



National plan for smart, sustainable and inclusive growth

Luxembourg 2020

Courtesy translation

The official French version can be downloaded from www.odc.lu

National Reform Program for the Grand Duchy of Luxembourg
as part of the European semester 2013



Photos: © Luxinnovation, Université du Luxembourg, Luxembourg for business
SIP/Christof Weber, Université du Luxembourg, Luxembourg for business/Yves Kortum

ACRONYMS

ABBL	Association of Banks and Bankers in Luxembourg
ADEM	Labor Administration
AIP	Professional Insertion Activities
ALJ	Local Youth Action
CAE	Work-Support Contract
CASNA	Welcome center for newly arrived students
CCPUE	Coordination Unit for Urban and Environmental Projects
CCSS	Joint Social Security Centre
CEPS	Center for Population, Poverty and Socio-Economic Policy Studies
CES	Economic and Social Council
CFE	Financial Contributions by the State
CIE	Initial Employment Contract
CIE-EP	Initial Employment Contract—Practice
CIPU	Urban Policy Information Cell
CNS	National Health Fund
CPTE	Permanent Committee for Labor and Employment
CRP	Public Research Centre
CSL	Employees' Chamber
CTIE	Centre for Information Technologies of the State
DIRD	Gross domestic expenditure on R & D
DSGE	Dynamic Stochastic General Equilibrium
E2C	Second chance school
EFT	Labor Force Survey
EPC	Economic Policy Committee
ETS	<i>Emission Trading Scheme</i>
FNR	National Research Fund
ESF	European Social Fund
GES	Greenhouse Gas Emissions
IFBL	Luxembourg Institute of Banking Education
IGSS	Inspectorate General for Social Security Administration
ILR	Luxembourg Regulatory Institution
IVL	<i>Integratives Verkehrs-und Landesentwicklungskonzept</i>
NEET	<i>Not in Education, Employment or Training</i>
NREAP	National Renewable Energies Action Plan
NGO	Non Governmental Organization
PAEE	Action Plan for Energy Efficiency
GDP	Gross National Product
NPR	National Reform Program
PRO-SUD	Syndicate of Communities for the Promotion and Development of the South Region
SGP	Stability and Growth Pact
R&D	Research and Development
RDI	Research-Development-Innovation
RMG	Guaranteed Minimum Income
SNAS	National Social Action Service
SNJ	National Youth Service
SRAS	Regional Social Action Service
SSM	Minimum wage
STATEC	Luxembourg Central Statistics and Economic Analysis Office
SVO	Voluntary Guidance Service
SYVICOL	Syndicate of Cities and Towns in Luxembourg
EU	European Union
UEL	Union des entreprises luxembourgeoises (Employer's Organization)

TABLE OF CONTENTS

1. Introduction	5
2. The macro-economic scenario for 2013-2016	7
2.1 Macro-economic perspectives for the period covered by the program	7
2.2 The macro-economic impact of structural reforms	7
3. Implementation of country specific recommendations.....	8
3.1 Preserve a sound fiscal position	8
3.2 Strengthen the proposed pension reform.....	8
3.3 Take further steps to reform the wage bargaining and wage indexation system	13
3.4 Reduce youth unemployment.....	14
3.5 Keep to the greenhouse gas emission reduction targets	15
4. Progress achieved in national objectives for the Europe 2020 strategy... 17	
4.1 The Employment objective and the key measures for achieving it.....	19
4.1.1 National Target.....	19
4.1.2 Key measures	20
4.2 The R&D objective and key measures for achieving it	25
4.2.1 National Target.....	25
4.2.2 Key measures	26
4.3 The climate change and energy objective and the key measures for achieving it.....	32
4.3.1 Greenhouse gas emissions target.....	32
4.3.1.1 National greenhouse gas emissions target.....	32
4.3.1.2 Key measures	34
4.3.2 The renewable energies target.....	37
4.3.2.1 The national renewable energies target.....	37
4.3.2.2 Key measures.....	37
4.3.3 Energy efficiency target	40
4.3.3.1 National energy efficiency target for end use of energy	40
4.3.3.2 Key measures	42
4.4 The Education objective and key measures for achieving it.....	43
4.4.1 The early school leavers objective	43
4.4.1.1 National target.....	43
4.4.1.2 Key measures	44
4.4.2 The tertiary education objective	45
4.4.2.1 National target.....	45
4.4.2.2 Key measures	45
4.4.3 Strengthening the human capital base through adult education and training.....	46
4.5 The social inclusion objective and key measures for achieving it	47
4.5.1 National Target.....	47
4.5.2 Key measures	48
4.5.3 National strategies for integrating Romani as part of the EU	52
5. Use of Structural Funds.....	53
5.1 Coordination with structural funds	53
5.2 Programming of the new period 2014-2020	53
6. Institutional issues and the role of stakeholders	54
6.1 Coordination of the distribution of spatial resources	54
6.2 Assimilation on the national level.....	55
6.3 Communication.....	55

1. Introduction

The economic and financial crisis has been the trigger for major change over recent years, including a wide-reaching restructuring of economies. While both necessary and comprehensive, too much time and energy are still being expended on emergency plans and not enough on implementing the structural changes needed to enable economies to recover higher growth rates. It is now more important than ever to direct efforts both toward measures that will produce short-term impacts on growth and on developing a genuine growth model for the medium and long-term.

The overall economic situation of the EU remains fragile as attested by continued high levels of unemployment in many Member States, as well as disappointing economic results in 2012 and the stagnation in economies that is forecasted for 2013. While issues vary considerably from one Member State to the next, the prospects of a long, slow recovery make the situation difficult for the entire EU. Consequently, the short-term outlook remains uncertain and the challenges are significant. To confront this situation, Member States must continue to implement a differentiated budgetary consolidation that is propitious to growth!

At this stage, it is vital in 2013 that the Member States and the EU as a whole continue their reforms and implement all prior commitments. The short-term challenge now primarily consists of restoring confidence and stabilizing the economic and financial situation. Afterwards, the main priorities must be to ensure that debt is restored to acceptable levels and to improve competitiveness in such a manner as to create favorable conditions for sustainable growth and jobs. The five priorities determined at the end of 2012 by the European Commission as part of its annual growth survey and validated by the European Council take on primordial importance against this backdrop: pursuing differentiated, growth-friendly fiscal consolidation ; restoring normal lending to the economy ; promoting growth and competitiveness ; tackling unemployment and the social consequences of the crisis ; modernizing public administration.

In April of 2011 and 2012, Luxembourg, along with the other Member States, submitted its National Reform Program (NRP) “Luxembourg 2020”¹, intended to implement the Community strategy Europe 2020². This NRP report was subject to extensive consultation, both prior to and after it was submitted.

This report is a 2013 update of the NRP prepared for preceding European semesters. This new edition incorporates measures related to the country specific recommendations presented to Luxembourg by the European Council in 2012³, Luxembourg’s national objectives for 2020 and the conclusions of the European Council regarding the priorities of the annual growth survey 2013⁴.

- On the macroeconomic level, Luxembourg was not among those Member States subject to an in-depth review by the Commission after the publication by the end of 2012 of the second *Alert mechanism report* (AMR) relating to the new MIP procedure for preventing and correcting internal and external macroeconomic imbalances. The government nevertheless continues to closely monitor national macroeconomic developments.

¹ For more details see: http://www.odc.public.lu/actualites/2012/04/PNR_Luxembourg_2020/index.html

² For more details see:

³ Council recommendation concerning the Luxembourg National Reform Program for 2012 and including the Council opinion on Luxembourg’s Stability Program for 2012-2015, Brussels, 6 July, 2012.

⁴ For more details see: <http://www.odc.public.lu/publications/pnr/index.html>

- On the microeconomic and employment levels, the digital economy, innovation and productivity, reform of competition law and policies, effective use of resources - especially by means of a transversal and integrative territorial process as with IVL and sector plans - supporting creation, transmission and development of SMEs, using the internal market to its fullest potential, inclusion and social cohesion⁵ and equality between men and women as a transversal objective through gender mainstreaming, continue to make up the structural pillars of the NRP in the long term. Major efforts were made in the area of administrative simplification by the government, intended to improve work environments in companies and promote productivity and innovation. Firstly, a reshaping of the single electronic window concept has improved the electronic *MyGuichet* electronic platform so as to now include over forty services to companies and citizens. In addition, document exchange has been dematerialized within administrations where electronic management of documents has become progressively more commonplace, thus eliminating multiple non-productive tasks related to circulating paper and improving lead times for processing cases.
- On the budgetary level, the NRP goes hand in hand with healthy and viable public finances in the medium and long terms, as formulated in the Stability and Growth Pact (SGP)⁶.

It is clear that major effort has been expended by the government in Luxembourg, in close cooperation with the various stakeholders, in the area of reforms combining budgetary consolidation, competitiveness policies and active labour market policies to promote employment while retaining social cohesion. This governance process should bring the country out of the crisis in a stronger posture and prepare it for laying the foundations for a smart, sustainable and inclusive growth.

⁵ On the social level, this NRP is also consistent with the National Social Report (RSN).

⁶ For more details see: <http://www.mf.public.lu/publications/index.html>

2. The macro-economic scenario for 2013-2016

2.1 Macro-economic perspectives for the period covered by the program

It is essential that NRP measures take into account the constraints of the macroeconomic environment and the medium-term budget strategy that results from them. Implementing the NRP as a whole thus falls under the same economic hypotheses involving macroeconomic projections as those of the stability and growth program (SGP).

Following real GDP growth figures of 0.3% in 2012, economic perspectives remain subdued in 2013, with estimated real growth of 1.0% for 2013. This rate is well below levels observed prior to the outbreak of the crisis in 2008, when average growth between 1995 and 2007 was registered at 5%. Still, growth in Luxembourg is progressively improving, with estimates of 2.2% in 2014, 1.7% in 2015 and 3.4% in 2016. It should be noted that potential growth for the Luxembourg economy is estimated at 1.6%, while in the early 2000s it was still estimated at 3.5 to 4%. This implies that macroeconomic projections are based on a scenario featuring a return to a peak-of-cycle situation at the end of the period shared by the Euro zone economy, following the assumption of a rapid closing of the production gap.

For the long term, the government has aligned its main economic hypotheses with those in the macroeconomic scenario used by Luxembourg as part the *Working Group on Ageing Populations and Sustainability* of the EU Economic Policy Committee and its recent report on ageing⁷.

2.2 The macro-economic impact of structural reforms

Over recent years, major efforts have been made in Luxembourg in the area of evaluating reforms. An econometric DSGE (*Dynamic Stochastic General Equilibrium*) model, called the *Luxembourg structural model* (LSM), has been developed⁸ that will better simulate macro and micro-economic impacts of structural reforms.

Some characteristics of the model make it particularly well adapted to analyzing economic policies implemented by Luxembourg. It integrates the economic specificities of Luxembourg, especially the particular functioning of the labour market that assimilates residents and cross-border workers, the importance of negotiations between unions and companies, and the fact that Luxembourg is a small, extremely open economy.

An initial version of the LSM was widely used in reviewing the consequences of structural policies. However, this initial version was not appropriate for studying the consequences of the extreme level of Luxembourg's specialization in its financial *cluster*. The new version, known as LSM2, addresses this concern. The LSM2 model including the banking sector was introduced in June 2012. However, it should not be forgotten that there is no ideal structure for an institutional macro-econometric model.

⁷ For more details see: http://europa.eu/epc/working_groups/ageing_en.htm

⁸ For more details see: <http://www.odc.public.lu/activites/LSM/index.html>

3. Implementation of country specific recommendations

On July 10th, 2012 the Council adopted five recommendations on Luxembourg's SGP and NRP for the period 2012-2013. This chapter describes the measures implemented in Luxembourg to meet their criteria.

3.1 Preserve a sound fiscal position

"Preserve a sound fiscal position by correcting any departure from a MTO that ensures the long-term sustainability of public finances, in particular taking into account implicit liabilities related to ageing. To this end, reinforce and rigorously implement the budgetary strategy, supported by sufficiently specified measures, for the year 2013 and beyond, including meeting the expenditure benchmark"

In 2013, the Government adopted a package of budget consolidation measures amounting to € 953 million, representing 2.1% of GDP, based on a division of the impact of 57% on expenditures and 43% on revenues. The budget policy implemented under these terms will result in an improvement of the structural balance from a surplus of 0.4% in 2012 to one of 0.7% in 2013, compatible with the medium-term budget objective of a 0.5% surplus of GDP. In particular, from the perspective of changes in expenditures, the Government's budget policy will reduce total growth rates in public expenditures from 7.2% in 2012 to 4.2% in 2013. In this way, real growth rates of adjusted expenditures will be brought from 4.4% in 2012 to 0.2% in 2013, which complies with the 2013 reference rate of 1.8%.

The SGP calls for a slight decline in the budget balance for 2014, evolving from a surplus of 0.7% of GDP in 2013 to one of 0.6% of GDP in 2014, which will not impact achieving the medium-term budget objective to be reset during the 14th update of the SGP to the current level of 0.5% of GDP in structural terms. Total adjusted expenditures for the public administration will increase in terms of real growth, rising for -0.2% in 2013 to 2.3% in 2014. Although this growth is higher than the reference rate of 1.1% for 2014, keeping to medium-term objectives in 2014 will ensure compliance of the budget trajectory with the preventive arm of the SGP.

Thus, for both 2013 and 2014, it is probable that Luxembourg will comply with the two rules of the preventive arm of the SGP.

Lastly, medium-term budget objective of a surplus of 0.5% of GDP now corresponds to the minimum level in the view of the European Commission, which decreased this minimum level from a surplus of 0.75% of GDP to one of 0.5% of GDP after accounting for the estimated impact on the budget of the pension system reform. It is true that after the pension reform entered into effect on 1 January, 2013, public expenditures related to the ageing of the population will increase less strongly as from 2020 and the impact of the reform will significantly reduce implicit liabilities due to the ageing of the population. The impact on the budget is therefore supposed to be a reduction of the cost of the ageing of the pension system to around 7% of GDP in 2060.

3.2 Strengthen the proposed pension reform

"Strengthen the proposed pension reform by taking additional measures to increase the participation rate of older workers, in particular by preventing early retirement, and by taking further steps to increase the effective retirement age, including through linking the statutory

retirement age to life expectancy, in order to ensure the long-term sustainability of the pension system.”

3.2.1 The principal modifications to the law dated 21 December 2012 on the reform of the pension system⁹, which apply to covered persons under the general and special retirement schemes for government workers and employees of Luxembourg’s rail authority SNCFL, are as follows:

- Pension entitlement: Conditions for pension entitlement remain unchanged. Contributors to the pension system retain the right to retire early as from the age of 57 or 60, provided they have contributed for a fully forty years. Complementary periods during which no contributions were made will continue to be recognized in order to complete the required periods for early retirement as from age 60.
- Lowering of the minimum contribution: The change to be implemented, the reduction of the minimum voluntary contribution level to one third of minimum wage, is intended to encourage contributors to round out their careers if there were gaps due to family issues. At present, the minimum contribution is around € 300. When this law takes effect, it will not exceed € 100. This mechanism is valid for a limited time, as intended by the planners. Persons concerned by the mechanism can take advantage of the reduction for a maximum of five years. The sole purpose of the measure is to make up the contribution period for career workers; it does not increase pension amounts.
- Benefits: In general, the new provisions seek to bring about viability and long-term financial consolidation of the scheme against a backdrop of longer life expectancy in a system that is approaching maturity. Proportional increases are reduced progressively and future adjustments of pensions to changes in salary will depend on the relationship between changes in the scheme’s income and expense figures. Working persons who consider longer life expectancy data and who are prepared to extend their working lives accordingly will continue to draw a pension comparable on a monthly basis to that they earn at present. Persons retiring early retain their right to an early pension provided they accept a decrease in benefits. As such, persons nearing retirement will not be much affected by the reform. In addition, those who have had physical jobs and who have earned near-minimum wage incomes throughout their careers will have no loss of pension benefits, even for early retirement, as fixed increases in contributions are implemented progressively so minimal pensions are guaranteed at current levels.
- New methods of calculating pensions: All pensions contain two elements: increases in proportional benefits and increases in fixed benefits. To this are added proportional staggered increases in benefits and the end-of-year allotment.
Legislation prior to the reform: Proportional increases in benefits are awarded contingent on professional income subject to contributions earned over a person’s working career. Income and salaries are reduced to an index number of 100 and carried to 1984 as the base year. Under former legislation, proportional benefits increases were applied at the rate of 1.85% of the sum of salaries. They therefore vary depending on the salary or income level. Staggered proportional increases in benefits are intended to encourage people to extend their working lives. Under the former legislation, the rate of increase was raised by 0.01% per additional year for persons over 55 with more than thirty-eight years of retirement contributions and a maximum rate of 2.05%. Fixed increases in benefits are granted as a

⁹ The law dated 21 December, 2012 on the reform of the pensions system that modifies: 1. The Social Security Code; 2. The amended law of 3 August 1998 instituting specific pension schemes for government and municipal workers as well as for the Luxembourg Railway System (SNCFL); 3. Amended law dated 26 May 1954 regulating pensions for government workers ; 4. Amended law dated 7 August, 1912 on the establishment of a provident fund for municipal and public workers; 5. The Labor Code.

function of contributions paid in. Under the former legislation, fixed increases corresponded to 23.5% of minimum wage for 40 years of work.

The new calculation method: As increasing life expectancy naturally engenders increases in pension expenses, it is appropriate to seek additional income to preserve the financial balance of the system. This reform law does not seek to decrease services to retired persons but rather to encourage them to adapt to the changing pensions environment. Persons who stop working later and consequently enjoy pension benefits for a shorter period are allotted higher benefits. Persons retiring early can enjoy lower pensions for a longer period. Changes in the calculation consist of gradually diminishing the rate of proportional increases in benefits from 1.85% in 2013 to 1.60% in 2052. In addition, the right to staggered proportional increases will begin in 2052 at the age of 60 after forty years of work. In contrast, staggered proportional increases in benefits will increase at the rate of 0.01% per year in 2013 and at 0.025% in 2052. In addition, the rate of fixed increases in benefits will be progressively increased to 28% in 2052 in order to allow persons who cannot extend their working lives because they have worked under more difficult conditions with modest incomes to be able to take retirement decently upon completing a career featuring 40 years of contributions.

