



## Re-Cycling Fair and Training Program Impact Tool

## Table of contents

Index of tables.....	2
Introduction .....	3
Project Evaluation.....	3
Overview of the evaluated indicators.....	5
Assessment indicators in detail.....	6
Indicator 1 – Working Knowledge.....	6
Indicator 2 – Learning Outcomes .....	7
Indicator 3 – Green Mobility.....	8
Indicator 4 – Ecological Fair Footprint .....	9
Indicator 5 – Economic Impact.....	10
Indicator 6 – Target Group .....	11
Results .....	12
Indicator 1 – Working Knowledge.....	12
Indicator 2 – Learning Outcomes .....	15
Indicator 3 – Green Mobility.....	16
Indicator 4 – Green Mobility.....	19
Indicator 5 – Economic Impact.....	21
Indicator 6 – Economic Impact.....	21
Conclusion .....	25
ANNEX.....	26
ANNEX 1: Questionnaire working knowledge (Indicator 1) .....	26
ANNEX 2: Green Mobility Survey (Indicator 3).....	26
ANNEX 3: Tally sheet economic impact assessment (Indicator 5).....	26
ANNEX 3: Questionnaire Target Group survey (Indicator 6).....	26

## Index of tables

Figure 1: Overview of the evaluated indicators.....	5
Figure 2: Involved target groups in Assessment.....	5
Figure 3: Methodology Details on Indicator 1 – Working Knowledge .....	6
Figure 4: Methodology Details on Indicator 2 – Learning Outcomes .....	7
Figure 5: Methodology Details on Indicator 3 – Green Mobility.....	8
Figure 6: Methodology Details on Indicator 4 – Ecological Fair Footprint .....	9
Figure 7: Methodology Details on Indicator 5 – Economic Impact.....	10
Figure 8: Methodology Details on Indicator 6 – Target groups.....	11
Figure 9: Main mode of transport of students in the Re-Cycling training.....	16
Figure 10: Access to bicycles of students in the Re-Cycling training .....	17
Figure 11: Bike usage frequency of students in the Re-Cycling training .....	17
Figure 12: Motivation for more cycling of students in the Re-Cycling training .....	18
Figure 13: General activity level of students in the Re-Cycling training .....	18
Figure 14: CO2-emissions from Re-Cycling Fair 1 in Skopje .....	19
Figure 15: CO2-emissions from Re-Cycling Fair 2 (Velo Rodeo) in Skopje .....	20
Figure 16: CO2-emissions from Re-Cycling Fair in Italy .....	20

This publication is part of the project “Re-Cycling - Bike Reuse and Riding Fair”, Project ID 101049006

### Disclaimer:

“Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.”



Co-funded by  
the European Union



Erasmus+



## Introduction

The “Re-Cycling. Bike Reuse and Riding Fair” project, financed by the Erasmus Sport Program, was intended to re-engage kids in sports after the pandemic crisis, to re-establish a healthy lifestyle through cycling, and, at the same time, to promote the circular economy in the biking sector. As a symbol of green mobility, the bicycle is also a product with an ‘end-of-life’ stage and a concomitant risk of becoming non-recyclable waste, especially through childhood, when multiple purchases of bikes may be necessary as the child outgrows one bike after another. The “Re-Cycling” project has involved children, families, cycling instructors and coaches, and other relevant stakeholders, in a series of initiatives concerning green cycling, and bicycle repairs, including do-it-yourself repairs, bike reuse, safe and responsible disposal. The main activities have been the hybrid Training Program and the Fairs held in North Macedonia, Austria, Italy, and France.

## Project Evaluation

Task 4.1 of work package four of the Re-Cycling project was entirely dedicated to the development and piloting of an impact assessment tool. This is the “Green and Sustainable Biking” Training Program/Re-Cycling Fair Impact Tool (SEE IT). The tool comprised a methodology and a set of instruments for evaluating the social, environmental, and economic impact of the Re-Cycling project. The research method employed was primarily the longitudinal or “distance travelled” method, which entailed gathering data through the administration of pre- and post-tests.

### Assessment of the social impact of the “Green and Sustainable Biking” Training

**Indicator 1: “Working knowledge”** – This indicator measured the extent to which partners and stakeholders demonstrated an increased level of understanding of the principles of the circular economy in the context of the biking sector. It was assessed at the beginning and end of the project. The baseline value represented the mean score obtained on a pre-test on this subject. The target value was an average increase of 0.5 points on each 5-point Likert scale of the post-test.

