

BIODIESEL FUEL IN THE PUBLIC TRANSPORT - CRAIOVA -

Evaluation' results

Modification of buses to run with biodiesel up to 20%



Equipment for the emissions' measurements



Measurement of emissions at tailpipe



Equipment for viscosity determination



Equipment for the energy content measurement

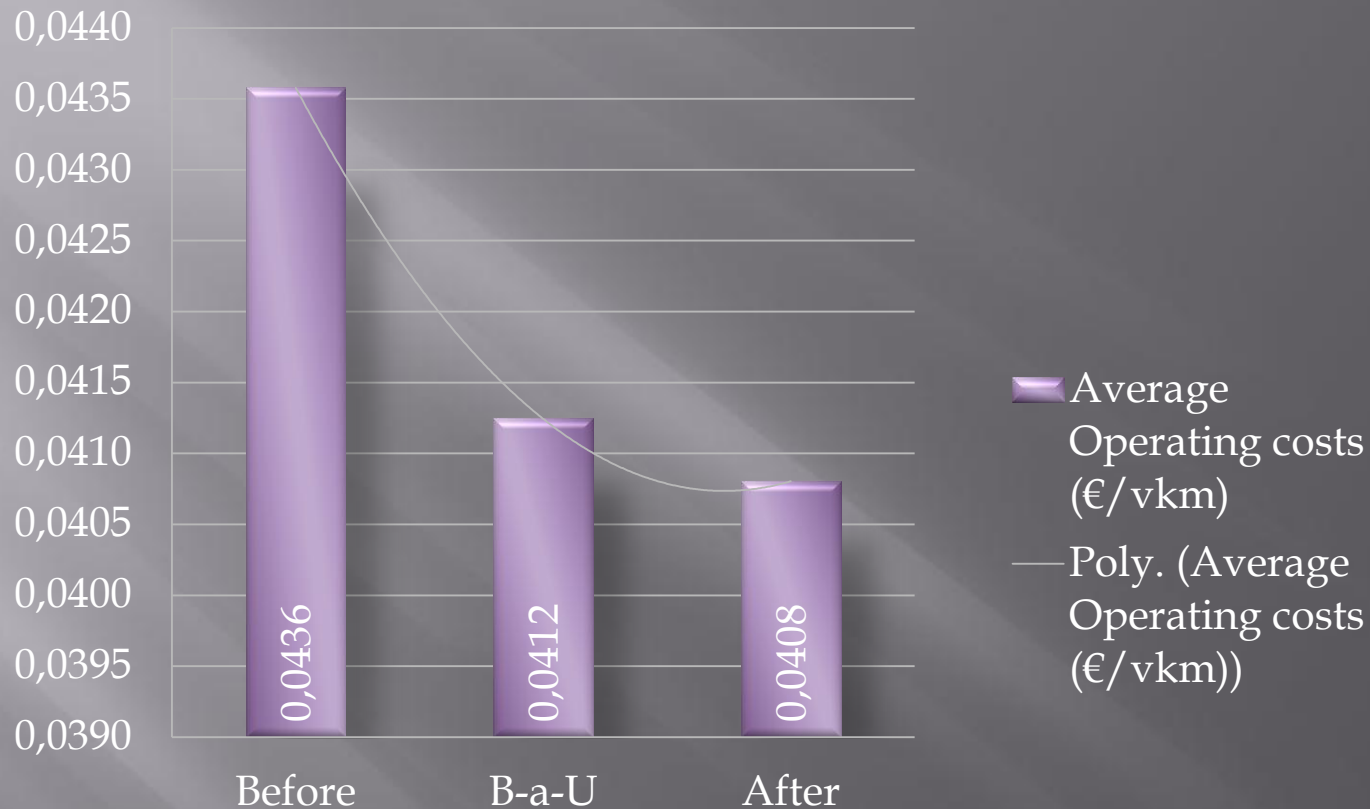


During the measurement of emissions at tailpipe

Evaluation's results