- Combining an early retirement pension with work: Under the former legislation, all early retirement pensions were immediately subject to a reduction by one half of the amount if a pensioner subsequently worked, with a salary exceeding one third of the minimum wage per month spread out over the calendar year. The remaining half of the pension was decreased further if the salary earned combined with the pension exceeded the ceiling set at the average of the five highest income years subject to contributions in a person's career. The minimum amount was set at 120% of the minimum wage. In as much as the 21 December 2012 law seeks to encourage persons to extend their working lives, the pension and work combination requirements were lightened. Thus, the requirement that the early retirement pension be reduced by half if the new salary exceeded one third of the minimum wage in a month was eliminated. Under the new law, combining a pension with work is possible up to the limit of the average of the five highest income years subject to contributions in a person's career. Furthermore, the minimum ceiling has been raised from 120 to 150% of minimum wage. These combination mechanisms are only applicable for disability and early retirement pensions. Once a person arrives at standard retirement age, combining a salary with a pension entails no reductions.
- Revaluation and adjustment of pensions: Before 2013, pensions were adjusted to changes in salaries every two years through a specific law. The former legislation made no distinction between adjustment mechanisms for salaries earned during peoples' careers at the time pension benefits were calculated, in other words, it did not update salaries recorded during careers at the base year of 1984 to salaries in the economy at the time pension calculations were recorded. Neither did it provide for adjustments of pensions to changes in salaries during retirement. The 21 December 2012 law provided for this type of differentiation. Thus, the revaluation factor is used in the context of salaries and income recorded during careers with an effective base year of 1984 and at the time, initial pensions are awarded and calculated. The adjustment factor is used to adjust current pensions to changes in salaries. To this end, the entire revaluation process for salaries is applied at the time a pension is awarded and does not depend on the schemes' financial situation. Furthermore, adjusting current pensions will now be subject to the financial situation of the scheme. In this way, a moderating factor has been inserted to reduce the impact of adjustments of pensions during current times as soon as benefits expenses exceed contributions for the year and after the pure contribution rate (relationship between pension costs and the base of incomes subject to

contribution annually) exceeds the rate of contributions. If this moderating factor were reduced to 0, pensions would no longer be adjusted to the cost of living.

- End-of-year allotment: Payment of this premium will hereafter depend on the financial situation of the scheme. If the moderating factor is triggered, the allotment will not be paid.
- Coverage period: the new law provides for an increase in the financing coverage periods from 7 to 10 years during which the monitoring institution draws up a technical report and makes actuarial forecasts on the financial situation of the scheme. Verification of this report is now done every five years. On the basis of this report, the overall retirement contribution rates are set for workers, employers and the State. Currently, the rate is 24%, with each entity contributing 8%. In the middle of each financing period, now every five years, the Social Security Inspectorate General (IGSS) determines whether the original overall contribution rate is adequate to ensure financial equilibrium through the period end.

In its opinion of the draft budget of income and expenses of the State for 2013, the Luxembourg Central Bank (BCL) provided simulations on the financial impact of the pension reform, stating: *“Adjustment of pensions to real wages would be fully eliminated (...). Such a suspension would nonetheless have no impact on the initial pension of each retiree, regardless of the year of retirement, as the initial pension is fully adjusted to changes in real wages. This scenario would reduce the scope of the budget issues by one-half with respect to a non-reform scenario.”*¹⁰ In its 13th update of the Luxembourg SGP program covering the period 2012-2015, the Government presented the financial impact of the reform. Compared to a scenario in which policy remained unchanged, the cumulative cost of the ageing of the pension system is reduced by one half according to the BCL. In the same way, the reserve fund for the scheme amounted over € 12 billion in 2012, representing 3.8 times the annual costs of the scheme and 27% of GDP. According to BCL projections, reserves will be sufficient to fund pension benefits up to around 2030.

3.2.2 The draft law for modifications to the Labour Code and the Social Security Code seeks to change certain provisions in the area of reclassification.

The 4 March, 2008 IGSS evaluation report¹¹ analyzed the repercussions of the legal provisions on the efficiency of guidance and orientation measures for persons with work disabilities. The Government submitted its report to the Joint Parliamentary Commission for Health and Social Security, Labour and Employment on 29 May, 2008 and on 10 July, 2008. It was recognized that the record is mixed on this issue, in as much as legislation that was enacted has improved some conditions while other expectations have not been met. So some procedures were abridged while other timelines got longer, which underscores the need to accelerate reclassification procedures, as any additional extension only favors solutions that are alternatives to professional life. Yet the staggering increase in the number of cases that could not be reclassified at the end of the procedure is a clear indicator that the system currently in place is far from perfect despite improvements along the way, and that it must be revised.

It is important to remember that reclassification outside a persons' company is not an attractive option to persons who know that they will lose all of their rights at the end of the new employment contract. From this emerged the idea of creating a specific status for all persons undergoing professional reclassification externally, which would allow them to retain their rights as long as the disability from the previous job is in effect. It was also determined essentially necessary to engage in better coordination among the various actors so that procedures and decisional processes insured

¹⁰ For more details see (page 35): http://www.bcl.lu/fr/publications/avis/Avis_de_la_BCL_sur_le_projet_de_Budget_2013_web1.pdf

¹¹ For more details see: http://www.mss.public.lu/publications/rapport_igss/rapport_incapacite_de_travail.pdf

parties undergo are more transparent and rapid, especially when medical opinions diverge. With regard to divergent medical views, the disability evaluation process should be made uniform.

The legal modifications to be implemented should aim at improving the process for finding employees appropriate jobs while taking care not to prematurely exclude those who can work from the labour market.

In 2009, an inter-ministry working group was formed to make recommendations for improving effectiveness of the legal provisions in this area in concert with all parties concerned regarding the application of legislation to work disabilities and professional reinsertion.

- Access to the professional retraining procedure: A new way of access, parallel to current access paths, is now available through medical examinations by occupational physicians. Reducing the size of companies and eliminating quotas introduces an internal work retraining program that is compulsory for employers who legally employ at least 25 employees.
- Accelerating the procedure: Parallel access by the Occupational Health and by the Joint Commission will provide analyses of conditions for opening a work retraining procedure by moving the Joint Commission decision forward.
- The Joint Commission decision: The Joint Commission can now submit occupational physician determinations as to capacity or incapacity for work to a physician of the Department of Occupational Health. The Commission deals with internal or external reclassification decisions and decisions against reclassification, and is now empowered with regard to decisions on the status of persons to be retrained for work externally. All of these decisions are subject to a uniform appeals proceeding in the social courts.
- Internal reclassification encouraged: The number of companies eligible for internal reclassification procedures has been increased with the elimination of quotas and the bolstering of the compensatory tax mechanism as a sanction against employers.
- Establishment of a specific employee status for external professional retraining. A specific status is attributed to employees who are undergoing an external reclassification procedure to afford them better protection. It guarantees employees that their rights in a work reclassification decision will be upheld and removes the risk currently attached to the interruption of a new work contract. The status is attributed when an external work reclassification decision has been reached and lapses when needed work capacity has been recovered or if a pension, annuity or early retirement indemnity is awarded.
- Periodic reevaluations by occupational physicians: Occupational physicians are under obligation to periodically reevaluate the health of reclassified employees, providing an assessment of their adjusted work time and their capacity for work. Such evaluations may affect compensatory indemnities, tide-over allowances, work times and the specific status benefit. The same review procedures apply to persons receiving a tide-over allowance at 31 December 2013.
- Simplification of the calculation of the compensatory indemnity: A simplification of the method for calculating the compensatory indemnity through its link with the contribution basis in the area of pension insurance is used to run calculations through the Joint Social Security Center.
- Award of a tide-over allowance: A disability pension attributed as a specific benefit for workers without disabilities was always a source of problems, particularly on the international level. To replace the former tide-over allowance, a new tide-over allowance has been devised. A worker who has passed through the entire process without being reclassified, either by that person's former company or on the labour market, and who can

certify at least ten years of fitness for work at the last job held, will receive a tide-over allowance when unemployment benefits expire that corresponds to 80% of the former professional salary subject to contributions under the pension program, with the same ceilings applicable as where unemployment benefits are extended. This benefit now falls under the professional reinsertion program on the labour market. It is not an advance against future pension benefits, but rather replacement income under extended unemployment following loss of a job. This tide-over allowance is subject to social and tax charges as salary and will be considered as such when pension benefits are calculated. Financing for this program is shared equally between the person's pension organization and the Employment Fund.

It is presumed that the current law on professional reclassification will enter into effect on 1 January, 2014. It is impossible to calculate the financial impact of the modifications on current law at this time. It is expected that doubling the access path, and consequently accelerating the procedures and emphasizing internal professional reclassification, will have the effect of keeping a greater number of persons on the job and will combine to brake the worrisome trends in terms of numbers and costs of tide-over allowances, to include both the former and replacement allocations. Under this assumption, which consists of doing everything possible to reduce the number of failed reclassifications, should the mechanisms succeed, there will be a parallel increase in compensatory indemnities awarded for jobs that are resumed. This has two positive aspects, one for workers who keep their jobs without risk of financial loss and the other for the State, which grants a diminishing and temporary allowance to employed persons instead of replacement income at a higher rate for people who remain idle until retirement and are lost to the job market. Lastly, the increased workload for occupational physicians notably against the backdrop of the second access path involving periodic reevaluations can only be assumed within the applicable time periods the appropriate department increases personnel levels.

3.2.3 The Government will eliminate the early retirement under the solidarity scheme, but will implement measures to take into account hardship situations that could arise due to this action¹².

3.3 Take further steps to reform the wage bargaining and wage indexation system

“Take further steps to reform, in consultation with the social partners and in accordance with national practice, the wage bargaining and wage indexation system, with a view to preserve the competitiveness of the Luxembourg economy in the longer term, as a first step by maintaining the current one-year indexation interval beyond 2014 and by reducing the impact of energy and other volatile items on the reference index.”

In December, 2011 the Government decided to modulate the automatic wage indexation mechanism. The law concerning this modulation was approved at the end of January, 2012¹³. There will be only one automatic indexation payment per year in 2012, 2013 and 2014. In addition, an interval of 12 months must elapse between each automatic indexation.

The automatic indexation, which was to be paid in early 2012, had already been put back to October, 2012. According to STATEC¹⁴, the automatic wage indexation threshold has again been triggered in February, 2013 and the next adjustments to wages, salaries and pensions will therefore occur on 1 October, 2013.

¹²For more details, also see sections under 4.1 *The employment objective and key measures for achieving it*.

¹³ The law dated 31 January, 2012 adapting certain procedures for the application of the sliding scale of salaries and pay and modifying article 11 of amended law dated 22 June, 1963 setting the salary scheme for government workers.

¹⁴ For more information see: <http://www.statistiques.public.lu/fr/actualites/economie-finances/prix/2013/03/20130306/20130306.pdf>

In the area of automatic indexation, legal and economic analyses have been carried out or are underway, notably with regard to the work of the price formation observatory. A legal study of the methods for regulating the automatic price indexation clauses was published in 2012¹⁵ and the conclusions of this study are currently supplemented by economic analyses.

3.4 Reduce youth unemployment¹⁶

“Continue efforts to reduce youth unemployment by reinforcing stakeholders' involvement, and by strengthening training and education measures, in particular for those with low education levels, with the aim of better matching young people's skills and qualifications to labour demand.”

In March, 2012, the Government introduced a Youth Employment Action Plan to the social partners and government institutions. The plan includes measures and actions for implementation of a “youth guarantee”, adaption of measures for youth employment, improvements in guidance, developing apprenticeship programs and projects targeting youth without qualifications that are remote from the labour market. Monitoring the action plan will be accomplished in close collaboration with the social partners.

In a crisis environment, the young are especially exposed to unemployment risk. Even persons with university degrees can have trouble finding a job in a weak job market. Existing measures for promoting jobs among the young have been modified through a law approved on 26 February, 2013 promoting the Work-Support Contract (CAE) and the Initial Employment Contract (CIE). In part, these modifications are based on the conclusions of a study. The objective of these measures is to improve practical training and follow-up of young people thus augmenting their chances of rapidly finding a job within a stable and legal framework.

Young people with extremely low levels of education are particularly susceptible to unemployment. For this reason, a pilot project offering training specifically adapted to young people in this category was set up in 2012. Young people attended two months training periods under the program in training centers. Some fifty young people completed the training and were directed along the most appropriate path, either back to school or toward an additional training course, followed by an apprenticeship or employment.

The monitoring of young job seekers with few or no qualifications was reviewed and intensified qualitatively. Several projects have been implemented or developed by the public employment service to deal with this in collaboration with other institutional players that are bolstering support for youths without diplomas. These include the following:

- The "Nudge in the right direction" project directed at young job seekers between 16 and 20, without diplomas who have not been able to get into the job market since registering with the public employment service which is providing a specialized follow-up process for young people in order to get them into a measure promoting youth employment or in training that can serve as a trampoline toward the labour market.
- The "Training for Young People Working under a Work-Support Contract" project is directed at young job seekers aged 16-30 that are working under a CAE. This project provides training adapted to current requirements of young people, such as preparing for job interviews, IT training, etc.

¹⁵ MINISTERE DE L'ECONOMIE ET DU COMMERCE EXTERIEUR, *Modalités de la réglementation des clauses d'indexation de prix en France, Allemagne, Belgique et au Luxembourg*, Perspectives de politique économique n°19, Luxembourg, May 2012. For more details seek: http://www.odc.public.lu/publications/perspectives/PPE_019.pdf

¹⁶ For more details, also see sections under 4.1 *The employment objective and key measures for achieving it* and 4.4 *The education objective and key measures for achieving it*.

- Awareness workshops are being set up by the public employment service for youths aged 16-24 who have not obtained apprenticeship positions prior to 1 November, 2012 to explain and offer various "transition" measures, possibilities and perspectives for their professional insertion.

For young people who leave school early and are registered with the public employment service, the organization's professional guidance department offers a motivational interview aimed at either returning to finish their studies through a "Second chance school" or getting an apprenticeship.

The implementation of the professional training reform, which targets an objective of getting qualifications to correspond to job market demand, is moving forward. The principal features of the reform tailored to meet this objective include training based on knowledge acquired during apprenticeships, a joint determination by educational and professional actors of skills to be acquired, and promotion of the work-study concept with long-term apprenticeships or practice periods in all avenues of professional training.

Guidance plays a major role in the integration of young people into professional life. The government created a Guidance Center, the so-called "House of Orientation", which opened its doors in September, 2012 assembling departments from three ministries that work with youth counseling¹⁷. Staff from these departments work in close collaboration to produce presentations in schools, assisting with the transition phase from school to work and helping with the systematic monitoring of early school leavers. Individual assistance is continued up to the point where a training, employment or occupational solution has been found with the person. Young people who come in search of information, guidance or assistance find these offers at the same location and making contact is easier and more rapid. Group workshops involving the different departments are offered to young people so they can set up a new professional project, confirm it and implement it. Presentations in schools addressed at young people who intend to pursue university educations are done in concert with the Center for Documentation and Information on University Studies (CEDIES). The Guidance Center is also open to adults seeking information, guidance or assistance in authenticating acquired professional experience. In order to provide full and holistic service, very close collaboration among all guidance and socio-professional integration personnel is essential. The steering committee of the Guidance Center is considering as an improvement of citizen services, expanding its national network, establishing collaborative contact among guidance centers of other European countries and developing a continuing education training plan for guidance staff.

A law for the establishment of a second chance school (E2C) was approved in April, 2009. This led to facilities for 150 young adults aged 16-24 who had left school before earning a recognized certificate. The establishment's academic program was widened with the 2012-2013 school year. Since 2009, 52% of E2C students succeeded in attaining a higher academic level. Of these students, 48% were able to consolidate skills and knowledge acquired as shown through previous grade reports.

3.5 Keep to the greenhouse gas emission reduction targets¹⁸

"Ensure that the targets for reducing greenhouse gas emissions from non-ETS (Emissions Trading System) activities will be met, in particular by increasing taxation on energy products."

¹⁷ These are the Ministry of National Education and Vocational Training with its Psychological and Academic Counseling Center (CPOS), the Luxembourg regional office of the Local Youth Action (ALJ) and the Welcome Center for Newly Arrived Students (CASNA). In addition, the Ministry of Labor and Employment is represented by the Guidance Department of the public employment service, as well as the Ministry for Family and Integration with its branch of the National Youth Service (SNJ). The Ministry of National Education and Vocational Training manages the Guidance Center and coordinates the steering committee made up of various heads of departments

¹⁸ For this part, find more details in section 4.3.1 *National greenhouse gas emissions target*.

The year 2012 marked the implementation of the first CO₂ Emissions Reduction Action Plan which the Government had adopted in 2006 and supplemented in 2007. The Plan contains numerous measures in the areas of transportation, building, renewable energy, industry, information and awareness campaigns and energy consulting and training. At the same time, implementation of the reductions in greenhouse gas (GHG) emissions set out in the Environment and Climate Partnership has begun. This Partnership brings together representatives of the Government, the unions, employers, the SYVICOL town and village union and non-government organizations (NGO). Among its tasks is that of drawing up the second CO₂ Emissions Reduction Action Plan, which the Government expects to adopt during the second half of 2013.

In the area of housing, a Grand Duchy regulation adopted in May, 2012 introduces an ambitious schedule for the progressive improvement of energy performance in new residential buildings. The Government finalized the drafting of a new schedule of financial aid under the *PRIME House* package for energy savings and the use of renewable energies in the housing sector, which went into effect in 2013. It amounts to a fundamental reevaluation of the measures put in place in upgrading energy efficiency in renovations.

In the transportation sector, since the introduction of *PRIME CAR-e* program for fuel saving vehicles in 2007 and the ensuing awareness campaigns, market share of vehicles with low fuel consumption has increased significantly. The *PRIME CAR-e* aid scheme for vehicles driven exclusively by electric power, as well as rechargeable hybrid *plug-in* vehicles, has recently been extended for an additional year. The aid scheme was also extended to cover electric utility vehicles. This organization incorporates the Government's desire to strongly develop electric mobility. In addition to its participation in the *electromobilitéit.lu* platform, the Government financially supports pilot projects in the area of electric mobility. During 2011, it launched a technical-economic study on the nation-wide implementation of electric-powered mobility. This study will be used to set out a shared national concept for implementing electric-driven mobility in Luxembourg that is set to begin at the end of 2013.