**Indicator 2: “Learning Outcomes”** – An evaluation of the learning outcomes was conducted prior to and following the implementation of the “Green & Sustainable Biking” training program. The baseline value represented the mean score of the pre-test, which was administered prior to the training. The target value was an average increase of 0.5 points on each 5-point Likert scale of the post-test, which was administered after the training.

### Assessment of the environmental impact of the Training and Fairs:

**Indicator 3: “Green mobility”** – A measurement of the frequency of bicycle usage among the target groups at the outset and conclusion of the project. Baseline Value: The average frequency was measured at the beginning of the project. Target Value: A 10% average increase in cycling.

**Indicator 4: "footprint"** – An assessment of the ecological footprint of the fairs was carried out, with particular consideration given to aspects such as minimal food waste, short delivery chains, and the use of plastic-free materials. The target value was set at a level below the average footprint of small-scale sporting events, with at least one comparison made per country.

**Assessment of the economic impact of the Training and Fairs in the host communities:**

**Indicator 5: "Savings"** – An estimation of cost-saving opportunities generated at the level of small-scale circular economy ecosystems was made. The target value was 15% savings for families compared to national market prices.

**Assessment of the target groups reached by the Re-Cycling Fairs:**

**Indicator 6: "Target groups"** – A measurement of the visitors of the five Re-Cycling fairs in the partner countries (North Macedonia (2), Austria, Italy, and France). The aim was to get insights on the motivation of visiting, the visitors mobility behaviour, visitors access to bicycle mobility, visitors knowledge about bike reuse and circular economy and feedback on the event.

## Overview of the evaluated indicators

The following table provides an overview of the indicators and the assessed target groups.

Focus	Indicator 1 – Working Knowledge	Indicator 2 – Learning outcomes	Indicator 3 – Green Mobility	Indicator 4 – Fair foot-print	Indicator 5 – Economic Impact	Indicator 6 – Target Group
In General	x			(x)	(x)	(x)
Training		x	x			
Fairs				x	x	x

Figure 1: Overview of the evaluated indicators

(Involved) Target Groups	Indicator 1 – Working Knowledge	Indicator 2 – Learning outcomes	Indicator 3 – Green Mobility	Indicator 4 – Fair foot-print	Indicator 5 – Economic Impact	Indicator 6 – Target Group
Partner Organisations	x	x	x	x	x	x
<b>Direct Target Groups</b>						
Children, families with low SES			x			x
Cycling teachers, trainers from schools, bike clubs, associations		x	(x)		(x)	(x)
<b>Indirect Target Groups</b>						
Local stakeholders, communities				x	x	x
Regional, national policy makers	(x)					(x)
European institutions, networks	x					(x)

Figure 2: Involved target groups in Assessment

x = main target group

(x) = secondary target group

## Assessment indicators in detail

Below each methodology to assess the indicators is described in further detail for replication and scaling up in future fairs. The description includes organisational issues dealt with during the project. The surveys used for assessment can be found in the annex.

### Indicator 1 – Working Knowledge

= Increased level of working knowledge among partners and stakeholders on circular economy in the biking sector, measured at the beginning and at the end of the project.

<b>Target value</b>	Average increase of 0.5 points on each 5-point Likert Scale of the post-test
<b>Focus</b>	In general
<b>Method</b>	Survey via Google Doc (Likert)
<b>Survey</b>	Milan + Brussels Event
<b>Target group</b>	MTF and partner organisations asking <ul style="list-style-type: none"><li>• attending partners</li><li>• attending regional, national, European stakeholders</li></ul>

#### Content of the survey

- Knowledge on sustainability and circular economy
- Knowledge on the role of sustainability and circular economy in the bike sector
- Requirements
- Personal information
- E-mail address

#### NOTES

- Decision for survey in Milan and Brussels, instead of additional/ simplified questionnaire for trainers
- (Additional information due to Indicator 2: Learning Outcomes)

#### Questions & Organisational issues

- Attendees differ (Milan vs. Brussels)
- Translation

Figure 3: Methodology Details on Indicator 1 – Working Knowledge

## Indicator 2 – Learning Outcomes

= Assessment of learning outcomes, measured before and after the delivery of the training program.

