MINISTRY OF RECONSTRUCTION OF PRODUCTION, ENVIRONMENT & ENERGY

Multilateral Assessment Greece

MINISTRY OF RECONSTRUCTION OF PRODUCTION, ENVIRONMENT & ENERGY

Kyoto Protocol Target of 1st Commitment Period

- The EU target (EU-15) under the 1st commitment period of the Kyoto Protocol is the reduction of emissions at 8% for the period 2008-2012
- EU has stated that this will be achieved jointly by EU Member-States under the provisions of Article 4 of the Protocol.
- The Burden-Sharing agreement between all Member States was finalized during the Environment Council in June 1998 and entered into force with Decision 2002/358/EC concerning the approval, on behalf of the European Community, of the Kyoto Protocol.
- According to this agreement, Greece was committed to limit its GHG emissions increase for the period 2008 – 2012 to **+25% compared to base year emissions** (1990 for CO_2, CH_4 and N_2O emissions – 1995 for F - gases).

MINISTRY OF RECONSTRUCTION OF PRODUCTION, ENVIRONMENT & ENERGY

Assessment of the accomplishment of the 1st CP KP target

- ✓The available AAUs at the end of the 1st KP are estimated from the initial Assigned Amount by taking into account the ETS-effect and the removals from forestry activities under Article 3.3 and 3.4 (forest management).
- ✓The RMUs according to the latest reviewed inventory (2014) are **2,052.03 kt CO2 eq** for the period 2008-2012.
- ✓The anticipated ETS-effect, i.e. the algebraic sum of CO2 emitted from installations covered by the ETS (2008-2012) minus the CO2 allowances (EUAs) that have been allocated to these installations, is estimated to have a small effect to the assigned amount, which is estimated to reduce the available AAUs by about 4% (about 28 Mt CO2eq).

MINISTRY OF RECONSTRUCTION OF PRODUCTION, ENVIRONMENT & ENERGY

Over-Achievement of the 1st CP KP target

Total GHG emissions (excluding LULUCF) for 2008-2012 (kt CO2eq)	598,504
Assigned Amount of Greece (kt CO2eq)	668,669.81
Estmation of RMUs issuance (kt CO2eq)	2,052
Estimation of EU-ETS effect (kt CO2eq)	-28,000
Adjusted AA including EU-ETS effect and RMUs	642,722
Estimated surplus(+) / deficit (-) of AAUs for 1st KP period (kt CO2eq)	+44,218

MINISTRY OF RECONSTRUCTION OF PRODUCTION, ENVIRONMENT & ENERGY

2020 commitments

- ✓ Pledge under the Convention for EU and its Member States (Quantified economy-wide emission reduction target, QEERT):
  - ❑ Unconditional quantified economy wide emission reduction target of 20% by 2020, compared to 1990 levels
  - ❑ Conditional offer to move to 30% if other developed countries commit themselves to comparable emission reductions and if more advanced developing countries contribute adequately according to their responsibilities and respective capabilities

- ✓ Binding commitment under Kyoto Protocol (implementing CP2 since 1.01.2013):
  - ❑ CP2: joint commitment of the EU, its MS and Iceland to reduce average annual emissions during 2013-2020 by 20% compared to base year

- ✓ EU internal target: Climate and Energy Package.

MINISTRY OF RECONSTRUCTION OF PRODUCTION, ENVIRONMENT & ENERGY

EU pledged target under the UNFCCC

- The EU and its Member States are committed to an independent quantified economy-wide emissions reduction target of 20 per cent emission reduction by 2020, compared to 1990 levels.
- The 20% target is based on the understanding that it will be fulfilled jointly with the European Union.
- LULUCF is excluded from the target.
- The target is based on GWPs of IPCC AR4.
- The target will be implemented through binding EU legislation and is mainly based on the EU's "Climate and Energy Package",
  - ✓ For the emissions covered by the EU ETS, under an EU-wide cap, the goal is to reduce emissions of greenhouse gases by 21% in 2020 compared to 2005 levels
  - ✓ For the emissions of GHG not covered by the EU ETS, the goal is a collective reduction of 10% in 2020 compared to 2005 levels.

MINISTRY OF RECONSTRUCTION OF PRODUCTION, ENVIRONMENT & ENERGY

Climate and Energy Package: Greek Targets

- ✓RES: 18% of final energy consumption mandatory until 2020 (Directive 2009/28/EC). **The national target was increased from 18% to 20%** by L3851/2010 (OG A/85/4th June 2010).
- ✓Primary energy saving of 20% until 2020: The EU has set itself a 20% energy savings target by 2020 when compared to the projected use of energy in 2020 through 2012/27/EU. **The indicative national target of Greece for 2020 under Directive 2012/27/EU is 18.4 Mtoe final energy consumption.**
- ✓For sectors not falling under 2003/87/EC (non-ETS sectors, **4% reduction of 2005 emissions by 2020**).
- ✓For sectors falling under 2003/87/EC (EU-ETS), **single EU-wide cap**.

