

Tools for the sustainable management of cities



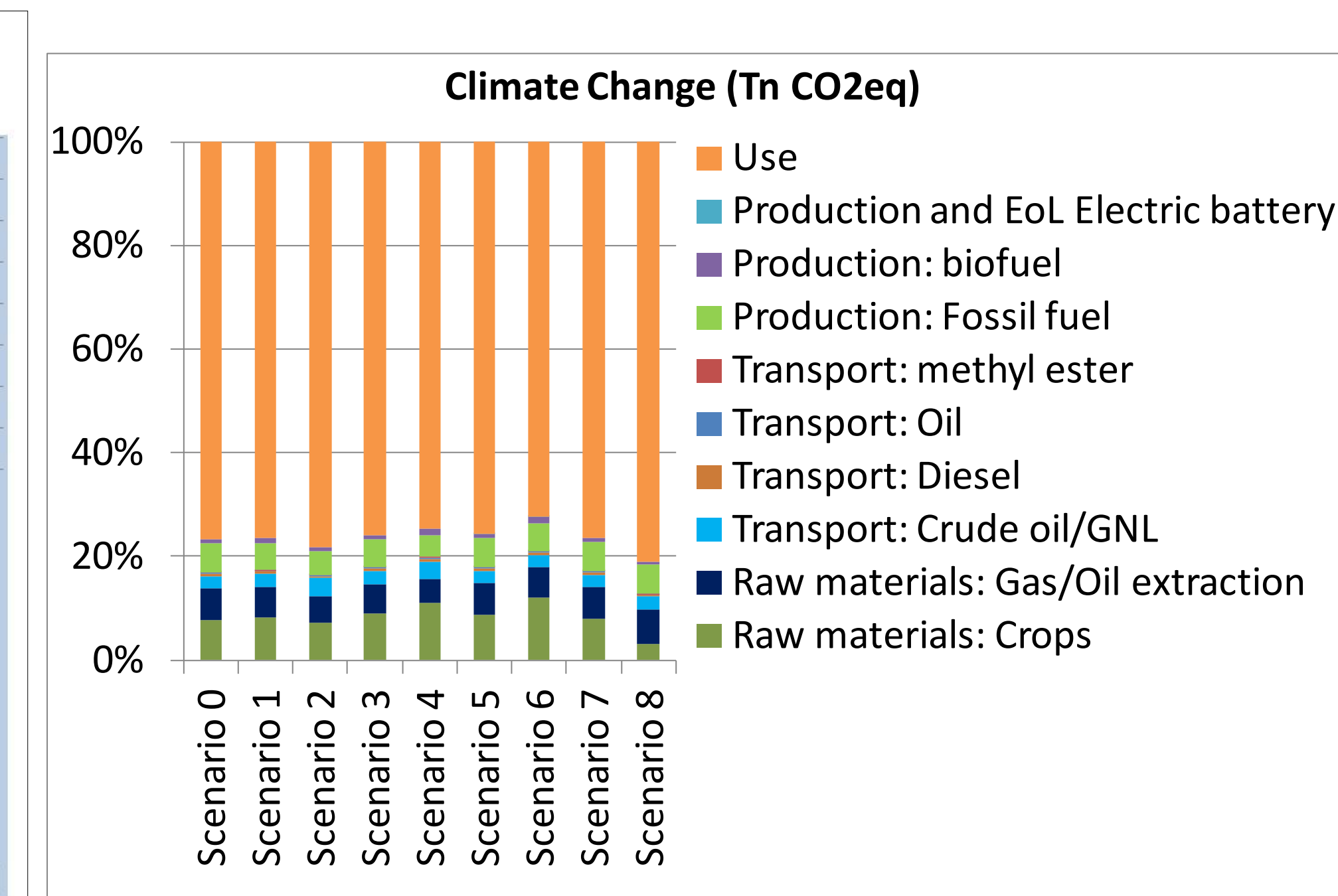
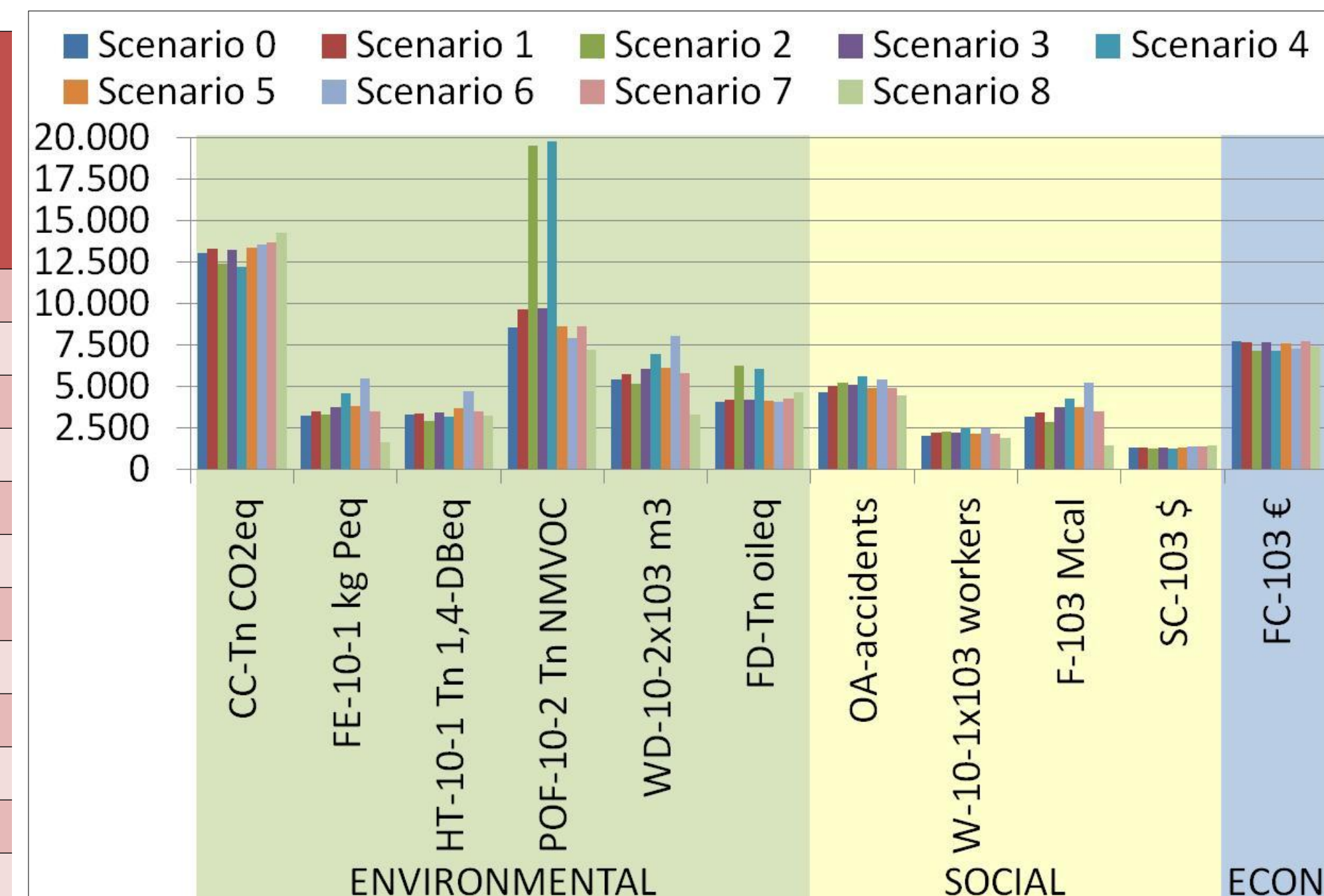
GAIKER Technology Centre has expertise in environmental management and research on sustainability. In last years, it has developed two worth mentioning R&D projects regarding urban sustainability:

1) BioLCA: Software for the sustainability evaluation of transport

- The aim of BioLCA project was to develop and to test a new software tool for the sustainability evaluation of transport, incorporating the life cycle perspective in the sustainability evaluation. The tool (<http://app.lifebiolca.com/>) incorporates a wide range of transport modes, fuels and transport units, even allowing the users to incorporate new ones.
- 8 alternative scenarios for the fleet of BILBOBUS, Bilbao's public transport company by bus, have been tested with BioLCA.

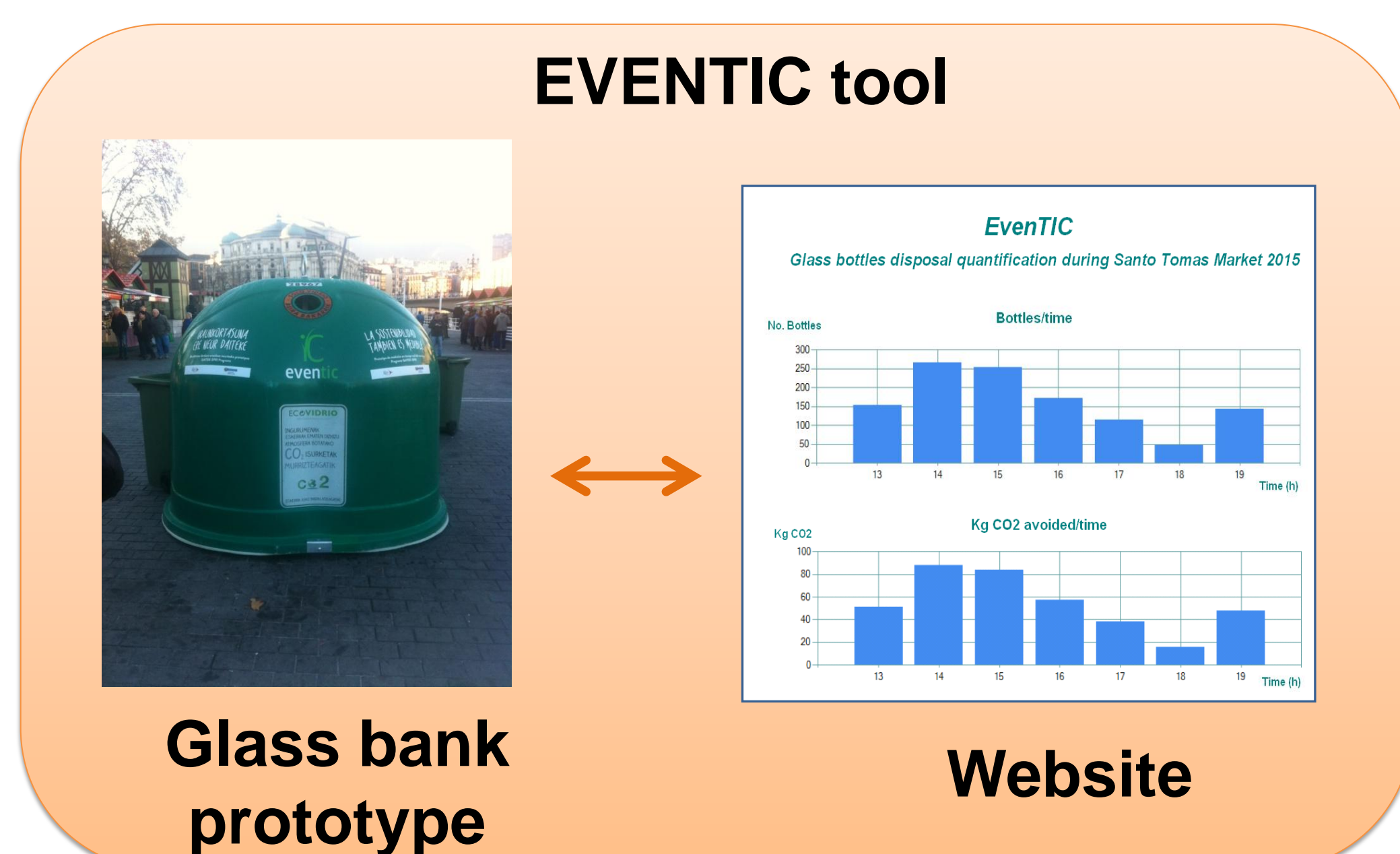


Vehicle category	Scenario 0 2012	Scenario 1 2015	Scenario 2 2020	Scenario 3 2015	Scenario 4 2020	Scenario 5 2015	Scenario 6 2020	Scenario 7 2015	Scenario 8 2020
Euro 0	4	4	4	4	4	4	4	4	4
Euro 1	3	3	3	3	3	3	3	3	3
Euro 3	108	96	77	96	77	98	77	96	77
Euro 4	20	19	12	19	12	19	10	19	10
Euro EEV	21	20	20	20	20	20	20	20	20
Euro 6						10	34	14	42
Hybrid						2	8		
GNC		14	40	14	40				
TOTAL	156	156	156	156	156	156	156	156	156
Diesel		18%	8%	11%	0%	17%	7%	26%	100%
Bio10		43%	52%	43%	0%	41%	7%	39%	0%
Bio 20		39%	39%	47%	100%	43%	86%	35%	0%



2) EVENTIC: ITC-based tools for events management

- Goal: development of ITC-based solutions to measure events sustainability
- Activities: Pilot experience in a mass event to validate the EVENTIC tool



Results

- ✓ EVENTIC tool validated
- ✓ Prototype data:
 - 1,150 bottles collected
 - Avoided impact: 383.3 Kg CO₂-eq

Relevance for cities in Europe:

- ✓ ITC-based tools to:
 - a) Measure environmental, economic and social impacts (e.g.: Carbon footprint)
 - b) Encourage sustainable performance
- ✓ Reduce environmental burden of any activity from life cycle perspective
- ✓ Increase social and economic impacts