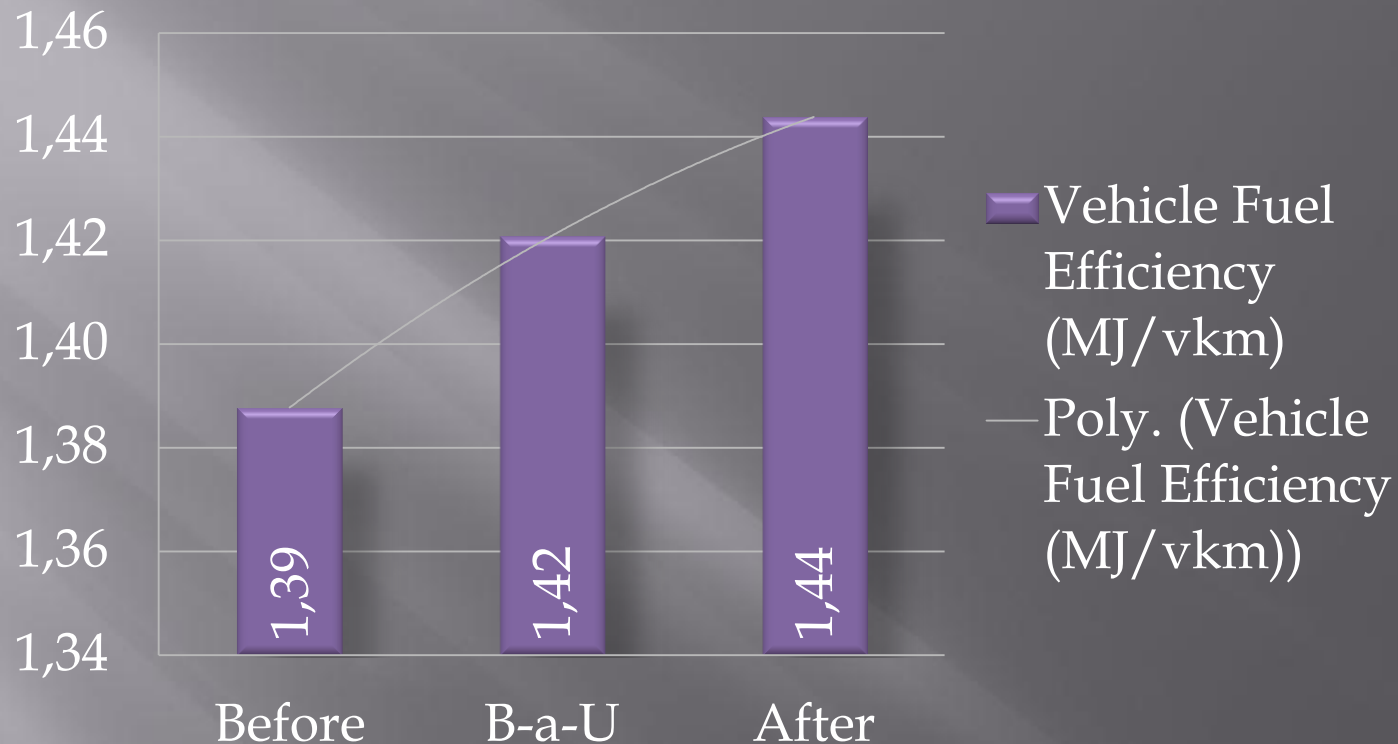
Indicator number	Indicator name	Unit of measurement	Indicator value "Before" MODERN implementation	Indicator value "After" MODERN implementation
Indicator 2	Average Operating costs	EURO/vkm	0,0436	0,0408
Indicator 3	Vehicle Fuel Efficiency	MJ/vkm	1,39	1,44
Indicator 8	CO ₂ emissions	g/vkm	122,32	116,44
Indicator 9	CO emissions	g/vkm	4,25	3,87
Indicator 10	NO _x emissions	g/vkm	0,56	0,68