<b>Target value</b>	Average increase of 0.5 points on each 5-point Likert Scale of the post-test, administered after training
<b>Focus</b>	Training
<b>Method</b>	Test via Re-Cycling Website (Multiple Choice: true/false)
<b>Survey</b>	Pre Test + Final Test Modul 1 Pre Test + Final Test Modul 2 Pre Test + Final Test Modul 3
<b>Target group</b>	MTF and partner organisations asking <ul style="list-style-type: none"><li>• trainers and teachers</li></ul>

### Content of the survey

- Sustainable and circular biking
- Reuse
- Repair

### NOTES

- Decision for multiple choice instead of Likert scale, with 5 answer options (2 true, 3 false)
- Decision in favour of asking trainers and teachers due to complexity of the modules and evaluation, instead of additional questioning at fairs and additional questionnaire for students (since the training will take place at different times within the project timeline, due to data protection, and technical possibilities in class)
- (Additional information due to Indicator 6: Target group)

### Questions & Organisational issues

- Modules = training material for trainers
- How does training work (analogue/digital), when does it start (timeline)
- Coherent layout, terms and thematic focus
- Briefing of trainers and teachers regarding survey (incl. Indicator 3: Green mobility of students)
- Translation necessary

Figure 4: Methodology Details on Indicator 2 – Learning Outcomes



### Indicator 3 – Green Mobility

= Assessment among target groups of bike usage frequency, measured at the beginning of the project, and at the end of it.

<b>Target value</b>	10% average increase of biking
<b>Focus</b>	Training
<b>Method</b>	Interactive (hand signal in class)
<b>Survey</b>	<ul style="list-style-type: none"><li>• Survey during Training with students</li><li>• Survey at the end of the project with trained students</li></ul>
<b>Target group</b>	MTF and partner organisations briefing trainers and teachers Trainers and teachers asking <ul style="list-style-type: none"><li>• students /children &amp; families</li></ul>

#### Content of the survey

- bike usage frequency
- other means of transport
- other sport activities

#### NOTES

- Decision for interactive approach in classes due to technical challenges and data protection
- Decision to involve trainers/teachers to take care of the survey at the time of training and at the end of the project since they are in direct contact with the students, instead of additional questioning at fairs
- Decision to simplify the survey: interactive approach in class
- (Additional information due to Indicator 6: Target group)

#### Questions & Organisational issues

- Seasonal dependence of mobility
- Involve other means of transport and sport activities
- Briefing of trainers and teachers
- Transmission of results from trainers/teachers to partner organisation to MTF
- How does training work (analogue/digital)? Do students get material?
- Translation necessary

Figure 5: Methodology Details on Indicator 3 – Green Mobility

## Indicator 4 – Ecological Fair Footprint

= Assessment of fairs ecological footprint (minimum food waste, food short delivery-chain, plastic free, etc.).

<b>Target value</b>	Below the average footprint of small-scale sport events (at least one comparison per country)
<b>Focus</b>	Fair
<b>Method</b>	Research and Survey via Google Doc/Excel
<b>Survey</b>	a) Research of comparable events, footprint assessment b) Survey after the fair
<b>Target group</b>	a) MTF with partner organisations (incl. national stakeholders) b) MTF briefing asking partner organisations (incl. local stakeholders)

### Content of the survey

- Mobility
- Event location
- Energy and water
- Catering
- Supply and waste management
- Social responsibility
- Communication

### NOTES

- Decision for questionnaire for partner organisations (responsible for event management) after the event
- Decision to prepare a questionnaire according to general criteria for a sustainable event management

### Questions & Organisational issues

- Research: average footprint of small-scale sport event (min. 1 per country) -> definitions
- Criteria for a sustainable event vs. footprint
- alternatively using a CO2 event calculator, e. g. [https://co2.myclimate.org/de/event\\_calculators/new](https://co2.myclimate.org/de/event_calculators/new)
- Skopje in Sept. 2023 as pilot
- Google Doc / Excel

Figure 6: Methodology Details on Indicator 4 – Ecological Fair Footprint

## Indicator 5 – Economic Impact

= Estimation of cost-savings opportunities, generated at the level of small-scale circular economy ecosystems.