A large part of expenditure for measures incorporated into the second CO₂ Emissions Reduction Action Plan will be financed by the Climate and Energy Fund established by law in 2004 to address the cost of using flexible mechanisms, then to finance energy efficiency and renewable energy measures at a later time. This Fund was started with an annual budgetary allocation, but funding comes primarily from receipts of an additional tax on gasoline and diesel fuel and from a portion of the annual road tax on vehicles based on their CO₂ emissions. It is nonetheless dangerous to attempt to accurately estimate the cost of domestic measures in coming years and costs related to emissions taxes that it will be necessary to resort to in order to achieve the objective of a 20% reduction of emissions by 2020. Of total GHG emissions, excluding LULUCF, 55% originate with road fuel sales, of which 15% from residents and 40% from non-residents. Future changes in the price differential with neighboring countries are highly uncertain. The same is true with regard to carbon pricing, which is currently very low, but which will have to increase substantially for the carbon market to be effective economically. In addition, major uncertainty hovers around the cooperation issue. Using conservative assumptions, Luxembourg forecasts a deficit of emissions rights in the area of 12 million tons of CO₂-equivalent for the period 2013-2020. The "Climate and Energy Fund" will finance these emission rights expenses as well as a good part of the national GHG emissions reduction measures.

Work on the "Climate Pact" with municipalities was completed in 2012. Through this Pact, the State is offering a legislative, technical and financial point of reference to municipalities to facilitate their targeted action in the fight against climate change. The law approved in September, 2012

establishing the “Climate Pact” with municipalities authorizes the State to financially and technically support municipalities that are members to it between 1 January, 2013 and 31 December, 2020. The goals to be achieved consist in strengthening communities’ roles in climate policy, reducing GHG emissions and the energy bill in municipality territories and stimulating local and regional investment. Concluding a contract between a municipality and the State involves commitments: each municipality must commit to implementing a quality management system of its energy and climate policy, to wit, the *European Energy Award* – EEA. The EEA is rounded out by quantifiable measures for reducing CO₂ emissions. Furthermore, each participating community agrees to set up an energy accountability system for its infrastructure and municipal departments within two years. The State will provide financial support and technical assistance to municipalities receiving subsidies. Technical assistance will be provided by *myenergy*, the domestic information and consulting entity for energy efficiency and renewable energy sources. The municipality may subsequently be awarded a certification depending on the extent to which the EEA measures catalogue has been achieved.

The overall strategy for sustainable mobility of residents and cross-border workers, the MoDu, was published in April, 2012. An essential link in the chain of this strategy is the tram project in the City of Luxembourg. This project will break up the bottleneck choking public transportation in the main avenue of the capital and accommodate increased passenger flows toward the city in the medium and long terms. The tram is expected to come online in 2017. The Government’s efforts to increase the modal share of public transportation and low-impact mobility are reflected by a significant increase in transportation availability and progressive extensions of public infrastructure domestically and at the cross-border level. The first signs of the success of this policy are apparent: the number of cross-border commuters using public transportation increased from 9% in 2007 to 14% in 2010. Domestically, an increase of 23% in the number of passengers on rail lines was recorded from 2005-2010, and from 2006-2010, the number of bus riders grew by 37% in the regional RGTR and CFL systems, by 17% for the urban AVL buses and by 15% for the TICE system. The Transportation Sector Plan (PST) sets out infrastructure projects for individual and public transportation as well as measures for the sustainable mobility strategy (MoDu). This provides a regulatory framework to the various projects and strategic measures, including primarily the preparation of avenues for infrastructure projects, the implementation of a parking management system and promotion of the soft mobility concept. The PST regulation can move to the legislative procedure once the new territorial development law has been approved.

In the area of taxes on energy products, the Government implemented two measures for 2012-2013. The first is an indirect tax through an increase in duties on diesel of 0.5 cents beginning in 2012. The second is a direct tax through income tax on physical persons, via a decrease in distance deductions as expenses, which implies an increase in effective tax for fuels purchased for professional travel in the form of individual transportation.

4. Progress achieved in national objectives for the Europe 2020 strategy

The European Council decided on the new Europe 2020 strategy at their June, 2010 session, confirming the five major EU objectives that will make up the common goals steering EU member state action in the areas of promoting employment, improving conditions for innovation and R&D, achieving objectives in the area of climate change and energy, improving education levels and promoting social inclusion, essentially by reducing poverty. Each Member State had to determine

its national objectives reflecting these European objectives. Luxembourg determined its national objectives for 2015-2020 and a series of measures to implement them, as part of its NPR¹⁹.

Table 1: National objectives determined by Luxembourg in April 2013

		European Objective 2020	Luxembourg Objective 2020
Priority 1 "Smart growth"	<i>Objective 1</i>	" (...) raising combined public and private investment levels in this sector to 3% of GDP "	Interval of 2.3 – 2.6% (2.0% for 2015)
	<i>Objective 2</i>	" (...) reduce school drop-out rates to less than 10% "	Sustainably lower than 10%
		" (...) increasing the share of 30-34 years old having completed tertiary or equivalent education to at least 40% "	66% ^b
Priority 2 "Sustainable growth"	<i>Objective 3</i>	" (...) reduce greenhouse gas emissions by 20% (...)"	- 20% ^c
		" (...) increase the share of renewable in final energy consumption to 20% "	11% ^c 5.45% average for 2015/2020
		" (...) move towards a 20% Increase in energy efficiency"	14,06% Objective 2016
Priority 3 "Inclusive growth"	<i>Objective 4</i>	" (...) raise to 75% the employment rate for women and men aged 20-64"	73% (around 71.5% for 2015)
	<i>Objective 5</i>	" (...) aiming to lift at least 20 million people out of the risk of poverty and Exclusion"	Reduce the number of persons under the threat of poverty or social exclusion by 6,000 people by 2020.

Remarks:

a National data will also be used to measure these two new objectives because the indicator calculated by Eurostat that came out of the Labor Forces Survey is not totally representative of Luxembourg. Attention must be paid to producing statistics that better distinguish those persons having attended Luxembourg schools so as to be able to gauge the quality of the national education system through the resident population and to get information about the capacity of the Luxembourg school systems to train young people.

^b Luxembourg intends that this indicator provide data on the capacity of the national education system to train young people who can earn post-secondary school diplomas rather than it being a reflection of post-secondary qualifications requirements of the labour market. In Luxembourg, 30% of persons between the ages of 25 and 64 have university educations. In Luxembourg, there is a large disparity depending on birth country. Among people born in Luxembourg, only 22% have university degrees, while this proportion is 40% among those persons born in other countries. Differences between these two populations are much less marked in bordering countries. Furthermore, in these countries, the proportion of university degrees is higher among natives than among foreign-born persons.

^c With regard to greenhouse gases and renewable energies, strict objectives were already in place prior to the launching of the Europe 2020 strategy.

^d In its first energy action plan, Luxembourg set an indicative national objective under directive 2006/32/CE for energy efficiency in final energy use of 10.38 % by 2016. Following an in-depth analysis and evaluation in 2011 undertaken to establish a second PAEE, the national indicative objective for energy efficiency in 2016 was increased to its current level of 14.06%. The 2020 objectives were included in directive 2012/27/EU of the European Parliament and the Council dated 25 October, 2012 on energy efficiency, amending directives 2009/125/CE and 2010/30/CE and suppressing directives 2004/8/EC and 2006/32/EC. Luxembourg has begun work on transposition and is currently analyzing the various aspects of implementing a compulsory compliance mechanism for energy efficiency.

¹⁹ For more details see: <http://www.odc.public.lu/publications/pnr/index.html>

4.1 The Employment objective and the key measures for achieving it

European Objective: “aiming to raise to 75% the employment rate for women and men aged 20-64, including through the greater participation of young people, older workers and low-skilled workers and the better integration of legal migrants.”

4.1.1 National Target

Luxembourg's objective for **2020 is to achieve an employment rate of 73%**. The objective for 2015 is around 71.5%.

Table 2: Changes in employment in Luxembourg: 2000-2012

	2000	2005	2010	2011	2012*
Total salaried employment	244 949	290 420	341 441	349 462	358 457
<i>Percentage of cross border workers</i>	35,7 %	40,7 %	43,9 %	43,9 %	43,7 %
Total employment rate (aged 20-64)	67,4 %	69,0 %	70,7 %	70,1 %	71,3 %
Total employment: Men	80,8 %	79,4 %	79,2 %	78,1 %	78,4 %
Total employment: Women	53,8 %	58,4 %	62,0 %	61,9 %	64,0 %
Youth employment rate [ages 20-24]	52,9 %	44,0 %	35,5 %	35,1 %	35,7 %
Youth employment rate [ages 25-29]	80,3 %	81,3 %	81,5 %	79,8 %	77,6 %
Employment rate for older workers [ages 55-59]	38,9 %	46,8 %	55,7 %	54,6 %	56,1 %
Employment rate for older workers [ages 60-64]	14,5 %	12,7 %	20,1 %	20,9 %	22,7 %
National unemployment rate	2,5 %	4,2 %	6,0 %	5,9 %	6,1 %

Remarks: * the first three quarters, except for the unemployment rate

Sources: STATEC, Eurostat, ADEM

In this context, it is appropriate to emphasize the specific nature of Luxembourg's job market. In the first place, the labour pool is not limited to national borders, but includes a large part of the Greater Region²⁰. The supply of available labour in neighboring countries, the cross-border workers, will have a significant impact on Luxembourg's ability to meet the objectives the country will be setting, in view of the variables present when preparing statistical results. According to the latest consolidated data from September, 2012, the percentage of cross-border persons employed in Luxembourg is 43.7%. Of these, cross-border French residents account for 49.4% and 21.6% of the total labour force. Belgian and German residents account each for 25.3% of total cross-border workers. The change in the number of cross-border persons with a job in Luxembourg is even more explicit. They have increased by 79.4% between 2000 and 2012, while over the same period overall employment increased by 46.3%. This explains in large part why the strong increase in employment in Luxembourg has not been accompanied by a drop in unemployment. While domestic employment grew by 7,9% between 2008 and 2012, unemployment surged by 61,5% over the same

²⁰ The Greater Region includes the Grand Duchy of Luxembourg, the Walloon region in Belgium, the Saar and Rhineland-Palatinate regions of Germany and the Lorraine region of France.

period. Secondly, immigration is very strong in Luxembourg and therefore has a major impact on demographical changes. Between 2001 and 2012, the foreign resident population grew by 41.7%, while the native Luxembourg population grew by only 6.4%. Thus between December 2011 and December 2012 alone, the working population grew by 2.7%

4.1.2 Key measures

National employment policy is designed to eliminate precariousness and poverty, thus seeking to obtain improved living conditions and a sustainable social model. It contains organic measures as well as measures promoting the employment of young people, women, older workers and persons with specific needs. Where these measures overlap into the domains of other institutions, they have been coordinated.

a. Organic measures

The Government has undertaken a series of organic measures that seek to modernize and adapt institutional structures and to improve comprehension of the complex functioning of the labor and job market in order to increase effectiveness of active employment policies.

- A modern and high performance public employment service is necessary to meet the requirements and necessities of employment market in Luxembourg today. The Labour Administration was transformed into the Employment development Agency, which is the public employment service, with the law establishing this new entity going into effect the 18th of January 2012. The reform of this entity aims at improving efficiency and quality of services the public employment service offers to its users, i.e. job seekers and employers. This is done essentially by means of individualized monitoring of job seekers and by developing closer relations with companies. The IT system is now being modernized in order to make available a higher performance and more effective management tool for administering the supply and demand of jobs. The new system will be introduced progressively during 2013. In addition, new regional offices were opened and more professional counselors recruited with an eye to improving quality of services. The Youth department of the public employment service has also been bolstered to provide better monitoring of young people.
- As part of its employment policy, the government is in the process of creating an Employment Observatory. The objectives of this observatory include analyzing the job market to better assimilate its functioning, developing forecasts, longitudinal studies and studies on the impact of immigration, and establishing valid indicators. Indicators play a very important role in monitoring measures promoting employment as well as in developing more targeted and efficient measures. A working group within the Observatory is establishing an employment scoreboard to incorporate these indicators. Several conferences were held in 2011 and 2012 to take stock of work accomplished to date. One key phase of the Observatory is setting up a database that groups anonymous source data on employment and unemployment. This database, which is currently being developed, will be used to carry out accurate and targeted studies and to provide more in-depth understanding of the complex functioning of Luxembourg's labour market and more generally that of the Greater Region. In the same manner, analyses of the impact of employment measures will be more detailed. The Observatory is a project co-financed by the European Social Fund for the period 2011-2013.
- Life-long learning is a key factor in the government's policy. Indeed, a good level of initial education, supplemented with continuing education, considerably improves one's chances of being employed, or returning to a job rapidly. In the same manner, companies benefit from having trained employees in a situation of heightened competition. Employees with proper training also form a pool of potential starters of businesses. For this reason, the employment policy attaches particular importance to increasing qualifications and to lifelong learning

programs in close cooperation with the Ministry of National Education and Vocational Training. Consequently, employees' access to continuing education is an important aspect of the law being drafted, which will introduce a package of measures to promote age policies in companies²¹.

- Close collaboration between the Ministry of Labour and Employment and the Ministry of the Family and Integration will coordinate employment and reduction of poverty policies. The risk of poverty drops dramatically where persons have jobs, particularly when an indefinite term contract is involved. This cooperation will be reinforced for the future programming of the European Social Fund (ESF). This corresponds to European draft regulations which set 20% of funds allocated to Member States earmarked for promoting social inclusion and the fight against poverty. According to STATEC, in 2011 the at-risk of poverty rate was 13.6% for the entire population. However, it should be noted that only direct financial transfers, and not all transfers, are taken into account in calculating this risk.
- The current and future challenges of the labour market will require solutions arrived at through social dialogue. This includes three-party dialogue within different decision-making bodies such as the Tripartite Coordination Committee, the Economic and Social Council (CES) and the Permanent Committee for Labour and Employment, as well as for social dialogue at sector and corporate levels. A draft law to reform social dialogue within companies was drafted involving the social partners in this framework. The law seeks to modernize, simplify and adapt legal measures concerning social dialogue within companies, with the purpose of improving the quality of dialogue. In order to highlight the essential role of proper social dialogue, a conference for co-management in companies took place in early 2012. Among its participants were German experts who outlined the German model and its day-to-day function within companies.
- The "fit4job" concept is an element of the government's proactive employment policy. A pilot project for the program was launched in the financial sector in February 2010. The "fit4financial markets" program was developed in a partnership with the Luxembourg Banks and Bankers Association (ABBL) and the Luxembourg Institute of Banking Training (IFBL), with the unions' support, and is part of a sector approach to meet the requirements of the labour market. The objective of this program is to proactively and closely supervise persons who have lost financial sector jobs. The program increases employability levels of this target group through a diagnostic session, followed by training specifically developed for the sector. It also maintains close collaboration with professionals in order to best meet the requirements of the sector and persons concerned. Currently, four "fit4job" projects, all co-financed by the ESF, are underway, to include the "fit4financial markets", "fit4engineering", le "fit4seniors" and "fit4commerce" projects. These projects have a global budget of around € 4 million and will be carried out mostly between 2012 and 2013.

b. Youth measures

The Government embarked upon a series of measures to address the recommendations of the Council to Luxembourg for 2012-2013 to reduce the unemployment rate of young people²². These include an action plan promoting youth, the establishment of a Guidance Center, modifications to the Work-Support Contract (CAE) and the Initial Employment Contract (CIE), specifically adapted training for young people with low skills, the "Nudge in the right direction" project, the "CAE Youth Training' Project", the public employment service awareness workshops and the establishment of a second chance school (E2C).

²¹ See Measures benefitting older workers.

²² For this part, refer to section 3.4 *Reduce unemployment among the young*.

Future measures will continue to concentrate on the objective of improving employability of young people, especially through training and guidance:

- In order to provide the best support for young people who are beginning their professional careers, a “Youth guarantee” will be put into place by June, 2014. This will be based on the European level model, already in practice in Austria. In this way, the public employment service must “(...) offer either a job or a measure to young people within the first four months, which allows them to integrate professionally or significantly improve their employability, either through a professional training course or qualification, or through their return to school if their academic programs were interrupted early.”
- Initial training and guidance for young people plays a crucial role in increasing compatibility between the requirements of the labour market and knowledge and capabilities of the young. Youth employment policy is prepared in close cooperation with the various competent ministries and generally with all persons involved in promoting youth. This cooperation will be reinforced and improved by setting up a "Guidance Center" that will host various services for youth, including those available through the public employment service.
- A second training project was launched in January, 2013 targeting some fifty young participants with very low skilled. This project implements a specific training program in special centers, followed by a practical module in companies or the return of young people to education and vocational training.

c. Measures targeting women

The Government has implemented a series of measures for which the objective is increasing women's participation in employment. During the first three quarters of 2012, the employment rate was 71.3% for persons aged between 20 and 64. The proportion of persons with a job is higher among men at 78.4%, than among women, at 64.0%. Nonetheless, the gap is receding because changes in the employment rate of women are greater than those of the employment rate of men. Part-time work is primarily occupied by women.

- In attempting to facilitate the insertion of women into jobs, it is essential to emphasize promoting reconciliation between professional and family life, for example providing child care services, day nurseries, full-time schooling, etc. Coordination of implemented policies at the inter-ministerial level²³ is essential. In this framework, future discussions should occur between the social partners to provide more diversified models that better accommodate the specific requirements of working men and women who wish to care for their children and that would make parental leave more advantageous to men. To accomplish this, a draft law was put before parliament to ensure a minimal transposition of EU directive 2010/18/EU within the deadline.
- The Government drew up a national action plan for equality between men and women that addresses the twelve themes of the UN's Beijing action platform and covers international commitments, especially EU and Council of Europe implementation of European policies in the area of equality between men and women. To this may be added the CEDAW March 2014 report and the Human Rights convention with universal periodic review mechanism in 2012, which require detailed follow-up in the area of equality between men and women.

²³ Between the Ministry for Family and Integration, the Ministry of Equal Opportunities and the Ministry of Labour and Employment.

