SIGOPTI

Funded by ADEME

The Open Source Decision Support Tool for District Heating Networks

1 Context

France plan to increase the renewable energies rate to 23% of final energy consumption in 2020 and 32% in 2030. For district heating networks, the objective is a multiplication by five of the amount of renewable or recovery heat and cold delivered by 2030.

➔ Need tools to support decision making for the development of district heating networks.

2 Target

SIGOPTI is a tool intended for communities to help decision-making regarding the **creation** or **extension** of district heating networks.

The SIGOPTI tool will be useful during **feasibility studies** where a limited amount of information is available and where some strategic decisions are still to be made. SIGOPTI is therefore deliberately based on a very simple modeling, to guide the decision maker at a time when the range of possibilities is very wide thanks to optimization methods.

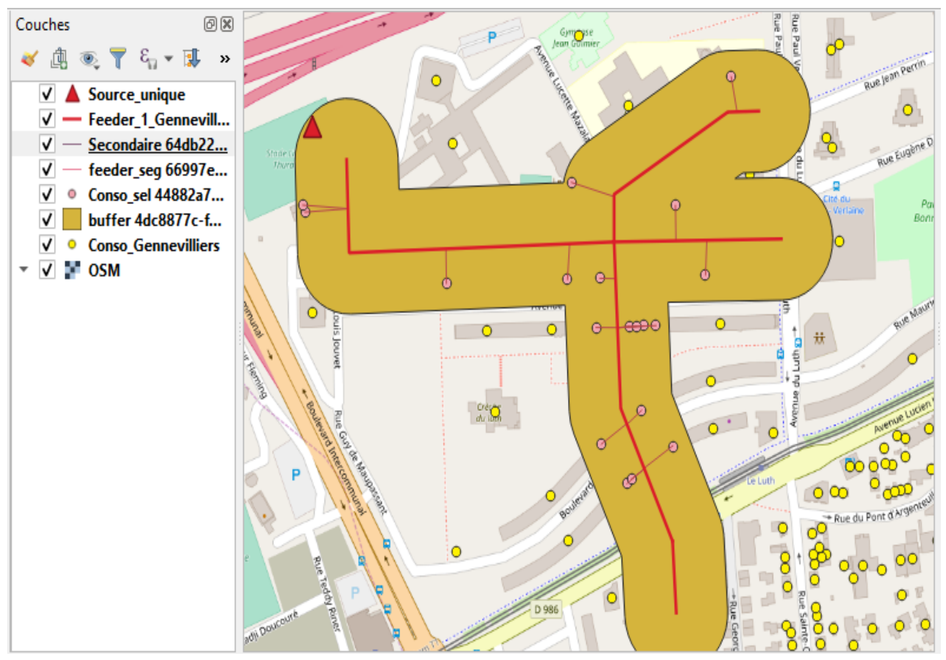
3 Project management

4 Results

A tool is made available in an Open Source way. This is the **SIGOPTI plugin** downloadable in the QGIS environment that serves as an unique interface since **the optimization is done on a remote server.**

plugin

QGIS



5 Keep in mind

Optimization is performed with a global cost approach over a user-defined run time. The tool therefore returns the least expensive solution in terms of dimensioning (pipe diameters, speeds, flows) and heat production technologies (gas, biomass, geothermal, etc.) with intrinsic costs associated. On the other hand, it is up to the user to define the configuration and layout of the network.

6 Recovery

The tool will be disseminated trough the FNCCR network including all the stakeholders in the sector, i.e. communities and municipality-owned utilities. It is not excluded that other stakeholders may be interested in the results of the project, such as design offices specialized in heat networks, designers, developers or even operators of heat networks.

7 Follow-up

The tool developed in the framework of the SIGOPTI project lays the foundations for a decision support tool that may have to evolve in the direction of greater flexibility in the variables to be optimized and the results to be displayed. The tool could be improved continuously by tracking the feedback / needs of users.

Financer

ADEME
Agence de l'Environnement et de la Maîtrise de l'Energie

Call for project « Energie durable : production, gestion et utilisation efficaces 2017 »

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