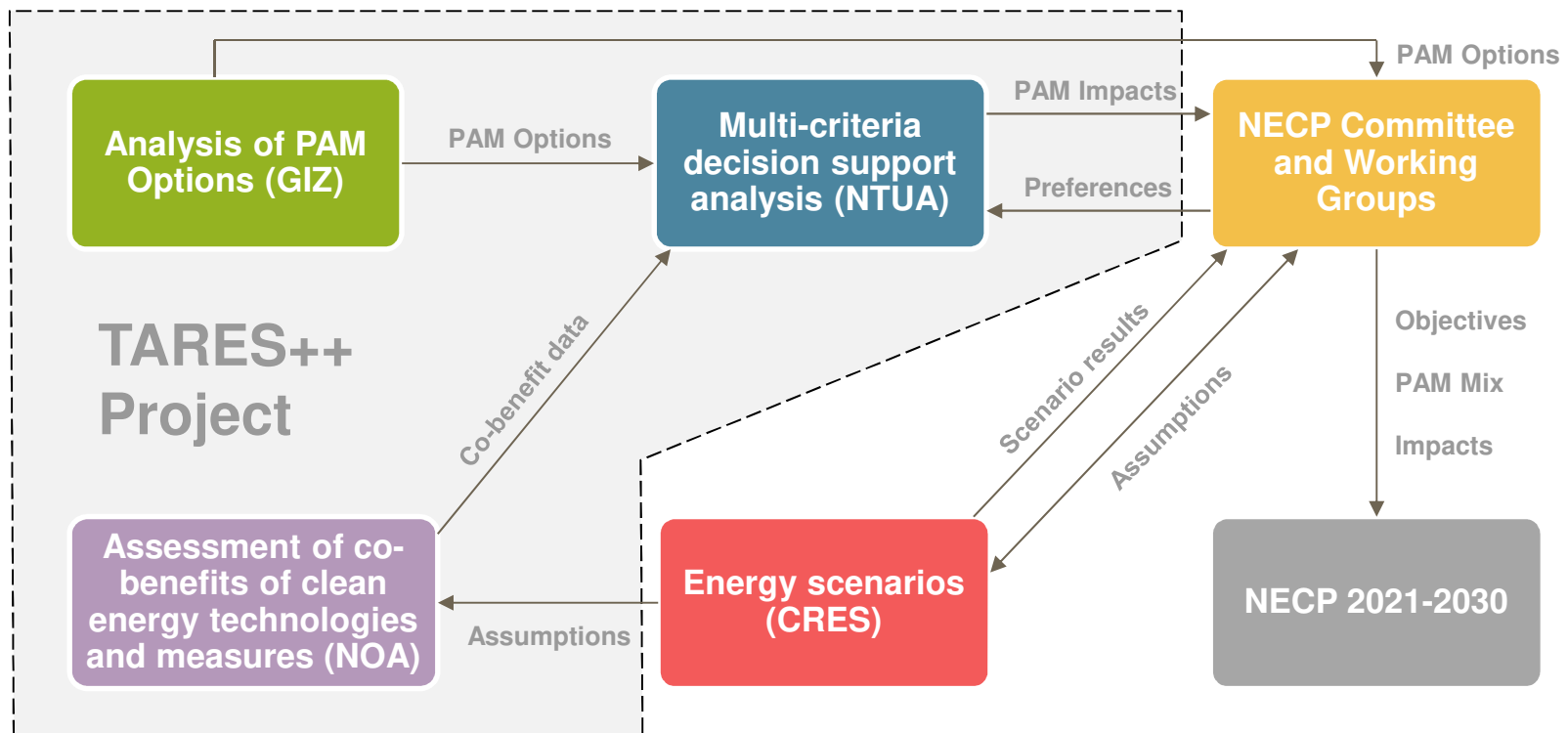


Multi-criteria decision support analysis

- Support of the decision-making process on the final mix of policies and measures in cooperation with the Decision Support Systems Laboratory (EPU) of the National Technical University of Athens (NTUA)
- Assignment of individual technologies to specific policies and measures (e.g. support scheme for electricity from cogeneration)
- Identification of multi-criteria policy preferences of relevant decision-makers by means of standardized questionnaires (economic, social, environmental, risk-related criteria)
- Formulation and solving of multi-objective optimisation problem with AUGMECON2 model (based on GAMS platform)
- Identification of optimum combinations of policies and measures in order to achieve the national energy and climate objectives