MINISTRY OF RECONSTRUCTION OF PRODUCTION, ENVIRONMENT & ENERGY

2nd CP (2013-2020) KP target

- ✓Under the Kyoto Protocol the EU and its MSs in Doha adopted a QELRC (Quantified emission limitation or reduction commitment) of 20% reduction from base year for the period 2013-2020.
- ✓Activities under Articles 3.3 and 3.4 (Forest Management) will be accounted during 2nd CP by Greece.

MINISTRY OF RECONSTRUCTION OF PRODUCTION, ENVIRONMENT & ENERGY

Projection of GHG emissions (Mt CO2eq)

	1990	2005	2012	2020
ETS	-	71.3	61.4	46.6
Non-ETS	-	64.1	49.6	58.2
Total	104.9	135.3	111.0	104.9

- ✓Total emissions (excluding LULUCF) in 2020: -0.1% vs 1990 and -22.5% vs 2005
- ✓ETS sector in 2020: -34.6% vs 2005
- ✓Non-ETS sectors in 2020: -9.1% vs 2005
- ✓It is projected that Greece will meet the non-ETS target, on the basis of the domestic policies and measures.

MINISTRY OF RECONSTRUCTION OF PRODUCTION, ENVIRONMENT & ENERGY

Key climate related data

- ✓Total estimated mitigation effect of implemented and adopted policies is around 25 MtCO2 eq in 2010 and is projected to be 40 Mt CO2 eq in 2020

- ✓Total CO2 intensity of GDP: -17% compared to 2000
- ✓Total CO2 intensity per capita: -15% compared to 2000
- ✓Energy related CO2 intensity of GDP: -15% compared to 2000
- ✓Carbon intensity of total power generation: -29% compared to 1990
- ✓Energy related CO2 intensity of industry: -28% compared to 2000
- ✓Specific CO2 intensity of households: -10% compared to 2000

MINISTRY OF RECONSTRUCTION OF PRODUCTION, ENVIRONMENT & ENERGY

Q&A about metrics

- **Question:** The quantified economy-wide emission reduction target by Greece is expressed using the GWP values from the IPCC AR4, while emission levels are assessed using the values from the IPCC Second Assessment Report as per the "Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part I: UNFCCC reporting guidelines on annual greenhouse gas inventories". This makes the comparison of figures more difficult. Will Greece use the same set of GWP values?

- **Answer:** According to the reporting guidelines for National Communications of Annex I Parties: "Emission projections shall be presented relative to actual inventory data for the preceding years" and "In addition, projections shall be provided in an aggregated format for each sector as well as for a national total, using global warming potential (GWP) values agreed upon by the Conference of the Parties". The agreed GWPs of the time that NC6 was submitted for national inventories were the GWPs from the IPCC Second Assessment Report, which were applied. In the next BR submission the GHG inventory and projections will be expressed using the GWP values from the IPCC AR4, as the quantified economy-wide emission reduction target.