Indicator 2 - Average Operating Costs



The operating costs decreased with 6,37% after the implementation of the measure

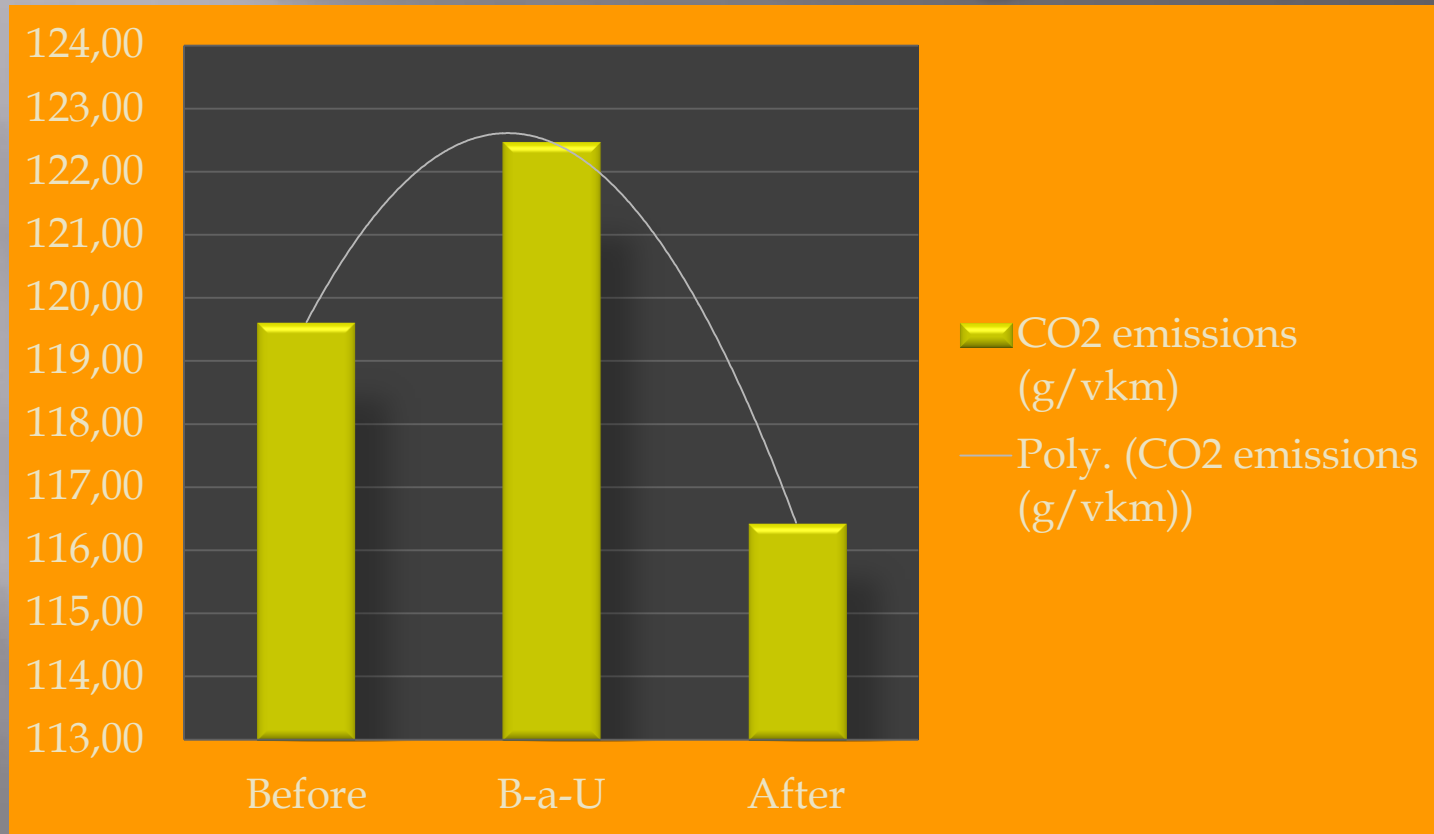
Indicator 3 - Vehicle Fuel Efficiency



The energetic efficiency is lower with 4,04% in CIVITAS case than in the “before” situation because B20 develops a