<b>Target value</b>	15% savings for the families compared to national market prices
<b>Focus</b>	Fair
<b>Method</b>	Research and Survey via Excel
<b>Survey</b>	a) Research b) Survey (after the Fair)
<b>Target group</b>	a) MTF with partner organisations (incl. national stakeholders) b) MTF asking partner organisations (incl. local stakeholders)

### Content of the survey

- Research of costs
- Number and type of bikes offered (size, new/second-hand)
- Requirements and costs

### NOTES

- Decision to differentiate between the following cases (per country):
  - 1) Costs of new children's bike
  - 2) Costs of used bike at fairs
  - 3) Costs of 2-3 repair cases (see I-II-III) acc. to hourly wages and/or comparative offers
    - I) Repair bike tube
    - II) Change bike tyre
    - III) Replace brake cable
- Decision to develop a questionnaire for involved stakeholders at fairs, supported by partner organisations: inform stakeholders, collect data on the ground, transmit information to MTF after the event

### Questions & Organisational issues

- Type of bikes (balance bike, primary school bike, youth bike), brand, age group
- Differences in countries (available bikes, stakeholders involved in fairs)
- Preparation of questionnaire (print) and collection of data
- Support by partner organisations
- Translation of the questionnaire necessary

Figure 7: Methodology Details on Indicator 5 – Economic Impact

## Indicator 6 – Target Group

= We know more about the interest and motivation of our target groups from the fairs.

<b>Target value</b>	Deduction of recommendations for the target group and fairs
<b>Focus</b>	Fair
<b>Method</b>	Live Survey via QR Code (Open Questions + Multiple Choice)
<b>Survey</b>	Welcome survey at the fairs entrance and open survey on the ground
<b>Target group</b>	MTF and partner organisations asking <ul style="list-style-type: none"> <li>• Children and families</li> <li>• Local stakeholders</li> <li>• Regional stakeholders</li> </ul>

### Content of the survey

- Target Group Data: name, age, group
- Mobility/Frequency of bike usage
- Communication: Event PR
- Key motives: Motivation
- Knowledge and Interest
- Event Feedback
- E-Mail

### NOTES

- Decision to develop a questionnaire for the main target group at fairs to evaluate whether the target group has been reached and what appeals to them.
- Decision to ask additional supporting questions that allow further insights into other indicators and allow deductions.
- Survey with support of partner organisations (1-2 persons) through
  - 1) tablets
  - 2) via QR codes to be filled in independently by persons
  - 3) print questionnaire: just in case of dead spots at event area (partner organisation responsible for printing, collection of data and transmission of data)

### Questions & Organisational issues

- System for survey
- Questions: groups, e-mails for final survey (data protection in case of minors)
- Implementation on the ground: dates, equipment available, personnel
- Incentives for participants: bracelets, reflectors, reflector stickers for helmets/ bikes, prize?

Figure 8: Methodology Details on Indicator 6 – Target groups

## Results

### Indicator 1 – Working Knowledge

The aim of Indicator 1 was to increase the level of working knowledge among partners and stakeholders on circular economy in the biking sector, measured at the beginning and at the end of the project. The set target value was an average increase of 0.5 points on each 5-point Likert Scale of the post-test.

Restriction of data: It was not possible to ensure consistency among the respondents. The chosen 'distance travelled' approach is therefore only meaningful to a very limited extent. The number of participants in the pre- and post-test drops sharply. At the same time, it was not possible to analyse the level of knowledge on general topics such as sustainability and circular economy in the project context. For this reason, additional qualitative questions were used. If the indicators that could be assessed using a Likert scale are listed, the results can be found in the right column. In the case of qualitative research methods, qualitative judgements were made.

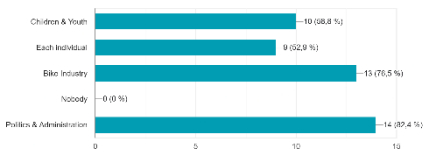
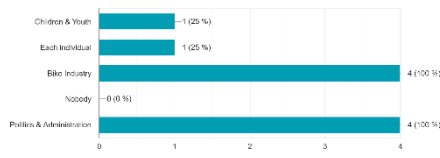
The Questionnaire for assessing the working knowledge of the partners consortium and involved project partners at the Kick-off and final event is attached in Annex 1.

### Results of the Working Knowledge Survey that could be measured in Likert Scale

Method: Survey, "Distance travelled"

#	Pre-Test (Kick-off Event Milan, 22 <sup>nd</sup> February 2023)	Post-Test (Final Event Brussels, 22 <sup>nd</sup> February 2023)	Average Increase
1	<p>How would you rate your overall knowledge on sustainability? 17 Answered</p>	<p>How would you rate your overall knowledge on sustainability? 4 Answered</p>	Overall knowledge on sustainability: +0,2 points
2	<p>Which are the official dimensions of sustainability? 17 Answered</p>	<p>Which are the official dimensions of sustainability? 4 Answered</p>	Higher Percentage of correct answers from participants at the final meeting in Brussels
3	<p>How would you rate your overall knowledge on the issues and goals of the European Green Deal? 17 Answered</p>	<p>How would you rate your overall knowledge on the issues and goals of the European Green Deal? 4 Answered</p>	Overall knowledge on the European Green Deal: +1,1 points
4	<p>How would you rate your overall knowledge on circular economy? 17 Answered</p>	<p>How would you rate your overall knowledge on circular economy? 4 Answered</p>	Overall knowledge on the Circular Economy: +0,6 points