MINISTRY OF RECONSTRUCTION OF PRODUCTION, ENVIRONMENT & ENERGY

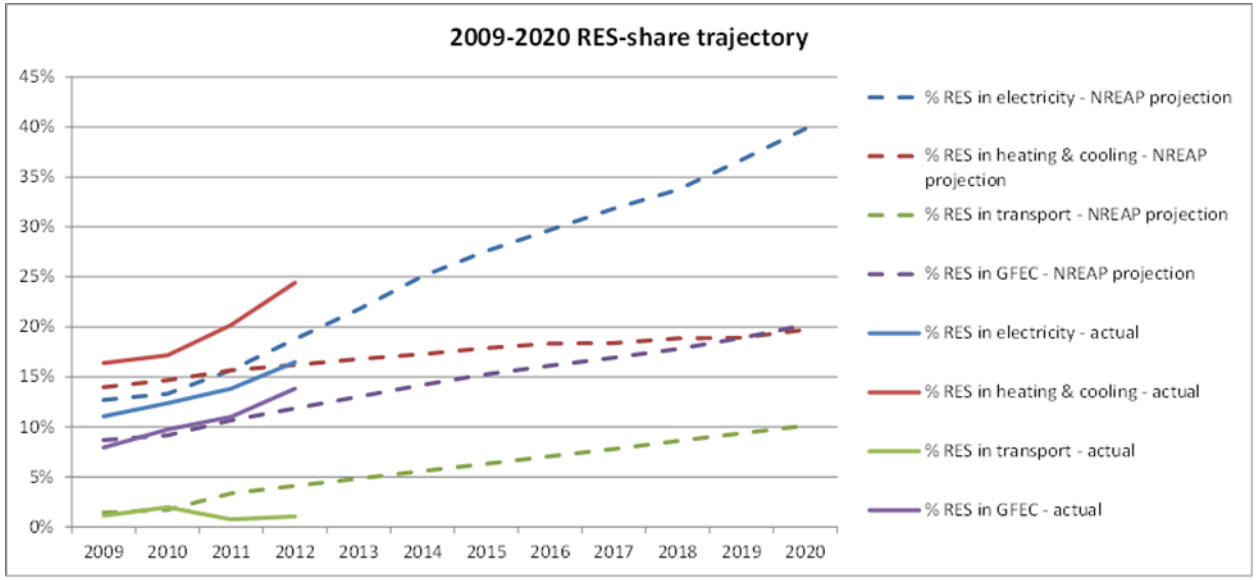
Q&A about biofuels

- **Question 1:** NC6, page 140, states “According to the directive 2003/30/EC, 5.75% of the total quantity of diesel and gasoline consumed in road transportation in Greece up to 2010, based on the energy content, has to be biofuel. The target for 2020 is 10% as in the rest European countries according to the directive 2009/28/EC. Greece has approved the target with the law L3851/2010.” What biofuel is used in gasoline?
- **Question 2:** Is Greece importing Brazilian bioethanol from sugar cane? If yes, how the Greenergy Brazilian Bioethanol verification programme (NC6 page 161) is being applied?
- **Question 3:** One of Greece’s implemented mitigation actions is the use biofuel in transportation, since 1996. What is the main biofuel used in Greece?
- ✓ **Answer:** The only biofuel distributed currently in the Greek market is biodiesel according to EN 14214 standard, blended in transport diesel. According to latest national energy balance, in 2013, 137 kt of biodiesel were used in road transport sector of Greece.

MINISTRY OF RECONSTRUCTION OF PRODUCTION, ENVIRONMENT & ENERGY

Q&A about RES target

- **Question:** Is Greece on track to meet its 2020 renewable energy target?
- **Answer:** Greece is on track to meet its 2020 renewable energy target. In the period 2011-2012, RES penetration in the gross final energy consumption (GFEC) has exhibited a remarkable increase (s. Figure), surpassing the respective projected penetration of the National Renewable Energy Action Plan (NREAP). According to provisional data, the RES penetration in GFEC for 2013 is 15%, which is also higher than the projected penetration of RES of the NREAP (9.9% in 2013).



MINISTRY OF RECONSTRUCTION OF PRODUCTION, ENVIRONMENT & ENERGY

Q&A about the use of market-based mechanisms

➢ **Question:** Greece is not planning to use market-based mechanisms under the Convention to achieve its quantified economy-wide emission reduction target. Considering that Greece reported the use of units from market-based mechanisms as 63,661.02 kt CO2eq in 2010, 59,925.87 kt CO2eq in 2011, and 54,460.96 kt CO2 eq in 2012 (KP-CP1), how sure is Greece not to use market-based mechanisms again?

✓ **Answer:**

- ❑ Greece meets its Kyoto Protocol target for the 1st CP with the existing implemented and adopted policies and measures, including the implementation of EU-ETS.
- ❑ Greece does not need and will not use market-based mechanisms (e.g. JI or CDM units) to reach its target.
- ❑ However, JI and CDM credits have been utilized by the installations subject to the EU-ETS.
- ❑ According to the National Allocation Plan 2008-2012, installations were allowed to use for compliance credits from these two mechanisms up to 9% of their allocated allowances.
- ❑ According to SEF tables (2015 submission), the use of CERs and ERUs during 1st CP of KP was around 27.88 MtCO2, which corresponds to 8.6% of allocated allowances.

MINISTRY OF RECONSTRUCTION OF PRODUCTION, ENVIRONMENT & ENERGY

Q&A about the use of market-based mechanisms

✓Answer (cont'd):

- ❑Under the EU-ETS and for the period 2013-2020, a limited entitlement to use international credits was given to operators based on COMMISSION REGULATION (EU) No 1123/2013. Therefore, a limited use of market-based mechanisms is expected from EU-ETS operators, which will be lower than the use of market-based mechanisms during the period 2008-2012.
- ❑On the other hand, no use of market-based mechanisms is anticipated for meeting the non-ETS target.