lower calorific power than the diesel one. A balance between indicator 2 and 3 should be found so that the biodiesel price offset its poor energy content

Indicator 8

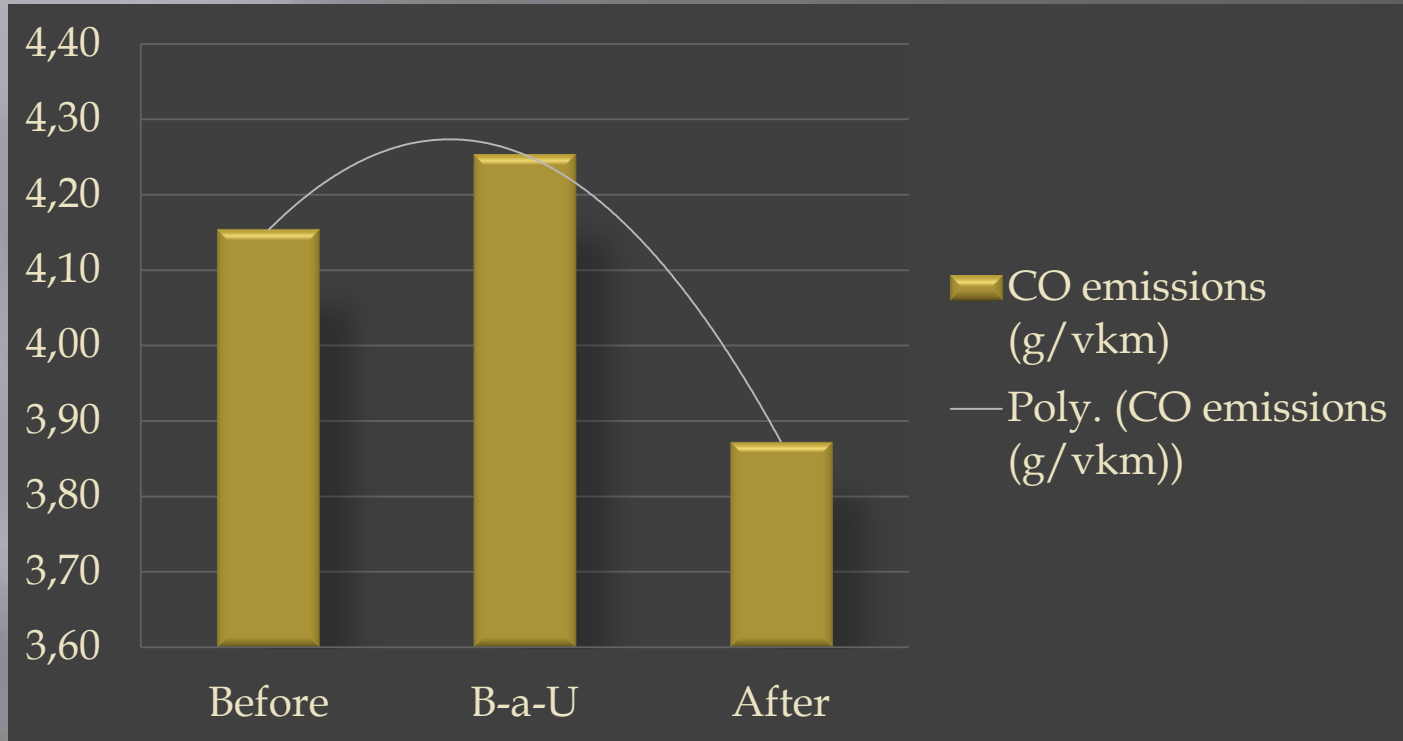
CO2 emissions (g/vkm)



By using a mix fuel with 20% biodiesel the CO2 emissions become reduced with 2,66%.