- The positive actions are a tool for companies to promote equality between the sexes in the job market by incorporating the talents of the under-represented sex in a more significant manner.
- The wage gap, a difference of 12% in salary, is another area to address. In Luxembourg, equal salaries are guaranteed by the Grand Duchy regulation on equal pay between men and women. In 2009, the Ministry of Equal Opportunities introduced a tool for companies with more than fifty employees for determining any wage inequalities between men and women.
- Another measure for achieving the national objective in terms of the employment rate is encouraging women to set up their own companies. It also meets the objectives of the recent Entrepreneurial Action Plan 2020.

d. Measures benefitting older workers

The Government embarked upon a series of measures to address the recommendations of the Council to Luxembourg for 2012-2013 to increase the participation rate of older workers²⁴. As the law to reform the retirement system went into effect on 1 January, 2013, the dialogue with the social partners will begin on the adaptation of the various early retirement systems. The Government made the decision to eliminate the early retirement under the solidarity scheme. This mechanism made it possible for private sector employees aged 57 to obtain an early retirement bonus provided their departure is offset by the hiring of one or several job seekers or by the hiring of an employee from a company experiencing structural difficulties and running the risk of immediate layoff for economic reasons, or through an apprenticeship contract. However, persons who submit requests for this program must be employed by a company eligible for this early retirement solidarity mechanism and the employer must approve the request. It should also be stated that changes in demographics, and especially the fact that in general, people begin start careers at a progressively later time, will result in the number of these early retirement requests automatically diminishing in the long term.

With regard to the future, the Government is considering a series of measures that seek to increase the rate of older persons on the job, provided the well-being, safety and health of these older persons can be secured:

- The CPTE undertook discussions in 2011 about the distinctive situation of older persons with relation to the labour market as part of the development of a national policy to promote employment among older persons. Against this backdrop, the Government set up a conference in November, 2011 on managing the age pyramid in companies. The discussions contributed significantly to drawing up a draft project introducing a bundle of measures promoting an age policy in companies. This draft law includes an obligation for employers with over 150 staff to draw up an age management plan that focuses on at least three of the following issues: recruiting older workers, anticipating career changes, improving working conditions, providing access to life-long education and passing on knowledge and skills to lesser experienced workers. Financial initiatives are being included for the companies in this group, as well as for those companies not required to draw up plans but who voluntarily apply an age management plan. Companies with more than 150 employees that are already covered by such a plan through a collective bargaining agreement or an inter-professional accord are not constrained by this obligation if they already fulfill a certain number of conditions. A Center for analyzing and promoting working conditions will also be established. The objective of this center will be to improve working conditions by decreasing illnesses related to work and to decrease the number

²⁴ For this part, refer to section 3.2 *Propose and implement a broad pension reform.*

of reclassification cases. To achieve this, experts in the area of working conditions would be available to companies who seek them, to prepare preventive plans.

It is also appropriate to address the issue of the age pyramid in the Luxembourg civil servant system in order to improve the work participation rate of older civil servants in the government. An action plan recommending four specific actions in the area of ages was determined by the Government. More specifically, this involves establishing a system for analyzing and monitoring age structures, setting up an awareness and training program in the area of health management with an emphasis on older workers and maintaining peoples' capacity for work, the introduction of a continuing education program that takes the age dimension into account and an awareness campaign for executives responsible for the management of staff in the ministerial departments, administrations and services. This action plan is a supplement to the measures provided for under the salary status reform in the Civil Service, mentioned in the 2012 NRP. These measures are now draft laws and Grand Duchy regulations that are currently in the legislative and regulatory pipeline. In the last quarter of 2012, an action plan was drawn up for managing the age pyramid on the basis of a comparative study analyzing programs implemented in foreign Civil Services. In early January, 2013, the Government approved the action plan. The action plan will be implemented in 2013 and is expected to provide a more detailed analysis of the working rate of civil servants over recent years in order to better monitor changes and to set out precise objectives in terms of age management and set up a policy for managing age pyramids within the Civil Service and for awareness of human resources managers with regard to managing age. The expected contribution is to support trends of people working to older ages and to decrease the pension budget because people will retire later.

- A Center for analyzing and promoting working conditions will also be established. The objective of the Center will be to improve working conditions by decreasing illnesses related to work and to decrease the number of reclassification cases. To achieve this, experts in the area of working conditions would be available to companies who seek them, to prepare preventive plans.

e. Measures supporting persons with specific needs.

The Government has taken a series of measures with the objective of improving processes for accommodating persons with specific needs and promoting their reinsertion into the labour and employment market.

- The government shall continue to consider accessing employment and integration into the primary labour market, as well as providing protected structures offering jobs to handicapped persons as a priority, since employment is a key factor for integrating such persons. This integration will promote autonomy and economic independence of these persons. A conference dealing with handicaps and employment brought together the persons concerned last year - handicapped workers, managers of protected structures, employers and unions - to draw up a list of priorities in the domain and to share good practices in recruiting.
- In 2013, the "Protected Workshops" will, in concert with the Ministry of Labour and Employment, prepare a report on the accomplishments of the amended law dated 12 September, 2003 on the integration of handicapped persons.
- Awareness campaigns will be launched targeting the public and private sectors. These measures include the support of job coaching projects, initiatives aimed at integrating handicapped people into the labour market and providing follow-up.

- A special effort will be extended to the category of job seekers designated as “externally reclassified”²⁵. They will receive improved follow-up for re-insertion appropriate to their situations. More generally, a draft law on the modification of the reclassification system was finalized by the Ministry of Labour and Employment and by the Ministry of Social Security. The modifications aim at accelerating procedures, more thorough preservation of individual rights in external reclassification and the creation of conditions conducive to favoring internal reclassification. The concept is based on supporting companies in their efforts to improve working conditions, by making experts available, by emphasizing internal reclassification, i.e. within a worker’s same company, in external reclassification efforts, and above all, improving reinsertion of reclassified persons in a job²⁶.

4.2 The R&D objective and key measures for achieving it

European Objective: "improving the conditions for research and development, in particular with the aim of raising combined public and private investment levels in this sector to 3% of GDP; the Commission will elaborate an indicator reflecting R&D and innovation intensity."

4.2.1 National Target

The government has set an **interval of 2.3 to 2.6% of GDP as a national goal for R&D intensity**, under the Europe 2020 strategy. As a sub-objective for 2020, the government has set an interval of between 1.5% and 1.9% for the private sector and 0.7% to 0.8% in the public sector. The government's intermediate objective is an overall intensity rate of 2% by 2015.

Table 3: Changes in budget allocations for RDI from 2000 to 2014

	2000	2006	2007	2008	2009	2010	2011	2012	2013	2014*
Mn €	28,0	113,8	142,6	183,1	200,2	247,7	253,4	271,3	280,1	292,0
% GDP	0,13	0,34	0,38	0,49	0,56	0,62	0,60	0,62	0,62	0,63

Remarks: * estimated

Source: Ministry of Higher Education and Research

The Government’s R&D budgets have continued to increase, both in the public and private sectors, with allocations evolving from 28 million Euros in 2000, representing 0.13% of GDP, to 280.1 million Euros in 2013, 0.62% of GDP. The change alone in budget allocations suffices to illustrate the Government’s determination to expand RDI and to make it a sustainable policy for developing and diversifying the country.

Table 2: Changes in gross domestic expenditures and in intensity of research by sector

	Public research € Mn.	Intensity (€ / GDP)	Private research € Mn.	Intensity (€ / GDP)	Total € Mn.	Total (€/GDP)
2000	27,5	0,13	337,0	1,53	364,5	1,66
2005	64,0	0,21	408,0	1,35	472,0	1,56
2006	78,5	0,23	485,0	1,42	563,5	1,65
2007	96,6	0,26	495,0	1,32	591,6	1,58
2008	136,8	0,37	482,0	1,29	618,8	1,66
2009	149,6	0,42	470,7	1,30	620,3	1,72
2010	191,6	0,48	400,0	1,00	591,6	1,48
2011*	215,0	0,50				
2012*	235,0	0,54				

²⁵ Persons who are externally reclassified are persons with a reduced capacity for work who cannot work at the last position they occupied and cannot be reclassified into a job that fits their capacities within the same company. They are consequently reclassified to another company wherever possible.

²⁶ See section 3.2 *Propose and implement a broad pension reform*

2013*	250,0	0,56				
2014*	265,0	0,57				

Remarks: * estimated

Source: Ministry of Higher Education and Research

In 2010, private sector research represented two thirds of all research expenditures nationally. It should be noted that the proportion of public sector research has continued to grow over the course of the past decade, transitioning from 7.5% of all research expenditures in 2000 to 32.4% of all research performed in the nation in 2010. This change is one consequence of the political actions of the governments since 1999, evinced through the setting of research intensity development objectives articulated through expenditure objectives, the establishment of the University of Luxembourg, membership in international organizations such as the European Space Agency and the European Molecular Biology Laboratory, as well as the introduction of performance contracts, to name only a few of such actions.

Table 3: Financial contributions by the Government and Third Party financing for the period 2008-2013
(Actual figures for 2008-2010 and approved figures for 2011-2013)

University € Mn.	2008*	2009*	2010*	Σ 2008-10	2011**	2012**	2013**	Σ 2011-13
CFE	80,0	92,9	91,1	264,0	106,0	116,8	128,7	351,5
Third party financing	8,8	12,7	16,3	37,8	18,0	20,0	23,0	61,0
Total	88,8	105,6	107,4	301,8	124,0	136,8	151,7	412,5

CRP/CEPS € Mn.	2008*	2009*	2010*	Σ 2008-10	2011**	2012**	2013**	Σ 2011-13
CFE	51,4	55,1	61,6	168,3	66,3	67,0	68,0	201,3
Third party financing	26,2	32,7	32,6	91,5	42,6	43,0	44,4	130,0
Total	77,6	87,8	94,2	259,8	108,9	110,0	112,4	331,3

FNR € Mn.	2008*	2009*	2010*	Σ 2008-10	2011**	2012**	2013**	Σ 2011-13
CFE	27,4	28,2	40,3	95,9	35,2	45,0	52,0	132,2
Third party financing	2,6	3,8	2,5	9,9	2,1	1,6	0,7	4,4
Total	30,0	32,0	42,8	104,8	37,3	46,6	52,7	136,6
Expenditures	13,3	29,5	40,6	83,4	53,2	60,8	61,0	175,0

Note: *actual figures for 2008-2010 and **approved figures for 2011-2013

Source: Ministry of Higher Education and Research

4.2.2 Key measures

- a. With regard to the national public research objective, government action in 2012 focused on:
 - The draft law amending amended law dated 31 may, 1999 creating a National Research Fund (NRF) for the public sector. In view of modernizing the NRF public establishment, the modifications recommended appear on four levels.
 - Updating of FNR missions: The draft law reformulates NRF missions by highlighting its role as purveyor of funds and its importance as a central instrument for implementing the Government's policy. Furthermore, from now on, NRF will actively contribute to adding value to public research. The support activities provided by NRF for research and researchers will be supplemented in the future by initiatives and value of results approaches in the future, with the aim of maximizing economic, social and cultural impact.

- Redefining the framework of organizations eligible for NRF intervention: Three categories of beneficiaries will now have access to NRF financing - public establishments whose primary corporate purpose is legally registered as research, public organizations, services and entities engaged in research activities in the domains that relate to them and non-profit associations and foundations involved in activities in the domains that relate to them.
 - Improvement of governance: the draft law stipulates that relations between the NRF and the State be regulated by a multi-year agreement that concerns the general policy of NRF, its strategic choices, its activities and objectives to be achieved and the resources made available by the State. The draft law furthermore introduces a separation of powers between the Board of Directors, who will now be responsible for setting general policy and strategy, and the Secretary General, who will be the Chief Executive responsible for day-to-day management.
 - Introduction of "collective" training-research aid: The draft law introduces the possibility of "collective" training-research aid (AFR): Host entities submit applications for collective AFR grants. Applications are made on the basis of a multi-year program for research and training that should provide a detailed description of the size of the doctoral school in terms of researchers in training for a period of three to four years.
- The draft law for setting up public research centers and establishing LIST, Health and CEPS public research centers. The modifications recommended with relation to the law dated 9 March 1987 appear on four levels:
 - Status of Public Research Centers (CRP): The purpose of the draft law is to set out a general framework for CRPs and to set up each CRP as an individual public entity. Furthermore, the CRPs will now enjoy financial, scientific and administrative autonomy, justifiable by the critical mass of the Centers in terms of budget and personnel.
 - CRP missions include: The draft law takes most of the general missions for CRPs that appear in the law dated 9 March, 1987 and provides more specifics. The primary missions of the CRPs included undertaking research, development and innovation activities to promote the transfer of knowledge and technologies as well as scientific and technological cooperation domestically and internationally. The draft law also has the purpose of determining the specific assignments of the three CRPs in order to better showcase the complementary fit of the three public establishments.
 - CRP governance bodies: The draft law provides for a four-year agreement for managing relations between the State and the CRPs with regard to general CRP policies, strategic choices and objectives to reach, and with regard to the resources made available by the State. This approach, which seeks to reinforce autonomy of CRPs, also implies an adjustment in governance within the Centers. In this way, the Board of Directors will be made up strictly of persons external to the CRP and its primary responsibility will be to determine overall policy and strategy of a CRP. The function of Government commissioner is maintained. The Managing Director of the CRP becomes the Chief Executive responsible for making all decisions relating to daily management of a CRP. The Collaborative Council will be a consultation entity, made up solely of persons inside the CRP, who will participate in determining RDI policy for the CRP and in particular for its human resources policies.
 - CRP staff: The draft law provides for linking CRP staff through private sector work contracts and mandatory establishment of a career management system and determination of recruitment and promotion terms. Lastly, it provides for establishing CRP internal rules, determining the rights and obligations of researchers, as well as their

roles and the responsibilities and prerogatives of the CRP as an employer. The rules use the general principles and basic conditions of the European Commission recommendation dated 11 March, 2005.

Apart from these items, the draft law contains two additional elements:

- The pooling of CRP-Gabriel Lippmann and CRP-Henri Tudor: The boards of directors of these two CRPs adopted a joint declaration of intent in April, 2012, whose purpose was to consider the pooling of the two establishments into a single entity, thus expressing their mutual desire to ultimately establish a national interdisciplinary skills center with international scientific recognition and a major impact on innovation. Implementing the Lippmann-Tudor CRP amalgam is being considered under this draft law and will be accomplished progressively, in stages, beginning in April, 2012, with the public announcement of the pooling proposal, through to December, 2014, with unified operational functioning.
 - The integration of the Integrated BioBank of Luxembourg (IBBL) into the Health CRP: In 2008, the Government indicated its approval of the implementation of a biobank under the BioTec initiative. The IBBL was established in September, 2008 under the legal form of a foundation, with the three CRPs and the University of Luxembourg as founding members. The draft law provides for integrating IBBL into CRP-Santé, providing it with a status as a clearly identified structure and giving it autonomy within the CRP, by means of a specific multi-year agreement and autonomous management, with the understanding that IBBL will function under the administrative supervision of CRP-Santé.
- The second founding contract for 2010-2013 with the University of Luxembourg and the 2011-2013 performance contracts with the public research centers for Health, Gabriel Lippmann, Henri Tudor, the CEPS, the National Research Fund (FNR) and Luxinnovation.²⁷
 - Concentrating the nation's R&D effort on a limited number of priority domains, especially the FNR CORE and INTER programs for 2008-2013. In 2012 the CORE program supported 39 projects, representing a sum of € 22.0 million and the INTER program supported 19 projects, representing a sum of € 5.6 million.
 - The 2008-2013 aid program for research-training (AFR) of the NRF, which supported a total of 94 out of 250 doctoral proposals in 2012, a percentage of 37.6%, and 55 out of 114 post-doctoral proposals, 48.2% of applications, in the amount of some € 20.8 million. At the end of 2012, NRF had supported a total of 425 doctorate and 113 post-doctorate candidates, for a total of 538 projects under the AFR program, of which 39 research projects were carried out under a public-private partnership (AFR-PPP). The post-doctorate section is co-financed by the European Commission through its FP7-COFUND in the amount of € 3.1 million for 2009-2012 and again for 2012-2015, with a contribution of €4.2 million.
 - The 2008-2013 ATTRACT program of the NRF, with the financing of two ATTRACT projects amounting to financial support of € 3 million over five years.
 - The implementation of a pilot program entitled "OPEN", with an annual budget of €1 million to support excellent scientific research projects outside of the thematic priorities

²⁷ With regard to aligning the 2011-2013 performance contract for Luxinnovation with government priorities in the area of RDI, in a preliminary version, the counting of several indicators has still not been validated and achievement rates of quarterly objectives, for which reference periods are the years 2011-2013, are between 40 and 110%, with the exception of a number of spin-offs of public research entities supported by Luxinnovation (Objectives for 2011-2013: 9 ; Achieved in 2011-12: 2 i.e. 22%).

currently covered by the CORE program, with the idea of possibly developing emerging themes.

The Government action is a steadfast component of the knowledge triangle concept that aims to bolster the link between research, higher education and innovation in the Esch-Belval Cité des Sciences. From this perspective, the Government actively supports *start-ups* and *spin-offs* within host structures for young innovative companies by providing adequate supervision in the Esch-Belval and Foetz incubators. In July, 2012, the new incubator Technoport S.A. was inaugurated, bringing together the various existing host infrastructures under a single governance structure, *Technoport Schlassgoart* of the Henri Tudor CRP and the *ecostart* center of the Ministry of the Economy and Foreign Trade.

The initiatives seeking to exploit the innovation potential in SMEs have multiplied as from 2011, with a series of territorial seminars on management of organized innovation by Luxinnovation in collaboration with the Chamber of Trades and specifically targeting artisan SMEs. Additional actions were developed with the generalist training cycle on Innovation Management Techniques²⁸ and the *Luxembourg Innovation Masterclass* event²⁹. In addition, projects favoring the promotion of *design* and creativity were completed, under which the 4th edition of the Genial competition for young people was carried out.

In the area of promoting intellectual property rights, the Intellectual Property Rights Office on the Ministry of the Economy and Foreign Trade carried out numerous awareness actions in 2012, including information cycles on intellectual property rights in the form of IP Tuesdays, and the IP Day 2012 conference that brought together several hundred persons. With the help of the Technological Monitoring Center (CVT), a joint structure comprising the Ministry of the Economy and Foreign Trade and the Henri Tudor CRP, the following project intervention actions were completed:

- The "Boost IP" project, financed by the FEDER and supported by the Ministry of the Economy and Foreign Trade through its intellectual property awareness efforts directed at companies, primarily SMEs in the eco-technology and artisan sectors. Diagnostics of intellectual property practices are offered by means of an individual and personalized interview. In 2012, around 33% of companies contacted were granted a personalized interview. In addition, 14% of SMEs who had a personalized interview expressed interest in carrying out a financial evaluation of patents.
- The *IPR Helpdesk* consortium³⁰, a premier counseling service in the area of intellectual property for all research project sponsors for European projects and European SMEs. In this context, the CVT successfully contributed to the implementation of the service. The CVT also participates in the development of training and services for the IPR Helpdesk publications. In 2012, CVT contributed to numerous IPR Helpdesk activities, such as the drafting and publication of *fact sheets*, case studies, preparing a scenario for a role-playing exercise in cooperation with the OEB academy and the implementation of an organization for managing IPR Helpdesk partnerships.

