



HAL
open science

To what extent can secondary mineral resources replace primary mineral resources?

Jules Simonis, Daniel Monfort, Céline Blanc, Bernard Cholley

► **To cite this version:**

Jules Simonis, Daniel Monfort, Céline Blanc, Bernard Cholley. To what extent can secondary mineral resources replace primary mineral resources?. AQUACONSOIL 2019, May 2019, Antwerp, Belgium. hal-02132943

HAL Id: hal-02132943

<https://brgm.hal.science/hal-02132943>

Submitted on 17 May 2019

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

AquaConsoil 2019 – Abstract submission

Theme 7 – Land soil, water and sediment in the circular economy

7b) Reuse and upgrading of soil, sediment and water and their products; recovery of valuable resources; improving ecological functioning

TITLE : To what extent can secondary mineral resources replace primary mineral resources?

Authors : J. Simonis, D. Monfort, C. Blanc, B.Cholley

BRGM, French geological Survey, Marseille and Orléans (France).

NGE

Région PACA

Contact : j.simonis@brgm.fr

3200 signs max.

New regulations in France attempt to take into account a circular economy in order to regulate the material flows from quarries. The south-east region of PACA was chosen to develop a large-scale model of primary resources versus secondary resources. Based on an exhaustive inventory of installations, this study identifies brakes and levers to develop secondary resources uses and simulates various scenarios for the next 14 years in order to assist in the political decision-making process.

All secondary mineral resources that can be used as substitutes for quarry materials have been studied (e.g. track ballasts, excavated soils, glasses) but the presentation will focus on aggregates and their substitutes. While this resource represents the main volume of mineral material transported within the region, it is the one for which the recycled materials rate of use is the lowest. In 2015, secondary materials represented only 3.7 million tons, out of the 24.5 million tons of aggregates produced in the region.

In order to increase the proportion of recycled materials used in construction sites, an inventory has been carried out. More than 200 installations were surveyed (recycling platforms, industries, quarries, landfills) to identify as precisely as possible the volumes involved, the capacities, the market difficulties. More than 50 project owners were interviewed in order to take into account the trend and nugget effects (major construction sites) in the future to determine the future gravel requirements and their position on the use of recycled materials. The presentation will show the results of this broad survey by highlighting the main locks and levers identified.

Following this observation, scenarios will be presented proposing important recycling rates for the coming years. For each recycling rate, the means to be implemented is identified. This may involve the opening of new recycling platforms but also new technology requirements. For example, at present, few recycled gravels are used in construction materials such as concrete and this could be increased. The presentation will develop the levers identified (technological barriers, taxation, social acceptability, political issues) and the results of the projection according to the scenario chosen.