MINISTRY OF RECONSTRUCTION OF PRODUCTION, ENVIRONMENT & ENERGY

Q&A about additional PaMs

- **Question:** Under WAM scenario, the emission reduction amount for 976 KtCO2e, which is only 1% of the emission level in 1990. Could you please provide further information regarding the use of additional measures, as well as additional mitigation potential?
- **Answer:** A “with measures” (WM) or “with existing measures” scenario and a “with additional measures” (WAM) scenario concerning the national projections of greenhouse gas emissions by sources and their removal by sinks for the years 2015, 2020, 2025 and 2030 was reported. The “with measures” scenario assumes that no additional emission reduction policies and measures are adopted than the existing ones (implemented and adopted). The “with additional measures” scenario assumes the implementation of additional policies (planned), while their GHG reduction effect will be mainly materialized after 2020. For that reason, the additional emission reduction amount under the WAM compared to WM scenario for the year 2020 is limited to 976 KtCO2eq.

MINISTRY OF RECONSTRUCTION OF PRODUCTION, ENVIRONMENT & ENERGY

Q&A about national mitigation target

- **Question:** As a member of EU bubble, Greece doesn't pledge a national mitigation target under the UNFCCC. According to the BR, for those sectors not covered by EU-ETS, the emission reduction target for Greece is 4% compared with the verified emissions from the 2005. However, it is not clear how much effort Greece is going to make on sectors covered by EU-ETS, nor the effort as a whole, compared with its base year level. What additional information would Greece provide in order to make its effort transparent? What is the emission volume of those entities covered by EU-ETS in the base year, and in the target year?

- **Answer:** The effort of Greece to mitigate GHG emissions is reflected to the quantified individual and total effect of policies and measures, which is reported in Tables 4.19 and 5.8 of the NC6 and CTF Table 3. The aggregate effect of currently implemented and adopted policies and measures (that is incorporated in the “with measures” projections scenario) has been estimated to be around 40 MtCO2eq in 2020.

MINISTRY OF RECONSTRUCTION OF PRODUCTION, ENVIRONMENT & ENERGY

Q&A about national mitigation target

- ✓**Answer (cont'd):** The mitigation impact of EU-ETS sector is around 32.5 Mt CO2eq in 2020 and mainly results from the following policies and measures: (1) the use of RES for electricity production; (b) the gradual decommissioning of old inefficient thermal power units and commissioning of new ones which are mainly NG-fired; and (c) the substitution of solid and liquid fuels by NG in industrial units covered by EU-ETS.
- ✓The mitigation impact of non-ETS sectors is around 7.5 MT CO2eq in 2020 and results from policies and measures related to transport, residential and commercial sector; agriculture; waste management; and use of fluorinated gases. The individual effect of each policy and measure has been reported in CTF Table 3.
- ✓Given that the entities covered by EU-ETS started having reporting obligations for year 2005 onwards, the emission volume of EU-ETS in the base year (1990) cannot be calculated directly from operator's reports, however, it can be approximated by taking some assumptions. Thus, it is estimated to be around 56 MT CO2 eq (excluding aviation). For 2020, the emission volume of EU-ETS is projected to be around 45 Mt CO2 eq (under WM scenario, Table 5.6 of NC6). Therefore, the EU-ETS emissions are projected to decrease by about 20% in 2020 compared to 1990.

MINISTRY OF RECONSTRUCTION OF PRODUCTION, ENVIRONMENT & ENERGY

Q&A about completeness of GHG inventory

- **Question:** According to the IRR, 4 categories of mandatory reporting information are missing, could you please provide further clarification?

- ✓ **Answer:** According to Table 3 of ARR (FCCC/ARR/2014/GRC), the Annex A sources and KP LULUCF inventories of Greece are complete. However, there is a small number of categories under LULUCF that were not estimated in the 2014 inventory submission, namely: (1) carbon stock change in mineral soil for cropland remaining cropland and cropland converted to forest land; (2) carbon stock change in living biomass of cropland converted to settlements; (3) areas of lands and carbon stock change in living biomass and dead organic matter pools of grassland converted to forest land.

- ✓ At the moment, Greece is making efforts to estimate and report these emission sources / sinks in the next inventory submissions. However, it should be stated that the reporting of this information does not affect the Multilateral Assessment of the progress of Greece towards achieving its economy-wide target, because LULUCF emissions / removals are not included in the committed target of EU and its MS under the convention (please refer to CTF Table 2(b)).

MINISTRY OF RECONSTRUCTION OF PRODUCTION, ENVIRONMENT & ENERGY

Ευχαριστώ πολύ!

thank you very much for your attention!