The 5th edition of the "*Business Meets Research*" Luxinnovation forum was held in May, 2012 with some 400 participants, mainly from Luxembourg and the Greater Region. For the first time, a partner region was associated with the event: the Sarre, which is studded with quality research

²⁸ For more details see: www.innovation-management.lu

²⁹ For more details see: www.innovation-masterclass.lu

³⁰ For more details see: www.iprhelpdesk.eu

institutions and numerous innovative companies, making it a choice partner for players in Luxembourg. The principal element was the *Innovation Matchmaking* phenomenon, bi-lateral meetings set up on request, with several hundred pre-programmed interviews. The *Science Career Matchmaking* event was organized simultaneously by Luxinnovation and the NRF. This *networking* session sought to promote meetings between highly qualified candidates, all doctorate or post-doctorate researchers under the NRF research-training program, and companies assuming the role of potential employers.

In the area of promoting research and innovation in Luxembourg to a domestic and international audience, it is appropriate to cite the 6th edition of "*FOCUS on Research and Innovation in Luxembourg – Making Materials Smarter*" published in June, 2012, and the Luxembourg portal for innovation and research with its average 10,500 visits per month and 8,500 single visitors per month.

The objective of the *Luxembourg Cluster Initiative* is to increase competitiveness and diversification of the Luxembourg economy. This initiative is set up around five thematic clusters: *the Luxembourg Materials Cluster for materials and technology for production, the Luxembourg ICT Cluster for ICT, Luxembourg Space Cluster concerning aeronautics and space, Luxembourg BioHealth Cluster for health sciences and technologies and Luxembourg EcoInnovation Cluster focusing on ecotechnologies and sustainable development*. This is an effective instrument for assembling the resources necessary to achieve a critical mass, to accelerate the transfer of knowledge and good practices and to increase visibility of Luxembourg players on the international scene. Thus in 2012, the clusters implemented their specific work plans and distributed their services to the benefit of their members³¹.

The Government also made the commitment to promote innovation projects in the domain of producing and disseminating documentary and intellectual content services. This activity will be supported by the National Library (BnL), the National Archives (AnL) and by policies promoting "Digital Humanities" such as the AnL/BnL digitization of documents, the BnL trademark registration, long-term digital conservation of items and structured metadata BnL. These initiatives will provide the resources for research and cultural advancement that are essential to remain competitive.

b. With regard to achieving national targets in the area of private research, government action was based on the following measures:

- Encouragement of RDI efforts throughout the innovation chain. Following a rise in new RDI aid applications in 2010 of 83.3% with relation to 2009 - quite spectacular in light of the crisis - new applications in 2012 scored a new record with 88 new applications. Note that the performance contract with the national Luxinnovation agency³² for 2011-2013 targeted 80 new applications for RDI or environmental protection and rational energy use aid on the average per year. This is therefore the first time that this stage has been reached for RDI applications alone. Over the entire 2008-2012 period the number of private RDI projects and programs financially supported by the Government more than tripled. Over the same period, RDI expenditures forecasted by companies that the supported projects and programs were to benefit increased on the average by over 62%, with a peak of €130 million in 2010. The percentage of applications

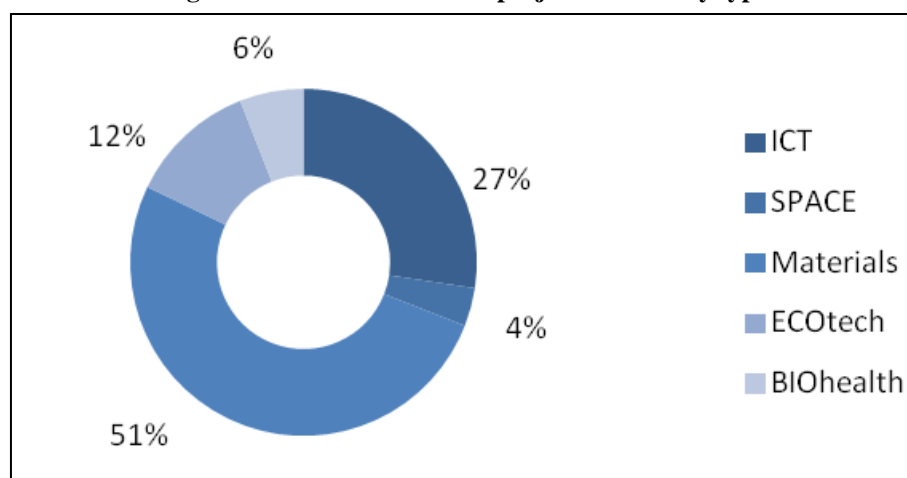
³¹ For more details see: www.clusters.lu

³² It should be emphasized that the 240 new aid applications motivated by Luxinnovation between 2011-2013 refers to not only those under the law dated 5 June 2009 for promoting RDI, but also covers those submitted based on the law dated 18 February 2010 on the protection of the environment and the rational use of natural resources.

submitted by SMEs rose from 18% in 2008 to 24% in 2012. While technological R&D remained the most representative of the RDI effort, nearly one third of aid applications (31%) in 2012 applied to new aid schemes under the 5 June, 2009 for promotion of RDI³³. Over the period 2009-2012, 21 feasibility studies were sought, 18 business plan applications for grants to new innovative companies. In view of the difficult economic context, it is therefore logical to conclude that this State aid is an adequate incentive for RDI and in particular, that it generates increasingly greater innovation efforts among SMEs.

- Implementation of particular action plans to promote logistics, health technologies and eco-technologies: The figure below breaks down the projects that received State grants in 2012 according to type of RDI project undertaken and indicates that this support is primarily concentrated in the sectors designated as priorities by the Government for the scientific and economic development of the country.

Figure 1: Breakdown of RDI projects in 2012 by type



Source: Ministry of the Economy and Foreign Trade (February 2013)

- A significant increase in investments in international programs and initiatives and better financial return on investments: This involves participation in the 7th R&D Framework Program, in the CIP program, in the initiatives under articles 185-187 of the Treaty and in the ESA programs. The investment figures have not currently been determined for all of these programs and initiatives, especially with regard to the ESA programs, which are only available for the first half of 2011. The report, especially with regard to financial return, must still be considered incomplete and temporary. Within the limitations stated above, Luxembourg has recorded a financial return of €24.28 million, compared to €17.47 million in 2011, which represents a success rate of 64% of the €65 million it set as an objective for the three-year period from 2011-2013. Overall, the participation in terms of volume of Luxembourg in the 7th Framework Program for 2007-2013 is tending toward an increase. This increase in some ways follows changes in budget allocations to calls for proposals of the 7th Framework Program that have nearly doubled between 2007 and 2012. This encouraging result is certainly due to the promotion and consulting efforts of Luxinnovation that were carried out in 2012. The spring 2012 information days during the *European Funding Week* concentrating on themes and content

³³ In particular, these are grants for feasibility studies, protection of technical industrial property, for young innovative companies, for innovation consulting and support services, for process and organizational innovation in investment services of innovation hubs and their management, and de minimis aid. It should be noted that some of these aids that were essentially for initiating an innovative approach with a company that has not yet acquired experience in the domain are reserved for SME.

of upcoming calls for proposals was a highlight of this campaign. Several hundred entrepreneurs and researchers attended this event. Furthermore, the agency set up the first specialized training program in the autumn of 2012, christened *FP7 Autumn School*, in close cooperation with all the Luxembourg public research organizations. This event attracted several dozen researchers and entrepreneurs. The objective was to instruct on how to improve preparation of project proposals in order to increase success rates in a very highly competitive program. Regarding ESA programs, in 2012 Luxembourg became the largest contributor in terms of percent of GDP, also increasing the stake of its promotional, consulting and networking stake to be handled by Luxinnovation to contribute to achieving the best financial return possible. Temporary figures for 2012 are encouraging. Over 50 new projects submitted during the year were assisted by the agency. The number of investment contracts by Luxembourg companies signed during the year was 29. Financial return on these investments amounted to €16.6 million.

4.3 The climate change and energy objective and the key measures for achieving it

European Objective: *"reducing greenhouse gas emissions by 20% compared to 1990 levels; increasing the share of renewables in final energy consumption to 20%; and moving towards a 20% increase in energy efficiency; the EU is committed to taking a decision to move to a 30% reduction by 2020 compared to 1990 levels as its conditional offer with a view to a global and comprehensive agreement for the period beyond 2012, provided that other developed countries commit themselves to comparable emission reductions and that developing countries contribute adequately according to their responsibilities and respective capabilities".*

This climate change and energy objective is based on European Council decisions within the context of the "Climate and Energy Package" of March, 2007, which put greenhouse gas (GHG) reductions for Luxembourg at 20% by 2020 with relation to the year 2005 in the sectors not covered by the EU Emissions Trading System (ETS)³⁴. In the area of energy, Luxembourg's objectives for 2020 are a share of 11% of renewable energy resources in the final energy consumption and 10% of renewable source fuels in the final energy consumption in the transportation sector³⁵. An improvement in energy efficiency is included in this program.

4.3.1 Greenhouse gas emissions target

4.3.1.1 National greenhouse gas emissions target

The most recent inventory of GHG emissions in Luxembourg covers the period of 1990-2011³⁶. It indicates that total emissions amounted to 12.1 million tons of CO₂-equivalent for the year 2011, excluding international aviation and land use, land use change and forestry (LULUCF)³⁷, some 150,000 tons of CO₂-equivalent less than 2010. Emissions have even decreased with respect to 2005 by 1 million tons of CO₂-equivalent, a drop of 7.6%. It was only in 2009, a year that was

³⁴ Appendix II of Decision 406/2009/EC of the European Parliament and the Council of 23 April 2009 on the effort of Member States to reduce their greenhouse gas emissions to meet the Community's greenhouse gas emission reduction commitments up to 2020.

³⁵ Objectives stated for Luxembourg in Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources.

³⁶ In accordance with Decision No 280/2004/EC of the European Parliament and the Council of 11 February 2004 concerning a mechanism for monitoring Community greenhouse gas emissions and for implementing the Kyoto Protocol, estimates of GHG emissions for a year X should be submitted to the Commission by 15 January of the year X+2

³⁷ The Department of the Environment of the Ministry of Sustainable Development and Infrastructure will soon prepare an initial estimate of emissions for 2012. It will be submitted to the Commission via the European Environment Agency in the summer of 2013.

particularly impacted by the financial and economic crisis, that lower emission levels were recorded, with 11.7 million tons of CO₂-equivalent. Despite the significant decreases recorded since 2005, these amounts are well above the 9.5 million tons of CO₂ equivalent that Luxembourg committed to as part of the Kyoto Protocol³⁸. Since then, Luxembourg has been using the flexible mechanisms provided for under the Protocol, but in proportions clearly lower than originally estimated. In 2006, with the submission of the second “National Allocation Plan” relating to ETS to the Commission³⁹, use of the flexible mechanisms was estimated at 23.65 million tons of CO₂-equivalent. At present, this estimate is closer to 13 million tons of CO₂-equivalent. At the same time, the price of the ton of CO₂ has considerably dropped, making the cost of using this mechanism even lower with relation to original estimates.

For the post-Kyoto period of 2013-2020, only those sectors not covered by the ETS have objectives set by Member States. For Luxembourg, this emissions reduction **objective excluding ETS amounts to 20% of the 2005 level for 2020**. As such, Luxembourg could release 8.325 million tons of CO₂ equivalent that year⁴⁰. Between 2013 and 2019, intermediate objectives should be met along a linear trajectory for which the starting point, in 2013, is comprised of average emissions excluding ETS for the years 2008-2010. Here, the economic crisis effect exercises a clear negative impact on Luxembourg, lowering its budget of emissions for 2013 and beyond. Luxembourg estimates that, if no further measures are implemented, the deficit to make up for the period 2013-2020 could amount to 12 million tons of CO₂-equivalent using the most conservative assumptions in the realm of emissions forecasts in Luxembourg between now and 2020. Over this eight-year period, using external credits will certainly prove necessary, however the volumes in question will nonetheless be lower than for the Kyoto phase, notably because of national measures that have been implemented or are under consideration.

Table 6: Changes in GHG emissions, excluding LULUCF for certain selected years (in million tons of CO₂e)

Source	1990	1995	1998	2000	2005	2006	2007	2008	2009	2010	2011	2010/1990	2010/2009
Heat and electricity production	0.04	0.09	0.15	0.12	1.24	1.31	1.18	1.00	1.20	1.21	0.99	2373.0%	-18.2%
Industrial production	7.93	4.36	2.11	2.21	2.31	2.44	2.32	2.14	2.01	2.10	1.96	-75.3%	-6.7%
Road transport: domestic fleet	0.91	1.25	1.32	1.50	1.53	1.64	1.67	1.72	1.74	1.77	1.81	98.9%	2.3%
Road transport: road fuels exports	1.76	2.17	2.57	3.33	5.46	5.05	4.75	4.83	4.25	4.60	5.02	185.2%	9.1%
Households, businesses and services	1.31	1.39	1.56	1.67	1.68	1.66	1.58	1.63	1.61	1.69	1.46	11.5%	-13.6%
Agriculture	0.76	0.75	0.75	0.77	0.72	0.71	0.72	0.72	0.74	0.75	0.72	-5.3%	-4.0%
Other sources	0.20	0.17	0.19	0.17	0.15	0.15	0.15	0.14	0.15	0.14	0.14	-30.0%	0.0%
Total GHG emissions, excluding LULUCF	12.91	10.18	8.65	9.77	13.09	12.96	12.37	12.19	11.69	12.26	12.10	-6.3%	-1.3%
Amount under the Kyoto Protocol	13.17											-8.1%	

Source: Ministry of Sustainable Development and Infrastructures, submission 2013v1.2 dated 15 March, 2013

³⁸ In 2011, GHG emissions were 8.1 % lower than the base year of 1990. Luxembourg set an objective of reducing its emissions by 28 % of the base year between now and the period covered by the Protocol, i.e. end of 2012.

³⁹ For more details see: http://www.environnement.public.lu/air_bruit/dossiers/CC-PN_allocation_quotas_GES/index.html

⁴⁰ This does not take into account the adjustment under Article 10 of Decision 406/2009/EC, for which the calculation is still being finalized at the European level.

Table 7: Indicative trajectory for GHG emissions, excluding LULUCF & ETS under EC decision 406/2009/EC (in million tons of CO₂e)

	2005	2008	2009	2010	2013	2014	2015	2016	2017	2018	2019	2020
Total GHG emissions, excluding LULUCF	13.01	12.09	11.55	12.11								
Commercial air emissions (domestic flights)	0.00	0.00	0.00	0.00								
ETS emissions verified in the CITL	2.60	2.10	2.18	2.25								
Annual emissions allocations					9.74	9.54	9.33	9.13	8.93	8.73	8.53	8.32
Contribution to adapting to ETS (Art. 10)					0.28	0.27	0.27	0.26	0.25	0.25	0.24	0.24
Annual adjusted emissions (Art. 10)					9.46	9.27	9.07	8.87	8.68	8.48	8.28	8.08

Source: DG CLIMA, on the basis of submission 2012 v1.2 corrected for recommendations and adjustments of the 2012 European review of the inventory.

Note: The "annual emissions allocations" are published in Appendix I of the Commission Decision *on determining Member States' annual emission allocations for the period from 2013 to 2020 pursuant to Decision No 406/2009/EC*.

4.3.1.2 Key measures ⁴¹

The year 2012 featured the continuation of the implementation of the first "CO₂ Emissions Reduction Action Plan" adopted by the Government in April, 2006 and supplemented in 2007. This Plan contains numerous measures in the area of transportation, construction, renewable energies, industry, information, awareness, consulting and energy training. At the same time, implementation of the reductions in GHG emissions set out in the Environment and Climate Partnership was begun. This partnership, launched in February, 2010, brings together representatives of the government, the unions, employers, the SYVICOL town and village union and non-government organizations (NGOs). Among the tasks is the drafting of the second "CO₂ Emissions Reduction Action Plan", which the Government expects to adopt in the second quarter of 2013.

In the area of housing, the Grand Duchy regulation adopted in May, 2012 is at the core of the principal measures⁴². It introduces an ambitious schedule in progressive increases in energy performance requirements for new residential buildings. Concomitantly, the Government finalized a new financial aid scheme that it calls *PRIME House*⁴³. This new aid scheme for energy savings and the use of renewable energy in the area of housing entered into effect in January, 2013 and takes the place of the previous scheme used from 2008-2013. It is a fundamental revaluing of measures implemented in the area of energy renovations aimed at potentially major energy savings that could be acquired through energy improvements in existing homes. The budget envelope for the period 2013-2016 amounts to around € 90 million.

In the area of transportation, since the introduction of *PRIME CAR-e* financial aid for low fuel consumption vehicles in 2007, and the implementation of the awareness campaigns, market share for this type of vehicle has increased significantly. More than one car out of three, i.e. 37.3% of vehicles registered in 2012, produces emissions lower or equal to 120 grams of CO₂/km, compared to only 11.9% in 2007. A rapid drop in average CO₂ emissions of new vehicles registered each year has also been noted. The average figure is 138.4 grams of CO₂/km travelled in 2012, a 3.3% drop with relation to the average figures of vehicles newly registered in 2011 and a 16.6% decrease compared with average figures for 2007. A Grand Duchy regulation on 18 February, 2013 extended

⁴¹ For more details, also see section 3.5 *Keep to the greenhouse gas emission reduction objectives*

⁴² Grand Duchy regulation dated 5 May, 2012 amending 1. Amended Grand Duchy regulation dated 30 November, 2007 concerning energy performance of residential buildings ; 2. Grand Duchy regulation dated 31 August, 2010 concerning energy performance of commercial buildings.