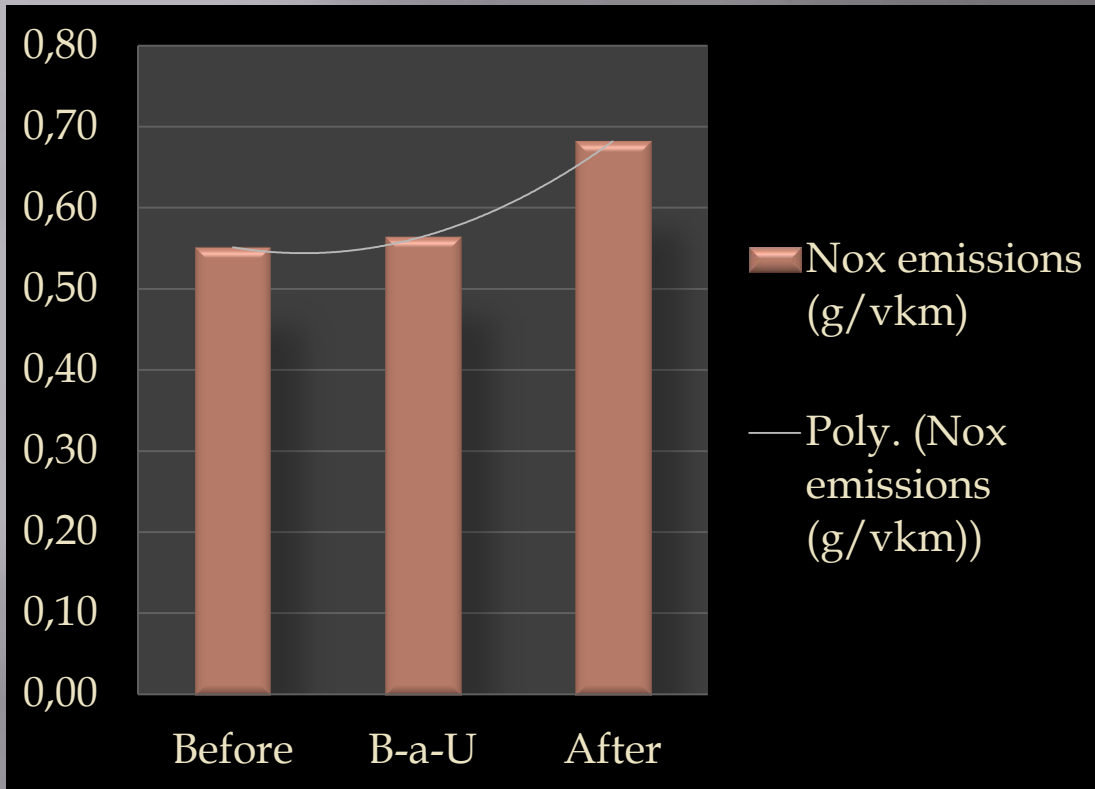
Indicator 9

CO emissions (g/vkm)



The results of the evaluation of this indicator show a reduction of its level of 6,76% through the implementation of the CIVITAS / MODERN

Indicator 10 NO_x emissions (g/vkm)



The NO_x emissions register a substantial increase of 23,66%. It is known and accepted the fact that the NO_x emissions rise in this case but the modern technologies offer solutions like additives, for the reduction of these emissions

Through the implementation of this measure the cumulated emissions are being reduced with **2,68%** thing that is in line with the objective of this measure - reducing the GHG and the pollutant emissions in the city by **2%**.