The following appendix (Appendix 2) is the Electronic Supplementary Material of the article entitled “Modelling Regional Land Change Scenarios to Assess Land Abandonment and Reforestation Dynamics in the Pyrenees (France)” at http://dx.doi.org/10.1007/s11629-014-3405-6.

Appendix 2 Description of the scenarios’ available in the reports used to define the storylines and their respective contribution.

Vert et al. (2013) focuses on the effects of climate change on ecosystems and its consequences on agricultural and forestry production. Scenarios are distinguished by the adaptation capabilities of agricultural and forestry production systems in the context of contrasting global developments. The scenarios from Vert and Portet (2010) sketch the possible effects of energy costs variations on agricultural activities. Their scenarios provide a useful insight on the influence of energy costs on land settlement and industry organization. Both studies are complementary and extrapolate scenarios out to 2050 with a thematic scope that is highly relevant for agricultural assessment studies. In both reports, three of the four scenarios stood out for their adaptation strategies to environmental and socio-economic changes, either by increasing systems’ productivity, by giving more autonomy to local authorities or by orienting production strategies to environmental suitability. Nonetheless, those scenarios have several shortcomings. The main inadequacy is the lack of details regarding logging activities and forestry adaptation to global changes since their focus is primarily oriented towards agriculture and rural development. In addition, they do not offer an exhaustive insight on CAP orientations, although they do acknowledge the CAP influence on agricultural dynamics.

The scenarios from the CGAAER (2010) study have been tacitly used in the previous reports as a source of information regarding the main strategic stakes for the CAP in the near future. Six contrasting scenarios cover the period from 2014 to the deadline of the financial planning by the European Union for 2020. The resulting storylines highlight the main levels of the CAP and their potential impacts on rural development at a national scale. The CAP spending limits, its overall structure, as well as the future status of direct payment are identified as the key driving factors for agricultural support in each scenario. The research group intentionally did not include varying international markets (e.g., agricultural costs and commodity prices) as a key variable since it was assumed to have a low influence on decisions concerning the CAP reform between 2011 and 2013. Although the scenarios are moderately explicit when it comes to outcomes for both agricultural and forestry production, they do offer a wide range of future scenarios for the CAP up to 2020.

Bourgau et al. (2008) focuses on the effects of forest policies emanating from national authorities and the impacts of foresters’ and manufacturers’ management strategies on the extent of forest LULC changes up to 2050. One of the strengths of these scenarios lies in the fact that they all develop their initial storyline based on global variables (e.g. population growth, increase in goods and services demand, climate changes, availability of energetic resources, and trade policies) that are known to influence logging activities in a major way. Contrasting scenarios are developed by integrating uncertainties regarding world governance (carbon policies), international demand in wood products, and societal orientations (energy, employment). One drawback is they assess forest LULC changes by expressing key facts for the entire country and are not necessarily explicit in differentiating the outcomes of global variables and national uncertainties for smaller areas such as the Pyrenees Mountains.
Figure Overview of (a) the main scenarios used as a starting point and (b) the scenarios provided by the existing reports, used as additional sources of information.