For more details see: <http://www.legilux.public.lu/leg/a/archives/2012/0096/a096.pdf#page=2>

⁴³ For more details see: http://particuliers.myenergy.lu/files/Aides%20financieres_PRIME%20House%202013-2016_V2.pdf

the *PRIME CAR-e* aid for another year in the amount of € 5,000 for vehicles propelled exclusively by electric motors - pure electric vehicles - as well as for *plug-in* hybrid electric vehicles that can be externally recharged, provided that emissions are lower than 60 grams of CO₂/km. The aid scheme was also extended to cover electric utility vehicles⁴⁴. This reorganization of the aid scheme underscores the Government's desire to strongly develop electric powered mobility. Thus, in addition to its active participation in the *electromobilité.lu* platform, the Government financially supports pilot projects in the area of electric mobility. In 2011, it also launched a technical-economic study on the domestic implementation of electric mobility in Luxembourg. The joint study by the Ministry of the Economy and Foreign Trade and the *Institut Luxembourgeois de Régulation* resulted in setting out a shared national concept for implementing electric mobility in Luxembourg involving required public recharging infrastructure, cost, financing, installation and operations, with implementation to begin at the end of 2013.

A large part of the costs corresponding to the measures integrated into the second "CO₂ Emissions Reduction Action Plan" will be financed by the "Climate and Energy Fund" that was established on 23 December, 2004⁴⁵ to finance draws from the flexible mechanisms, then later to finance energy efficiency and renewable energy measures. This Fund receives an annual budget allocation, but is primarily funded by receipts from an additional road fuel tax for gasoline and diesel known as the Kyoto-cents, and by 40% of the receipts of the annual road tax for private vehicle calculated on the basis of CO₂ emissions. It is however a dangerous venture to provide accurate estimates of the cost of national measures in upcoming years as well as expenses related to emission rights that it will be necessary to acquire in order to achieve the 20% reduction objective for emissions in 2020. Indeed, 55% of total GHG emissions excluding LULUCF originate from road fuel sales, with 15% linked to residents and 40% to non-residents. Future changes in price differentials between Luxembourg and neighboring countries are fraught with uncertainty. The same is true with regard to carbon pricing, which is currently very low, but which will have to increase substantially for the carbon market to be effective economically. In addition, the possibilities of cooperation are marked by a wide degree of unpredictability with regard to use of external credits under the Kyoto Protocol, which was extended to 2020 by a limited number of Member States at the UNFCCC conference in December, 2012, and with regard to other Member States under EC Decision 406/2009. Based on very conservative assumptions, Luxembourg is expecting a deficit in emission rights approaching 12 million tons of CO₂-equivalent for the period 2013-2020⁴⁶, which will be multiplied by a price per ton that could vary between €10 to 15 according to some sources, and up to € 39 according to EC forecasts appearing in its evaluation of the "Climate and Energy Package" impacts.. The "Climate and Energy Fund" will finance these emission rights expenses as well as a good part of the national GHG emissions reduction measures. In all, forecasts for annual costs of the Fund come in at between €135 – 150 million for the period 2013-2016.

Together with the Environment and Climate Partnership, work on the "Climate Pact" with municipalities was completed in 2012. This work has been in progress since early 2010 by the Ministry of Sustainable Development and Infrastructures together with the Ministry of Home Affairs and the Greater Region, SYVICOL and the *myenergy* economic interest group. This is a key aspect of the GHG emissions reduction policy in Luxembourg. Through the "Climate Pact", the State is offering a legislative technical and financial reference point to communities to facilitate

⁴⁴ For more details see: <http://www.car-e.lu/>

⁴⁵ The Law dated 23 December 2004 1) establishing a system for the exchange of greenhouse gas emission quotas; 2) setting up a fund to finance Kyoto mechanisms; 3) amending article 13bis of the amended law dated 10 June 1999 concerning classified establishments.

For more details see: <http://www.legilux.public.lu/leg/a/archives/2004/0210/a210.pdf> (pp. 3792-3799)

⁴⁶ Compared to 13 Mt CO₂-equivalent for the Kyoto period (see above).

targeted action in the fight against climate change. The law dated 13 September, 2012 creating the “Climate Pact” with municipalities empowers the State to provide financial and technical support to communities, who are members of the pact between 1 January, 2013 and 31 December, 2020⁴⁷. The goals pursued by the “Climate Pact” consist in strengthening the exemplary role of municipalities in climate policy, reducing GHG emissions and the energy bill on municipal territory and stimulating local and regional investments. Concluding the “Climate Pact” contract between a municipality and the State implies commitments by both parties to the agreement: each municipality must commit to implementing a quality management system of its energy and climate policy, to wit, the *European Energy Award* – EEA. The EEA is rounded out by quantifiable measures for reducing CO₂ emissions. Furthermore, each participating community agrees to set up an energy accountability system for its infrastructure and municipal departments within two years. The State provides a guarantee of financial support and technical assistance to municipality in return. Technical assistance will be provided by *myenergy*, the nationwide information and consulting entity working in the area of energy efficiency and renewable energy sources. The municipality may subsequently be awarded a certification depending on the extent to which the EEA measures catalogue has been achieved. Financial aid provided by the State under the “Climate Pact” seen as a whole is comprised of five elements:

- A fixed annual grant of € 10,000 for operating expenses
- The State bears the cost of fees of internal and external climate consultants
- A variable annual subsidy, call the “Climate Pact Bonus”, varying between € 5 to 35 per inhabitant with a ceiling of 10,000 inhabitants granted to communities that have achieved the three certification levels. This bonus, which depends on the number of inhabitants of a municipality, the level of certification achieved and time the certification takes place, is intended to encourage communities to implement the measures in the work program and is a reward for achieving these measures.
- Financing of municipal projects through environmental protection funds, for which budget resources will be increased
- Assumption by the State of the costs for administration and technical assistance under the “Climate Pact” project provided by *myenergy*.

The budget envelope for the “Climate Pact”, including implementation of projects, amounts to around € 160 million for the period 2013-2020.

The Climate Package includes a mobility section that includes the measures belonging to this domain and listed in the 2012 NRP. The overall sustainable mobility strategy for resident and cross-border persons was published in April, 2012. It is known as ”MoDu” and has four objectives: development of the territory, soft mobility, public transportation and promoting an alternative to driving cars. In a motion adopted after consultative debate in June, 2012 on the concept of mobility and the City of Luxembourg tramway, Parliament confirmed this strategy. An essential link of the MoDu strategy is the City of Luxembourg tramway project, which is placed as the principal artery in the mobility chain concept for linking the various development poles of the capital. This project will break up the bottleneck choking public transportation in the main avenue of the capital and accommodate increased passenger flows toward the city in the medium and long terms. The economic interest grouping GIE LUXTRAM was set up in June, 2007 to implement the tramway project, with commissioning set for 2017. The Tramway project was confirmed by Parliament through a motion on 14 June, 2012. Parliament requested that the Government finalize the

⁴⁷ Law dated 13 September, 2012 concerning 1. The establishment of a Climate Pact with municipalities 2. Amending the amended law dated 31 May, 1999 concerning the establishment of a fund for the protection of the institution environment. For more details see: <http://www.legilux.public.lu/leg/a/archives/2012/0205/a205.pdf#page=2>

environmental procedures and detailed technical studies so that a draft law for authorizing and financing the project could be submitted. The Government's efforts to increase the modal share of public transportation and soft mobility are transposed by a significant improvement in the offer of this phenomenon and a progressive extension of infrastructure on the domestic and cross-border level. The initial success of this policy has been noticed with regard to cross-border flows, where the share of cross-border commuters using public transportation increased from 9% in 2007 to 14% in 2010. Domestically, a 23% increase in the number of rail passengers was achieved in the period 2005-2010. In the area of bus transportation, the number of passengers increased by 37% in the regional RGTR and CFL networks, by 17% in urban AVL buses and by 15% in the TICE system for the period of 2006-2010. While the MoDu strategy explicitly describes interaction and integration of certain projects and measures in an overall and sustainable strategy, the Transportation Sector Plan (PST) states the infrastructure projects for individual and public transportation as well as measures of the MoDu strategy. In addition, it provides a regulatory framework for the various projects and measures of the strategy, principally the allocation of paths for infrastructure projects, implementation of a parking management scheme and promoting soft mobility. In 2012, the PST legislative drafts were finalized so that the Grand Duchy regulation for the PST can commence the legislative procedure once the vote on the new law for territorial development is complete. With the PST and the Landscaping, Housing and Economic Activities Zone sector plans, the role of territorial development is strengthened, highlighting the principal objective in mobility as reducing distances between work and home. These instruments will result in more compact urban planning, a good mix of functions and activities and a reduction in traffic demand, leading to the attainment of sustainable development in the domain of territorial development.

4.3.2 The renewable energies target

4.3.2.1 The national renewable energies target

Directive 2009/28/EC dated 23 April 2009 for promoting the use of energy produced from renewable resources calls for Luxembourg **achieving an 11% share of energy from renewable sources in its gross final consumption for 2020** as well as an objective of 10% share of fuel energy from renewable resources in the transport sector for 2020. The indicative trajectory for Luxembourg between 2010 and 2020 as described by this directive is summarized in the table below.

Table 8: Indicative trajectory for the share of energies produced from renewable sources as a percentage of final energy consumption

Year	Percentage
Average 2011/2012	2,92%
Average 2013/2014	3,93%
Average 2015/2016	5,45%
Average 2017/2018	7,47%

Source: Ministry of the Economy and Foreign Trade

4.3.2.2 Key measures

Member States were to have presented their national renewable energy action (NREAP) by 30 June 2010. The NREAP calls for achieving the renewable energies objective through the following measures: developing renewable energy within the country by means of producing electricity and heat/cooling from renewable sources as well as using heat pumps, adding biofuels into fuels for use domestically as well as developing public and private electric mobility and use of cooperation mechanisms, primarily through statistical transfers and joint projects with other Member States and possibly with third countries.

The development of energy efficiency between 2010 and 2020 will result in a reduction in absolute terms of the nation's objective in the area of renewable energies. The energy efficiency measures in the plan are taken from the first national action plan in the area of energy efficiency (PAEE). The national action plan takes up thirty-seven measures to achieve the national objective set by the directive. These measures will take specific shape over upcoming years depending on progress achieved for meeting intermediary objectives. A detailed description of the 37 measures, as well as the schedule for implementing them, is described in the national renewable energy action plan. The principal recent actions as part of these measures that have an impact on the development of renewable energies are mentioned hereafter.

a. Developing renewable energies

The government has put in place a mechanism for supporting biogas production installations for injecting biogas in the natural gas networks in Luxembourg. The Grand Duchy regulation dated 15 December, 2011 concerning the production, income and marketing of biogas was published on 23 December, 2011. At this stage, three installations are injecting biogas in the natural gas networks in Luxembourg.

The Grand Duchy regulation dated 5 May, 2012 amending: 1. Grand Duchy regulation dated 30 November, 2007 concerning energy performance in residential buildings, 2. The Grand Duchy regulation dated 31 August, 2010 concerning energy performance of function buildings sets a clear schedule for strengthening requirements in the area of energy performance in new residential buildings and additions to existing residential buildings. The new requirements are an implicit incentive to implement renewable energies. As such, all new construction beginning after 1 July, 2012 must implicitly incorporate renewable energies and as from 2017, new residential buildings must meet the highest performance standards of the energy performance certificate, AAA. Determining a standard for a house with near zero energy consumption is being reviewed and the main work on this will be completed in 2013. A draft Grand Duchy regulation for introducing a schedule similar to it by 2017 for commercial buildings is currently being drafted. The regulatory procedure in this area is being planned for 2013.

The aid system for entities implementing renewable energies sources was adapted following inter-ministerial discussions. At 18 December, 2012, a Grand Duchy regulation was published instituting an aid scheme to promote the rational use of energy and highlighting renewable energy sources in the housing sector for 2013- 2016. This new framework creates more advantageous incentives for most of the target technologies and actions and is intended to accelerate the spread of renewable energies and energy efficient technologies in the domestic sector. It is believed that this new framework will provide fresh momentum in the sectors concerned and that it thus gives considerable support to achieving objectives in the area of renewable energy and energy efficiency. Inter-ministerial talks as well as discussions with owners of private forests were held to find ways to put the potential renewable energy sources of this resource to good use.

During 2012, the Government continued to analyze the amount and structure of feed-in tariffs regarding electrical production on renewable energy sources with the involvement of the sectors concerned. A reform will be presented via a draft Grand Ducal regulation to the Government for approval in 2013.

b. Mix of biofuels in fuel available for consumption nationally.

Directive 2009/28/EC calls for implementing sustainability criteria for biofuels and bioliquids nationally. This aspect of the directive was transposed by the Grand Duchy regulation dated 27

February, 2011 setting sustainability criteria for biofuels and bioliquids. The percentage of biofuels to be incorporated into standard fossil biofuels has been set at 2% in terms of energy content.

With regard to electric mobility⁴⁸, the technical-economic study by the Government and the *Institut Luxembourgeois de Régulation* resulted in setting out a shared national concept for implementing electric mobility in Luxembourg. The following conclusions were adopted on the basis of this study:

- The implementation of a specific public infrastructure that will provide assurance of recharging facilities, primarily targeting intermodal points such as satellite parking, rail station parking lots and other public parking facilities
- Use of a national management system for identifying, paying and selecting an electricity provider with an identical payment system throughout the country that gives users the option of getting recharges for their vehicles from the electricity provider of their choice.
- Management and operation of the charging infrastructure, to include terminals and a communications system, under the responsibility of electrical grid operators
- Primary financing for setting up and using this infrastructure through use tariffs of the grid; the financing should be painless, or neutral for electricity consumers to be offset by revenues from additional consumption on the grid arising from electric mobility

On the basis of these conclusions, the Government set an objective of achieving a rate of 10% of electric powered cars in Luxembourg's automobile fleet by 2020, the equivalent of 40,000 cars. Against this backdrop, some 850 public recharging stations for electric cars are to be installed by 2020.

The conclusions of this study were reflected legislatively by the law dated 7 August, 2012 amending the law dated 1 August, 2007 relating to the organization of the electricity market. It provides a framework determining the major principles for the development of electro-mobility in Luxembourg. Thus, "*the managers of the distribution grid shall install joint national infrastructure in the form of public recharging stations for electric vehicles in the territory set out in their concession. They will also set up a national infrastructure based on a joint central system that provides communication between the recharging terminals and suppliers. The recharging infrastructure must be compatible with the concept of free choice of utilities supplier and feature a uniform payment system valid throughout the country. The distribution grid managers operate and maintain public infrastructure related to electric mobility. Cumulative costs related to electric mobility engendered by all distribution grid managers relating to extension, implementation, operations and maintenance of public installations for electric mobility are included in the calculation of user rates and rates for accessory services (...) and are distributed fairly among all end users connected to the low voltage distribution grid. (...)*". Discussions with grid managers for the drafting of specifications are underway. This process is accompanied by a consulting procedure with stakeholders.

c. Mechanisms for cooperation

An analysis of action plans within the EU has revealed that a number of Member States are likely to exceed their intermediary and/or final objectives for 2020. The Government has made contact with a number of these Member States in order to discuss possibilities for cooperation. It remains clear that the 2020 objective will be achieved by resorting to the maximum levels of national potentials.

⁴⁸ For more details, see section 4.3.1.1 *National greenhouse gas emissions target*

4.3.3 Energy efficiency target

4.3.3.1 National energy efficiency target for end use of energy

UE directive 2006/32/EC determines a framework for energy efficiency in the final use of energy services that includes an indicative energy savings objective applicable to Member States, obligations for national public authorities in the area of energy savings and purchase of efficient energy fuels and measures for promoting energy efficiency and energy services. The directive applies to the distribution and retail sale of energy, to measures to improve energy efficiency, to end users except for activities subject to the greenhouse gas emission allowance trading system and to a certain extent, to the armed forces. It targets the retail sale, supply and distribution of the major energy vectors that use a network, such as electricity and natural gas, as well as other types of energy, such as district heating, oil-fired heating, coal and lignite, energy products produced from forestry and agriculture and fuels.

The Member States were to adopt and achieve an indicative objective in the area of energy savings of 9% by 2015 and set an intermediary national objective to be achieved in 2009. According to the directive, Member States were to draw up a national energy efficiency plan (PAEE) in 2007, another one in 2011 and third one in 2014 relating to the administration and implementation of Directive 2006/32/EC.

The first PAEE for Luxembourg, which was sent to the European Commission in March, 2008, includes the following elements:

- Calculations of average annual consumption on the basis of final internal energy consumption from 2001-2005. This annual average consumption is reduced by exports of petroleum products and the consumption of companies participating in the Emission Trading Scheme (ETS). It amounts to 17,576 GWh.
- Calculating the indicative national objective in the area of energy savings. This objective is expressed as an absolute value and is applied throughout the entire period of the present directive. The indicative national objective in the area of energy savings corresponds to 9% of the above-mentioned average annual consumption and for Luxembourg amounts to 1,582 GWh. The accumulated measures in the PAEE exceed the target value of 9% by 1.4%, representing 10.4%.
- The description of the measures drawn up by the energy services and the other measures targeting improved energy efficiency that help meet the overall indicative national objective in energy savings.

In September, 2011 Luxembourg submitted its second PAEE to the European Commission, as provided for under directive 2006/32/EC. In accordance with the directive, the second PAEE includes the following principal elements:

- An in-depth analysis and evaluation of PAEE I, and the final results regarding achievement of the energy savings objective, as well as complementary measures for achieving the objective set for 2016.
- Revised calculations for average annual consumption for final yearly domestic energy consumption during the period 2001-2005, on the basis of updated statistical data. This annual average consumption is reduced by exports of petroleum products and the consumption of companies participating in the *Emission Trading Scheme* (ETS). It amounts to 19,654 GWh per year, compared to 17,576 GWh per year for PAEE I.