5	<p>How familiar are you with the difference between a linear economy and a circular economy? 17 Antworten</p>	<p>How familiar are you with the difference between a linear economy and a circular economy? 4 Antworten</p>	Overall knowledge on difference between Circular Economy and linear economy: +0,2 points
6	<p>How important are sustainability projects in your working environment? 17 Antworten</p>	<p>How important are sustainability projects in your working environment? 4 Antworten</p>	Importance of sustainability in own working projects: +0,4 points
7	<p>How important is it for the bike sector to integrate sustainability into future projects and business models? 17 Antworten</p>	<p>How important is it for the bike sector to integrate sustainability into future projects and business models? 4 Antworten</p>	Importance of sustainability in the bike sector: +0,6 points
8	<p>Are the following offers and activities strategies for circular economy and increasing sustainability in the bike sector? 17 Antworten</p>	<p>Are the following offers and activities strategies for circular economy and increasing sustainability in the bike sector? 4 Antworten</p>	Bike sharing and re-use of individual parts are stated to be important activities to increase circular economy in the bike sector.
9	<p>The following points refer to sustainable measures to implement circular economy in the bike sector. Please indicate the number of offers you know in each category. 17 Antworten</p>	<p>The following points refer to sustainable measures to implement circular economy in the bike sector. Please indicate the number of offers you know in each category. 4 Antworten</p>	The knowledge on sustainable measures to implement circular economy in the bike sector has room for improvement.
10	<p>How would you rate your overall knowledge and skills in bicycle repair? 17 Antworten</p>	<p>How would you rate your overall knowledge and skills in bicycle repair? 4 Antworten</p>	Overall knowledge and skills in bicycle repair: -0,15 points
11	<p>What can cycling accomplish in terms of sustainability? 17 Antworten</p>	<p>What can cycling accomplish in terms of sustainability? 4 Antworten</p>	The three statements: 1) Cycling reconnects people with nature 2) Bike Sharing strengthens social cohesion and community bonding

			<p>3) Refurbished bicycles provide access to mobility for previously neglected target groups receive the strongest approval.</p>																																				
<p>1 2</p>	<p>B. Who do you think should become more active in promoting the circular economy in the bike sector? 7 Antworten</p>  <table border="1"> <thead> <tr> <th>Category</th> <th>Count</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>Children &amp; Youth</td> <td>10</td> <td>14.3%</td> </tr> <tr> <td>Each Individual</td> <td>9</td> <td>12.7%</td> </tr> <tr> <td>Bike Industry</td> <td>13</td> <td>17.9%</td> </tr> <tr> <td>Nobody</td> <td>0</td> <td>0%</td> </tr> <tr> <td>Politics &amp; Administration</td> <td>14</td> <td>18.9%</td> </tr> </tbody> </table>	Category	Count	Percentage	Children & Youth	10	14.3%	Each Individual	9	12.7%	Bike Industry	13	17.9%	Nobody	0	0%	Politics & Administration	14	18.9%	<p>B. Who do you think should become more active in promoting the circular economy in the bike sector? 4 Antworten</p>  <table border="1"> <thead> <tr> <th>Category</th> <th>Count</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>Children &amp; Youth</td> <td>1</td> <td>25%</td> </tr> <tr> <td>Each Individual</td> <td>1</td> <td>25%</td> </tr> <tr> <td>Bike Industry</td> <td>4</td> <td>100%</td> </tr> <tr> <td>Nobody</td> <td>0</td> <td>0%</td> </tr> <tr> <td>Politics &amp; Administration</td> <td>4</td> <td>100%</td> </tr> </tbody> </table>	Category	Count	Percentage	Children & Youth	1	25%	Each Individual	1	25%	Bike Industry	4	100%	Nobody	0	0%	Politics & Administration	4	100%	<p>According to the survey, politicians, authorities and the bike industry should be the main parties responsible for strengthening education on the circular economy in the bike sector.</p>
Category	Count	Percentage																																					
Children & Youth	10	14.3%																																					
Each Individual	9	12.7%																																					
Bike Industry	13	17.9%																																					
Nobody	0	0%																																					
Politics & Administration	14	18.9%																																					
Category	Count	Percentage																																					
Children & Youth	1	25%																																					
Each Individual	1	25%																																					
Bike Industry	4	100%																																					
Nobody	0	0%																																					
Politics & Administration	4	100%																																					

The defined target value was reached by 3 out of 7 possible questions, which were rated on a Likert scale.