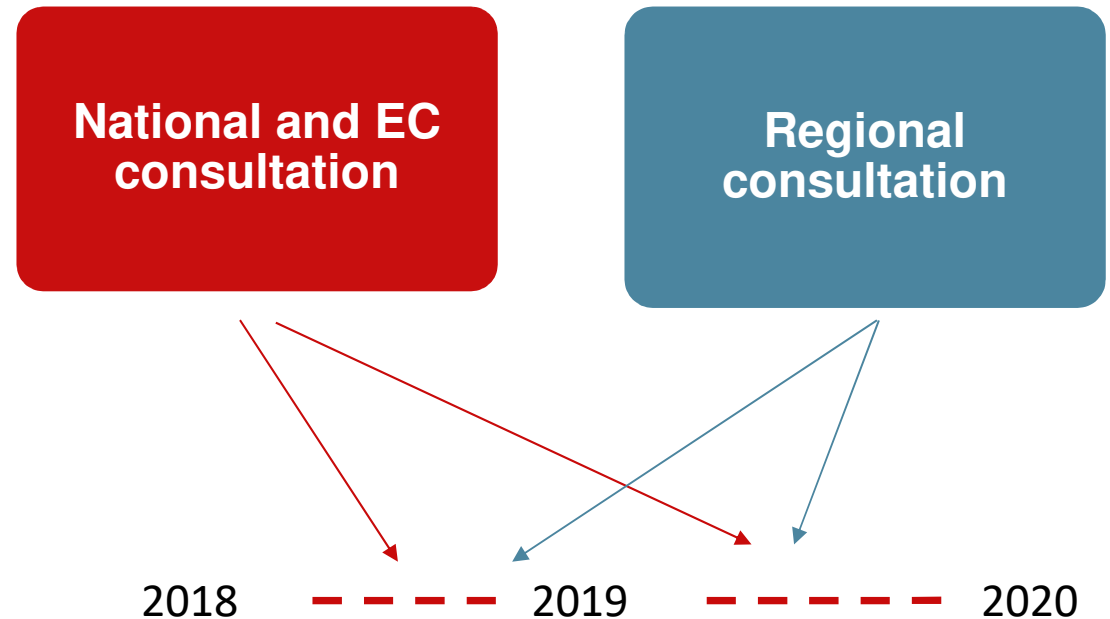
Schematic process for the RES&EE impact assessment work





Consultation framework

- Public events with market stakeholders and associations
- Hellenic Parliament
- Municipalities/Regions
- Special workshops/events
- Regional consultation in the context of international forums/committees/direct communication
- Invitation of stakeholders to thematic discussions
- Web interface for public consultation with the society





NECP consultation process in Greece

- March 2018 – 1st public consultation with private stakeholders
- June 2018 – 2nd consultation event with municipalities and regions
- 2 dedicated sessions in the Hellenic Parliament (March and April 2018)
- Extensive consultation within Technical Working Groups with the respective main stakeholders (April-September 2018)
- Planned end Oct'18 a 3rd session in the Hellenic Parliament on the draft NECP
- Planned November '18, public consultation with the academy on R&I
- Planned November '18, public consultation on the draft NECP
- Initial regional consultation
- Next round of regional consultations foreseen for first semester of 2019



Concluding remarks

- Set-up necessary resources
- Baseline assessment
- Policy targets – priorities - interlinkages
- Coordination – collaboration - consultation
- Comprehensive analysis and impact assessment
- Identification – Planning measures
- Establish policy framework – commitment - governance

Thank you for your attention