- Recalculating the indicative national objective in the area of energy savings. This objective is expressed as an absolute value and is applied throughout the entire period of the present directive. The indicative national objective in the area of energy savings corresponds to 9% of the above-mentioned average annual consumption and for Luxembourg amounts to 1,769 GWh per year, compared to 1,582 GWh per year for PAEE I. The accumulated measures in the PAEE exceed the target value of 9% by 5.06%, for an end total of 14.06%.
- A description of the measures drawn up by the energy services and the other measures targeting improved energy efficiency that help meet the overall indicative national objective in energy savings. The measures may be broken down in PAEE II into the following three categories: “Early Action” measures (A), which were implemented during the period of 1995-2007 and are continuing to produce the desired effects for 2016. The A measures represent around 5.9% of the total effort of around 14.1%, in contrast to PAEE I, with 4.0% of the total effort of 10.4%. “New” measures (B), which are now being implemented and for which the impacts began to show after early 2008. The B measures represent around 6.0% of the total effort of around 14.1%, in contrast to PAEE I, with 4.1% of the total effort of 10.4%; Projected/Possible Measures (C): measures for achieving the indicative national objective in energy savings. The C measures represent around 2.2% of the total effort of around 14.1%, in contrast to PAEE I, with 2.3% of the total effort of 10.4%.
- The measures undertaken by the public sector aim to improve energy efficiency and illustrate that the public sector is playing an exemplary role under the provisions of the 2006/32/CE directive to include energy efficiency measures taken during the construction of new public buildings and during upgrading of existing public buildings, drawing up of ecological criteria for tenders for the public fleet of automobiles belonging to the State and the communes, etc.
- Measures undertaken by the State to disseminate information to market players relating to mechanisms for promoting energy efficiency and the financial and legal frameworks adopted in view of achieving the indicative national objective in the area of energy savings, as well as measures taken to guarantee that these entities implement the conditions and motivation appropriate to strengthening information and advice on energy efficiency in final uses.
- A list of existing and new measures and instruments to promote the objectives of directive 2010/31/EC of 19 May, 2010 on energy performance in buildings (recast). This involves 25 measures in all sectors and a detailed description of these measures with the sectors concerned, with the action plan detailing their energy and financial impacts.

Table 9: 2010 and 2016 objectives in the area of energy efficiency

	Objective 2010	Objective 2016
PAEE II Objective	7,59%	14,06%
Directive Objective	3,00%	9,00%

Source: Ministry of the Economy and Foreign Trade

An analysis of the second plan concludes that Luxembourg clearly exceeded its intermediate objective of 3% for 2010 and that the country's domestic measures will result in it exceeding the 9% objective set for 2016.

Following an in-depth analysis and evaluation in 2011 undertaken to establish a second PAEE, the national **indicative objective for energy efficiency in 2016 was increased to its current level of**

14.06%. The 2020 objectives were included in directive 2012/27/EU of the European Parliament and the Council dated 25 October, 2012 on energy efficiency, amending directives 2009/125/CE and 2010/30/CE and suppressing directives 2004/8/EC and 2006/32/EC. Luxembourg has undertaken transposition work and is currently analyzing the various aspects of implementing a compulsory mechanism in the area of energy efficiency.

4.3.3.2 Key measures

The principal measures and actions undertaken recently to improve energy efficiency are briefly described below.

Grand Duchy regulation dated 5 May, 2012 amending 1. Amended Grand Duchy regulation dated 30 November, 2007 concerning energy performance in residential buildings 2. Grand Duchy regulation dated 31 August, 2010 concerning energy performance of commercial buildings, approved by the Government in 2011 and published in May, 2012. The amendment to the Grand Duchy regulation sets alongside several details/modifications of various technical factors and requirements a clear schedule for shoring up requirements in the area of energy performance for new residential buildings and for some additions to existing buildings, and it prescribes mandatory publication of information regarding energy performance when leasing or selling buildings. This modification included the schedule in directive 2010/31/EU regarding buildings with near zero energy consumption.

Work to draft a national plan for increasing the number of building with near zero energy consumption was started in 2012. The preparation of this plan was mandated by directive 2010/31/EU and is now being finalized.

The Grand Duchy regulation dated 26 December 2012 relating to the production of electricity based on high efficiency cogeneration was published in December, 2012. The Grand Duchy regulation aligns national regulations in the area of cogeneration with the provisions of directive 2004/8/EC, establishing the general rules for connecting cogeneration installations to Luxembourg's electricity grid, rules for the production of electricity produced using cogeneration installations in Luxembourg's electricity grid, a system for guaranteeing the origin of electricity produced through high efficiency cogeneration and remuneration details for electricity produced through high efficiency cogeneration. In the future, the Government intends to support the development of cogeneration based on renewable energies as a priority over cogeneration activities based on fossil fuel sources.

As part of its rational use policy for energy, the Government signed a voluntary agreement with the industrial sector covering the period 2011-2016. The purpose of this agreement is to further solicit the commitment of signatory companies to improving energy efficiency and to implement new and renewable energy sources. Companies signing the agreement further commit to implementing an energy management system that identifies potential improvements in energy efficiency and establishes an action program to produce a package of measures to achieve this potential. The economic interest grouping *myenergy* will take over the coordination and follow up roles of data provided by companies, as well as information dissemination, consulting and awareness responsibilities.

The government carried out a study on the introduction of intelligent measurement systems that was finalized in early 2011 in close coordination with the *Institut Luxembourgeois de Régulation* (ILR) and grid distribution managers. The conclusions of this study were put into a legislative text by the laws dated 7 August, 2012 amending amended laws dated 1 August, 2007 on electricity and natural

gas, which set a schedule for implementing a national shared and interoperable infrastructure for intelligent meters that encourages the active participation of consumers in the electrical grid and gas distribution networks, based on a shared central system with communication of data by a single common system for at least electricity and natural gas. The start of this general implementation is set for 1 July, 2015 at the latest. As at 31 December, 2018 at least 95% of end users of electricity should have this type of intelligent metering equipment. The same applies for gas end users, but intelligent meters must be installed by 31 December, 2020. In 2012, the Ministry of the Economy and Foreign Trade closely monitored the preparations for the installation process of intelligent meters in Luxembourg, carried out in concert with the gas and electric companies and coordinated by the ILR. With regard to this, the companies managing distribution for the gas and electric grids met to set up an economic interest grouping that would be responsible for joint intelligent metering operations under these two entities, to include the purchase, installation and operation of the central data collection and management system and functionalities of intelligent metering, as well as the purchasing procedure for intelligent gas and electric meters and data concentrators to be installed and maintained by each company in their respective territories.

4.4 The Education objective and key measures for achieving it

European Objective: *"improving education levels, in particular by aiming to reduce school dropout rates to less than 10% and by increasing the share of 30-34 years old having completed tertiary or equivalent education to at least 40%."*

4.4.1 The early school leavers objective

4.4.1.1 National target

Luxembourg is aiming at the European benchmark as adopted at the education Council in May, 2009 and at the European Council meeting in June, 2010 for a national objective of **sustainably maintaining the dropout rate below 10%**. If the dropout rate stabilizes at lower than 10%, the objective will be modified in 2015.

In Luxembourg, the figures resulting from the Labour Force Survey (LFS) are subject to significant annual variations due to the limited size of the sampling. Thus, the LFS does not help in identifying which students are affected or why they drop out. To plug these gaps, in 2003-2004 the Ministry of National Education and Vocational Training developed a nationwide study for monitoring the school dropout phenomenon.

Table 10: Statistics on the rate of school dropouts

Study	School year	Theoretical permanent rate of school leavers
1	2003/2004	17,2%
2	2005/2006	14,9%
3	2006/2007	9,4%
4	2007/2008	11,2%
5	2008/2009	9,0%
6	2009/2010	9,0%
7	2010/2011	9,0%

Source: Ministry of National Education and Vocational Training
Definitions: The concept of 'school dropouts' applies to young people who leave school definitively without receiving a diploma and who have entered the job market through a professional insertion program or who have no specific occupation. It also includes young people who, after initially dropping out, re-

register in a school, then drop out again during the same observation period and for whom no additional information is available regarding their current situation.

The new results of the national study concerning the 2010-2011 academic year demonstrate that the policies and measures currently in place are stabilizing the school dropout rate below 10%. The policies intended to improve orientation activities and programs for re-integrating education and training will be maintained not only to provide a second chance to dropouts from school but also to contribute to reducing unemployment among the young⁴⁹. Particular emphasis will be placed on promoting academic success as a means for preventing young people from leaving school and to increase young peoples' qualifications levels.

4.4.1.2 Key measures

a. Reform of secondary education

The Government is pursuing discussions with persons concerned relating to future reform of secondary schools. Discussions are centered on four major themes: student progression through the school system, preparing students for university studies, language training and development of academic quality and the autonomy of secondary schools.

The current reform project calls for better supervision, more pertinent guidance activities in the lower forms, very broad general education, progressive specialization with wider choices in the upper forms, better defined responsibilities and clearly detailed procedures for the organization of secondary schools. A draft law will be submitted in April, 2013.

b. Transition from primary to secondary education

New guidance procedures for transition from basic education to lower forms and secondary education were implemented in the 2012-2013 school year. The new procedure reinforces active involvement on the part of parents and improves transparency in decision-making. The lower forms and secondary education and secondary technical studies are pivotal classes between primary school and the upper forms. The upper forms qualify students for entering professional life or for university studies. At the lower forms level, the priority is consolidating and expanding basic education acquired in early schooling.

c. Professional training

The implementation of the professional training reform, which targets an objective of getting qualifications to correspond to job market demand, is moving forward. The primary characteristics leading to achievement of the reform are: training based on learning achievements, a joint determination of skills to be attained by academic and professional arena players, promotion of the work-study concept in the form of long-term internships or apprenticeships in all areas of professional training.

The government-created Guidance Center opened its doors in September, 2012 assembling departments from three ministries that work with youth guidance. These are the Ministry of National Education and Vocational Training with its Psychological and Academic Guidance Center (CPOS), the Luxembourg regional office of the Local Youth Action (ALJ) and the Welcome Center for Newly Arrived Students (CASNA). In addition, the Ministry of Labour and Employment is

⁴⁹ For more details, see *section 3.4 Reduce unemployment among the young*.

represented by the Guidance Department of the public employment service, as well as the Ministry for Family and Integration with its branch of the National Youth Service (SNJ). The Ministry of National Education and Vocational Training manages the Guidance Center and coordinates the steering committee made up of various heads of departments. Staff from these departments work in close collaboration to produce presentations in schools, assisting with the transition phase from school to work and helping during the systematic monitoring periods of young school dropouts. Individual assistance is continued up to the point where a training, employment or occupational solution has been found with the person. Young people who come in search of information, guidance or assistance find these offers at the same location and making contact is easier and more rapid. Group workshops involving the different departments are offered to young people so they can set up a new professional project, confirm it and implement it. Presentations in schools addressed at young people who intend to pursue university educations are done in concert with the Center for Documentation and Information on University Studies (CEDIES). The Guidance Center is also open to adults seeking information, guidance or assistance in authenticating acquired professional experience.

In order to provide full and holistic service, very close collaboration among all guidance and socio-professional integration personnel is essential. The steering committee of the Guidance Center is considering improvements of citizen services involving the expansion its national network, establishing collaborative contact among guidance centers of other European countries and developing a continuing education training plan for guidance staff.

A law for the establishment of a school for second chances (E2C) was approved in April, 2009. This led to facilities for 150 young adults aged 16-24 who had left school before earning a recognized certificate. The establishment's academic program was broadened with the 2012-2013 school year. Since 2009, 52% of E2C students succeeded in attaining a higher academic level and 48% were able to consolidate skills and knowledge acquired as shown through previous grade reports.

4.4.2 The tertiary education objective

4.4.2.1 National target

The national objective consists of ensuring that **66% of the working population between the ages of 30 and 34 receive university education and earn university degrees** between now and 2020. This objective reflects the economic development of the country, where two out of three new jobs created require a university education.

4.2.2.2 Key measures

Students registering for an approved university training program may obtain financial aid for higher studies, comprising a subsidized loan and a scholarship, the scholarship-loan ratio (weighting) depending on the revenues of the concerned student. This system makes it possible for any student, regardless of socio-economic class, to pursue university studies. The financial aid is moveable in the sense that Luxembourg students are free to choose the location of their studies.

Table 11: Change in number of scholarships granted

Year	Number of scholarships granted
2009/10	8.562
2010/11	13.324
2011/12	14.382

Source: Ministry of Higher Education and Research

Relatively speaking, meaning if we take the number of students per 1,000 inhabitants, the number of students analyzed on the basis of the residence criteria and on the basis the “Financial Aid for University Studies” figures amounts to 27.4 students per 1,000 inhabitants. For 2011-2012, these ratios are 26.03 for the first category and 10.73 for the second.

Another means of getting more young people in university studies is to bolster short professionally oriented training programs of the “*Brevet de technicien supérieur*”, a university level certificate of studies. In 2012-2013, 17 programs were offered to students, while during the 2011-2012 academic year, hundreds of students registered in 14 programs, with 31% of them earning a university certificate at the end of their study program.

Table 12: Breakdown of students in the 2011-12 academic year by field

Field	Percentage of total
Business	42,42%
Healthcare	26,79%
Applied arts	14,70%
Services	3,92%
Industry	9,15%

Source: Ministry of Higher Education and Research

Investments in the operational side of the Université du Luxembourg are continuing. The student population increased from 4,934 in the 2009-2010 school year to 5,686 for 2011-2012. Note that for 2011-2012, 47.4% of students had the Luxembourg nationality. The traditional credit mobility quality of Luxembourg students is referred to here.

Table 13: Total number of degrees awarded

Year	Bachelor's	Master's	Doctorates
2009	386	198	25
2010	518	232	45
2011	549	287	65
2012	530	266	57

Source: Ministry of Higher Education and Research

Allocations from the State for the university's operating costs are also on the rise. In 2009, these amounted to € 72 million, in 2010 € 72 million, in 2011 € 87.6 million, in 2012 € 101.67 million and in 2013 €114 million. In addition, investments in the Belval university and research infrastructure for the *Cité des Sciences* continues, with a total investment of € 566 million earmarked for the period extending from 2010 to 2017⁵⁰.

4.4.3 Strengthening the human capital base through adult education and training

The following measures and programs were launched to increase levels of qualification within the adult and adolescent population with no recognized qualifications:

- Strengthening the second path to qualification and the second chance school.
- Language training for adults
- Promote validation of acquired professional experience programs
- developing education and professional training for adults
- Increasing measures for job seeker qualification and promoting basic skills
- Promote basic skills training for adults

⁵⁰ For more details, see section 4.2.1 R&D objective.

- The construction of a new National Library in order to provide the resources for accommodating and supervising a greater proportion of the public
- Develop the bibnet.lu national network

According to the most recent figures in the *Adult Education Survey*, 68.5% of adults participate in formal or non formal education programs, a very high percentage. With the general will behind the life-long training concept, now is the time to develop further the pathways to different training systems, to implement the national qualifications grid that will facilitate recognition of training programs and to place special emphasis on getting vulnerable groups to participate. The national strategy for life-long training, which was adopted in December, 2012 by Parliament and the Government, specifies measures for meeting the challenges that face the program. The national strategy is based on six cross-sector principles and eight separate measures for connecting the multiple initiatives and providing better visibility to Luxembourg's national policy.

As part of this strategy, resources allocated to the BnL acting as national coordinator, to the Consortium Luxembourg and to the bibnet.lu network will all be increased so as to broaden the documentation base in digital format and IT infrastructures and interfaces necessary to achieve it.

4.5 The social inclusion objective and key measures for achieving it

European Objective: *"promoting social inclusion, in particular through the reduction of poverty, by aiming to lift at least 20 million people out of the risk of poverty and exclusion. The population is defined as the number of persons who are at risk-of-poverty and exclusion according to three indicators (at-risk-of-poverty; material deprivation; jobless household), leaving Member States free to set their national targets on the basis of the most appropriate indicators, taking into account their national circumstances and priorities."*

4.5.1 National Target

In the area of horizontal and transversal approaches, all the efforts detailed under the national employment and education objective headings are, together with the measures outlined below, also measures for contributing to promoting social inclusion, particularly by reducing poverty.

The Government supports the conclusions of the European Council in its objective of promoting social inclusion and reducing poverty through measures that contribute to increasing women's' and single-parent families' rate of employment in order to arrive at a 73% employment rate figure in 2020. Access to employment creates the type of conditions that promote social inclusion and constitute a rampart from which to react against poverty and social exclusion, both for individuals and society in general.

The publication "A look at single parent families" by STATEC illustrates that single parent families are especially exposed to the risk of poverty. In 2010, 45.5% of these households had revenues below the poverty level, while for all households with dependent children, 17.3% of households were at risk of poverty. The reference person for 84.2% of these single parent households is a woman. Full-time work is the most common type of activity: in 60.3% of households with two adults and dependent children, the reference person works at a full-time job, whereas the percentage of full-time jobs in single parent households was only 44.4% in 2011. With regard to part-time work, this was the case for 29.9% of single-parent households in 2011, compared to only 20.9% of households with dependent children and 4.3% of persons living alone. Of the single family households, the proportion of persons living in low work intensity households reached 16% in 2011, whereas for all households with children, this figure amounted to only 3.2% in 2011.

In view of these statistics, three of the four measures under the national objective take on special importance for women and single parent families. Achieving the national objective is supported by the four measures described below, and by measures outlined in the national employment objective. The law on social aid that took effect in 2011 has helped maintain a good performance level for Luxembourg's material deprivation indicator.

Through consistency among policies of all NRP measures, Luxembourg aims to reduce the number of persons under the threat of poverty or social exclusion by 6,000 people by 2020.

Table 4: Changes in the "At risk of poverty and social exclusion" indicator 2008-2011 Luxembourg

	At-risk of poverty and social exclusion				At-risk of poverty after social transfers				Severe material deprivation				Persons living in a low work intensity household			
	2008	2009	2010	2011	2008	2009	2010	2011	2008	2009	2010	2011	2008	2009	2010	2011
%	15,5	17,8	17,1	16,8	13,4	14,9	14,5	13,6	0,7	1,1	0,5	1,2	4,7	6,3	5,5	5,8
1,000 pers.	72	85	83	84	62	71	71	68	3	5	3	6	18	24	22	24

Source: Eurostat

4.5.2 Key measures

a. Continue the policy of providing socio-educational welcoming structures for children

The existence of services providing socio-educational welcoming structures to children between the ages of 0 and 12 years is intended to break the cycle of inter-generational transmission of poverty by making an appropriate service available to children exposed to the risk of poverty. Indeed, providing a place and education for small children is an effective way to develop the basis for subsequent learning, to prevent leaving school early and to uphold diversity in all its forms. The measure contributes to improving social inclusion of children and social cohesion within a multi-cultural Luxembourg society. It aims at continuing quantitative and qualitative socio-educational welcoming structures for children to facilitate access a job for parents and consequently an income stream.

The number of authorized places in socio-educational welcoming structures was 42,346 at 31 December, 2012 and grew by 11.93% from 2011 to 2012. The table below illustrates changes in the types of structures.

Table 15: Changes in different types of welcoming structures (31 December, 2012)

Situation as of 31 December, 2012	Places in 2011	Places in 2012	Difference from 2011-2012	Increase from 2011 to 2012
Maisons relais children reception centers	27,401 places	30,007 places	2,606 places	9,51 %
Day care centers, nurseries, registered child care centers	2,069 places	2,058 places	-11 places	-0,53 %
Day care centers, nurseries,	5,793 places	7,426 places	1,633 places	28,19 %

private child care centers				
Nanny services	2,570 places	2,855 places	285 places	11,09 %
Total	37,833 places	42,346 places	4,513 places	11,93 %

Source: Ministry for Family and Integration / Professional-Family Life Reconciliation Department

The national indicator for monitoring the implementation of this measure is the change in number of places in socio-educational welcoming structures for children and the measure has a yearly budget allocation of approximately €197 million.

b. Making beneficiary parents of the Guaranteed Minimum Income (RMG) mechanism aware of the possibility to use welcome center checks.

According to data provided by the National Social Action Service (SNAS), the number of households receiving services under the RMG law that include one or several children under the age of 13, amounted to 2,425 on 31 December, 2012. With regard to these persons, SNAS contributed to an awareness campaign about the possibility of using welcome center checks during information meetings and a total of 86 people received the information memo regarding their use in 2012. The mechanism is becoming progressively better known by these persons, and this is why the number of information memos was lower than last year. As part of their mission, the regional Social Action Services also participate in the awareness effort, and in 2012 a total of 28 persons were explicitly invited to use the services provided. As part of their mission, the Social Offices also participated in the awareness effort.

In January, 2013, 1,937 children were able to receive special benefits under the welcome center checks program, with 78.5%, or 1,521 of these children from households with a guaranteed minimum income and 21.5%, or 416 children were identified by social services as children living under the menace of poverty.

Due to the continued awareness campaign and the increase in the number of socio-education welcome structures for children, SNAS observed a drop of 30% in the number of parents not able to participate in activation measures because of their need to mind their children. A more thorough analysis of the characteristics of the persons still not able for that reason indicates that a high percentage of them, 64%, are women living alone with their children.

As this is a measure whose implementation is carried out continuously under the aegis of the organizations involved, no specific budget was allocated for the measure.

c. Increasing activation rates as part of the RMG mechanism

Activation as a part of the RMG mechanism is one of the pillars of the active inclusion policy on the national scale⁵¹. Administrative statistics assembled by the SNAS have shown that, after a pronounced increase since 2007 peaking in 2011, the number of RMG beneficiaries that are not excluded from professional insertion activities (PIA) fell during 2012⁵². Following clear increases over four years, growth in the number of PIA diminished during 2012⁵³. Nonetheless, a sustained increase in activation efforts resulted in significant changes in the activation rate, already rising

⁵¹ For more information on the key elements of the active inclusion policy implemented in Luxembourg since 1999, see National Social Report 2012 - III.3. *L'inclusion active dans le cadre du dispositif d'assistance sociale «Revenu Minimum Garanti»*.

⁵² 2007: 1,288; 2008: 1,425; 2009: 1,845; 2010: 1,987; 2011: 2,180; 2012: 2,018.

⁵³ 2007: 835; 2008: 925; 2009: 1,134; 2010: 1,239; 2011: 1,380; 2012: 1,391.

since 2009 (2009: 61.5% ; 2010: 62.3% ; 2011: 63.3%, 2012: 68.9). As the objective is to increase the activation rate by two percentage points compared to the rate set for 2010 through to 31 December, 2014, confirmation that the objective has been temporarily achieved and even exceeded favors continuing specific efforts to attain the objective to be set for 2020, which, as noted, will be determined based on the results of the mid-term review of the NRP.

As this is a measure whose implementation is carried out continuously under the aegis of the organizations involved, no specific budget was allocated for the measure. The trend of increasing resources for supporting this objective was maintained, with the focus on human resources of the regional Social Action Services.

d. Promote measures favoring the transition of young people from school to professional life and those measures motivating young people to return to school

The government will delve into the problematic of disadvantaged young people through the National Youth Service (SNJ), particularly young people with the NEET profile (*Not in Education, Employment or Training*) and act along three lines of approach.

- Line 1: Develop an activation and information platform

Since 2012, the ESF has supported adapting the portal to suit the requirements of unprivileged youth⁵⁴. The welcome page of the site was completely revamped and numerous modules and tools were added to make access to the information easier for young people with weak qualifications. These efforts will continue in 2013 in order to provide detailed information on several trades, on the guidance and counseling services and opportunities available to young persons for making their initial forays into the working world. The following modules were or will be achieved with a budget of € 350,000:

- Adapting the welcome page to better suit unqualified young people (completed in 2012)
- The *bewerbungstraining.anelo.lu* module, to prepare for interviews (completed in 2012)
- *Job-City*, an information module about trades in the form of an interactive game the works primarily with images
- Seven films dealing with a variety of professional trades
- A self-evaluation module to use in working on young peoples' CV through exercises and activities completely alone or with a professional.

A new request for aid to the ESF was approved for financing tools for professionals to use when working with disadvantaged youth. This involves a personal electronic portfolio for young people, who may authorize access to supervisors, which provides an overall view of documents, processes and prior history of the youth. Another aspect of the ANELO-PRO project, which carries a budget of € 608,260 for the period 2013-2015, will be a skills certification module for experience acquired in informal environments, intended primarily for youth organizations that can attest to the efforts of their young clients.

The Guidance Center⁵⁵ was completed and the premises inaugurated in September, 2012. The Center's departments include the ADEM-OP, CEDIES, CPOS, the regional offices of the ALJ

⁵⁴ For more details see: www.anelo.lu

⁵⁵ See Section 3.4 *Reduce unemployment among the young* and Section 4.4.1 *Early school leaver's objective*.

and the SNJ, who meet regularly to discuss joint projects to carry out, such as the information sessions intended for young working people or presentations in schools.

After evaluating the regional information sessions that were dispensed to young people and their parents in 2012 with 500 participants, the SNJ intends to explore new activation paths under the new “*Level Up*” program. These projects are intended primarily for NEET young people and focus on the following: international mobility, coaching by peers and workshops that promote company spirit. The information sessions will be set up with specific focus and adapted to local facts. The budget available for the *Level Up* projects amounts to € 42,000.

- Line 2: Increase capacities of the Voluntary Guidance Service (SVO)

Since 2011, the units’ capacities have been augmented and expenditures were increased significantly. In this way, SNJ was able to accommodate and supervise 78% more young people under the SVO program in 2012 compared to 2011⁵⁶. Although the number of persons seeking help is much higher (2.29 times the capacity of the unit in 2012)⁵⁷, maximum capacities of this program have been reached both in terms of accommodation organizations and in terms of SNJ supervision services. The forecasted budget for 2013 is € 2,945,000.

- Line 3: Get to know NEET youth better

Following discussions between the concerned public administrations, the SNJ ordered a report from the University of Luxembourg on young people undergoing precarious transitions to working life. The report will be published in 2013. Results of this report are a strategic element in the SNJ strategy for better estimating and analyzing the NEET phenomenon in Luxembourg. A 2013 feasibility study on administrative data will follow up on whether a large scale longitudinal study cannot be carried out in 2014. The first phase of this project, the feasibility study, has been awarded a budget of € 7,000.

e. The Social Aid law

During 2012, thirty Social Offices spent € 2,319,500 for financial aid. An analysis of the financial aid provided revealed that the largest category of aid of 26.61% was used to subsidize housing costs. These figures confirm the high weight of housing costs among households exposed to the risk of poverty. Aid for daily necessities represented 14.64% of the total aid, while 15.41% were used for health costs. Aid allocated for costs of electricity, water and heating represented 8.98% of the total aid and these costs related to housing costs represent a major part of household budget expenditures.

The measure will be allocated an annual budget of approximately € 17 million, 50% of which is furnished by the State and 50% by the communes. This amount includes costs for financial aid to the target population and personnel and operating costs of the Social Offices.

The third party payer system foreseen by the law dated 17 December, 2010 reforming the health care system entered into effect on 1 January, 2013. The third party payer system is for insured persons officially declared to be in a precarious situation by the competent Social Office for a determined period of time. These persons can claim benefits under the social aid system for direct

⁵⁶ Hosting of 287 young people in 2012 and 161 in 2011.

⁵⁷ 658 registrations in 2012.

payment of costs and applicable to services approved in the reference documents of consultations and services of doctors and dentists.

f. National strategy to counter homelessness and exclusion linked to housing for 2013-2020

In January, 2013 the Government adopted a national strategy against homelessness and housing-related exclusion for 2013-2020. The strategy was introduced in March, 2013 to the Family, Youth and Equal Opportunity Commission in Parliament. This strategy is based on a document entitled “Social Exclusion related to Housing and Homelessness: a Status Report leading to a National Strategy.” It was drafted through a collaborative effort in 2011 following consultations with civil society and the social partners under the NRP of the Europe 2020 strategy. The platform is comprised of representatives of the ministries concerned, the SYVICOL, municipalities and non-government organizations. The national strategy is based on the principle of “*housing first*” and recommends a global approach to homeless people that takes into account their social, psychological and medical requirements.

The strategy seeks to achieve the following four objectives by 2020: provide stable and appropriate private housing to people who have been homeless for long periods, to people living in unstable and inadequate housing and to people who have been released by institutions, to react rapidly and adequately in urgent situations; to prevent homelessness; to consolidate existing measures and strengthen governance processes. The strategy contains fourteen actions to be implemented in order to achieve these objectives. Each action informs the responsible ministry, a list of partner organizations, and the schedule and implementation indicators.

4.5.3 National strategies for integrating Romani as part of the EU

During the second half of 2012, the Ministry for Family and Integration, in close collaboration with the Luxembourg Welcoming and Integration Office (OLAI) and a steering committee made up of representatives of the General Inspectorate of Social Security (IGSS), STATEC, the CEPS-INSTEAD, the Commission on Human Rights and the National Council for Foreigners, commissioned an independent consultant to carry out a study on the situation of the Romani who are legally present on Luxembourg’s territory. The results of this study will be available in 2013.

5. Use of Structural Funds

5.1 Coordination with structural funds

Coordination between the NRP and structural funds is required because the Europe 2020 strategy also has a Community action program. Projects developed and supported by Community financing under structural funds heading are required to contribute to meeting the objectives of the Europe 2020 strategy.

With regard to the FEDER 2007-2013 Regional Competitiveness and Employment program (RCE), efforts to support European objectives and national objectives determined by Luxembourg have been made, particularly from the Priority 1-Objective 1 and Priority 2-Objective 3 standpoints. The RCE FEDER program represents total public eligible commitments and investments of € 78,000,000, of which € 23 million in Community funds amassed during the programming period of 2007-2013 concerning the above priorities of the Luxembourg NRP and the Europe 2020 Strategy. These investments, in line with NRP objectives, correspond to 93.4% of the FEDER CRE envelope for Luxembourg for the programming period of 2007-2013. In this way, 47 Priority 1-Objective 1 programs were co-financed in the area of research and innovation by FEDER in the amount of € 16 million and 11 Priority 2-Objective 3 projects in the area of renewable energy in the amount of € 7 million.

The themes and programs for European Territorial Cooperation were hammered out on the basis of the Europe 2020 strategy. With regard to the trans-national and inter-regional projects slated for Luxembourg participation that were approved by the INTERREG B and C programs, the main areas of intervention with relation to the NRP are the areas of R&D and Climate Change and Energy with five and twelve projects respectively garnering total FEDER grants of € 4.7 million, an amount approved in favor of the Luxembourg partner.

5.2 Programming of the new period 2014-2020

The FEDER managing authority, under recommendation by the European Commission, recommends concentrating on a limited number of actions on its part under the common strategic strategy of 2014-2020, such as strengthening competitiveness of Luxembourg SMEs, research and innovation. Furthermore, it is necessary to invest in protecting the environment and promoting the rational use of resources as well as upholding transition toward a low CO₂ emissions economy in all sectors.

The areas of intervention recommended by Luxembourg are consistent with the European Commission's position and will take into account its recommendations and ensure continuity with the current programming period, which is already in line with the Europe 2020 strategy.

6. Institutional issues and the role of stakeholders

6.1 Coordination of the distribution of spatial resources

In order to promote better use of resources and to reduce greenhouse gas emissions, it is appropriate to coordinate the distribution of spatial resources and their functions with impacts on primary resources such as water, energy, biodiversity, etc. as well as to optimize the connections between the various spatial functions. The instruments for this are the sector plans being drawn up: these include sector plans for transportation, housing, commercial zones, large rural spaces, reconversion projects in Belval-Ouest and Mersch, as well as the State-Municipality cooperatives that target an equitable and simultaneous assimilation of essential requirements to development of cities and urban areas, through cooperation between the State, local actors, inhabitants and economic players through a multi-sector approach, as follows:

- The primary objective of the Sector Housing Master Plan (PSL) is to stimulate construction of housing, placing particular emphasis on urban centers that are connected to collective transportation and other public services. It determines growth in the number of housing units, greater in urban communities than in rural ones. Minimum and maximum housing density is then determined for each municipality depending on its category. The primary instruments for implementing this are the General Development Plans (PAG) and the Specific Development Plans (PAP). In order to avoid poorly organized local development, all communities must set the limits of their priority urbanization areas. In addition, the PSL includes a reserve of some 500 hectares of land to be acquired by the authorities for large-scale residential projects that meet specific social and environmental criteria, so as to keep the shortage of affordable housing to a minimum. Housing built under this program should accommodate up to 44,000 persons.
- The Transportation Sector Master Plan (PST) describes projects and measures pertaining to transportation policy that require regulatory framework. It determines legal instruments for implementing a management system for parking in all urban areas and for promoting soft mobility. The PST also sets aside land for new transportation infrastructure. It sets priorities that relate to major infrastructure projects in the area of transportation, with the emphasis on public transportation.
- The primary objective of the Economic Activities Master Plan (PSZAE) is to shape economic development by incorporating territorial development objectives into planning. Some 550 additional hectares are set aside for development of artisan and industrial activities from now to 2030. The PSZAE determines national and regional economic activities zones and gives priority to extending existing zones, makes communities responsible for changing certain zones unsuitable to economic development to other uses and sets strict ecological criteria that is aligned with national territorial development objectives for new economic activity zones.
- The Sectorial Landscape Plan (PSP) provides a landscape planning and management framework in order to preserve the quality of life in specific areas qualified as typical for Luxembourg. In addition to these areas it defines green cuts around localities in rural areas under urban pressure to limit tentacular expansion along the main access roads. The PSP is completed by preservation areas of both the ecological network and the essential areas for agricultural functions.
- The draft law on territorial development is currently before the State Council for its second additional opinion. This project introduces the instrument of agreements

between the State and communities. Its objective is to draw up legal instruments to improve the implantation of territorial development measures. Consultation procedures will be simplified and accelerated by means of simultaneous talks between several enteritis The State's right of refusal will be extended and the law of eminent domain modified to limit conditions propitious to speculation. In this case, prices applicable to all real estate holdings likely to be acquired through eminent domain procedures shall be set one year prior to the date of publication of a Government Council decision to transmit the draft Master Sector Plan to the municipalities concerned in the *Mémorial*, and adjustments applied subsequently may not exceed overall changes in price for land.

6.2 Assimilation on the national level

The government is ensuring that reforms enacted in the framework of the NRP are drafted following extensive consultations, as presented in the following non-limitative list:

- Consultation debate on 29 March, 2012 in Parliament on the NRP, as well as on the guidelines for budgetary policy in light of the European Semester⁵⁸
- Under the European cooperation project "EU 2020 going local", in which the government is a partner in collaboration with the Pro-Sud union, an exchange of good practices occurred between 2010-2012 with the European partner regions on energy and sustainable transportation. A working group was set up by the government. The use of indicators, both on the European and local levels, as well as the creation of links with local budgets, will be explored on the basis of the experience of the Swedish partners. A report card for reviewing expected and obtained results will be tested to establish links between local and European scales.
- A consultation took place on 4 October, 2012 between social partners in the Economic and Social Council, with the objective of allowing the social partners to present their views to the Government with regard to the five recommendations submitted to Luxembourg under the European Semester and their proposals with regard to the 2013 European Semester⁵⁹.
- Representatives of civil society were summoned on 21 February, 2013 to present their views to the Government with regard to the 2012-2013 recommendations submitted to Luxembourg as well as their proposals for the NRP 2013.

6.3 Communication

Diverse studies have shown that the resistance that forms to structural reforms is linked to the fact that uncertainty regarding expected future benefits of reforms is often greater than the uncertainty regarding costs incurred. The government attaches particular interest to this challenge and intends to pursue its efforts. Several communications tools are to be used, including public events with wide visibility in the media. One example of this is the "On the road to Lisbon/Luxembourg 2020"⁶⁰ colloquium.

Progress achieved as part of the implementation of the Luxembourg 2020 strategy should have effective follow-up, reporting and evaluation processes. Diverse structural indicators used as part of the Lisbon strategy had a tendency of not taking adequate account of the

⁵⁸ For more details see: http://www.odc.public.lu/actualites/2012/03/debat_PNR_2012/index.html

⁵⁹ For more details see: http://www.odc.public.lu/actualites/2012/10/Consultation_CES_CSR_2012_2013/index.html

⁶⁰ For more details see: http://www.odc.public.lu/actualites/2010/12/colloque_Luxembourg_2020/index.html

specific circumstances surrounding Luxembourg⁶¹, and diverse key indicators of the Europe 2020 strategy pose a problem at present. It proved to be opportune to broaden the statistical follow-up on the national level, causing a nation-wide "Competitiveness scoreboard" to be put into place. The latest version of this publication by the *Observatoire de la compétitivité* was in October, 2012, and the composite indicator classed Luxembourg in 11th place in the EU-27⁶².

⁶¹ As an example, the "employment rate" indicator is a purely national concept. Yet domestic employment in Luxembourg includes around 40% cross-border workers.

⁶² Ministry of the Economy and Foreign Trade, *Competitiveness Report 2012*, Luxembourg, October 2012
For more details see: http://www.odc.public.lu/publications/perspectives/PPE_025.pdf



For more information, please contact:

Ministry of the Economy and Foreign Trade
Competitiveness Directorate General
Observatoire de la Compétitivité

19-21 Boulevard Royal
L-2449 Luxembourg

Tel. +352 2478 8403
Fax +352 26 86 45 18

info@odc.public.lu
www.odc.public.lu

Luxembourg, April 2013