## Indicator 2 – Learning Outcomes

The aim of Indicator 2 was the Assessment of learning outcomes, measured before and after the delivery of the training program to school children (mainly learning module 2+3) and teachers and trainers (mainly learning module 1). Target value: Average increase of 0.5 points on each 5-point Likert Scale of the post-test, administered after training.

Restriction of data: It was not possible to ensure consistency among all respondents. The number of participants in the pre- and post-test drops sharply. Nevertheless, 204 tests have been finished.




Field of Knowledge	 Sustainable & Circular Biking	 Bike Repair	 Bike Reuse	Overall average score
average score pre-test	5,5	6,4	7,9	<b>6,6</b>
average score post-test	7,7	7,2	8,0	<b>7,6</b>
<b>Average knowledge increase</b>	<b>2,1</b>	<b>0,7</b>	<b>0,1</b>	<b>1,0</b>

Table 1: Assessment results Indicator 2: Learning Outcomes of the Re-Cycling Fair and Training Program

Participation Learning Outcomes online learning platform	total
finished tests (all modules, pre- and post)	204
finished tests pre-test (all modules)	159
finished tests post-test (all modules)	60
Percentage post/pre-test	38%

Table 2: Participation Learning Outcomes online learning platform

**The defined target value was met by 200%.**



### Indicator 3 – Green Mobility

The aim of indicator 3 was the Assessment among target groups of bike usage frequency, measured at the beginning of the project, and at the end of it. Target value: 10% average increase of biking

Restriction of data: As the in person trainings were only by delivered on a singular occasion, it was not possible to use the “distance travelled” methodology. Instead, an anonymous survey of participants in the teaching units on bike repair and reuse was conducted. It was therefore not possible to measure the target value.

The diagrams below show the aggregated results of surveys in Italy and Northern Mazedonia. Due to a different setting, the indicator couldn't be measured in Austria and France.

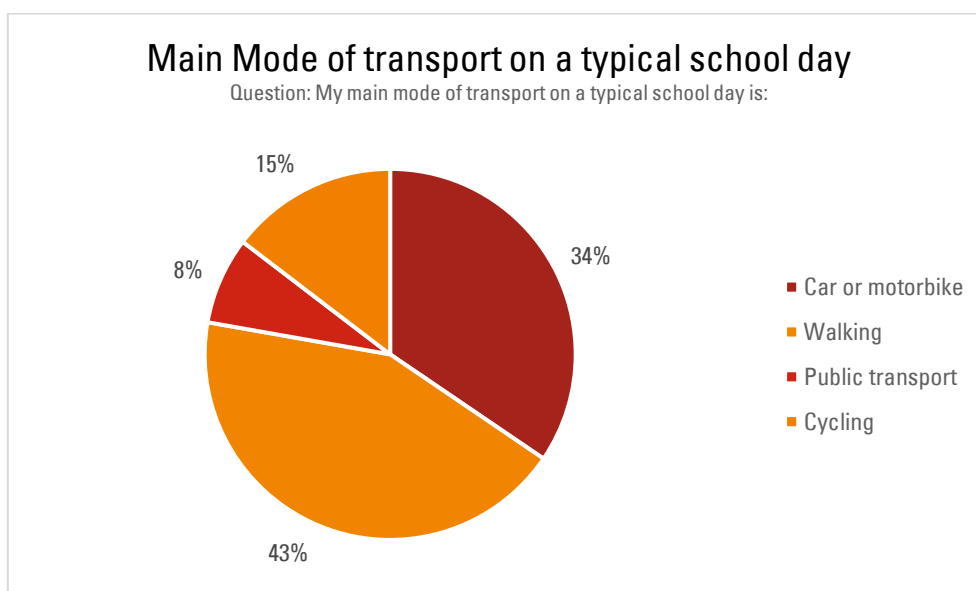


Figure 9: Main mode of transport of students in the Re-Cycling training.

### Access to bicycle as mode of transport

Question: Do you own a functioning bicycle or have access to a functioning bicycle (e.g. from family or friends)?

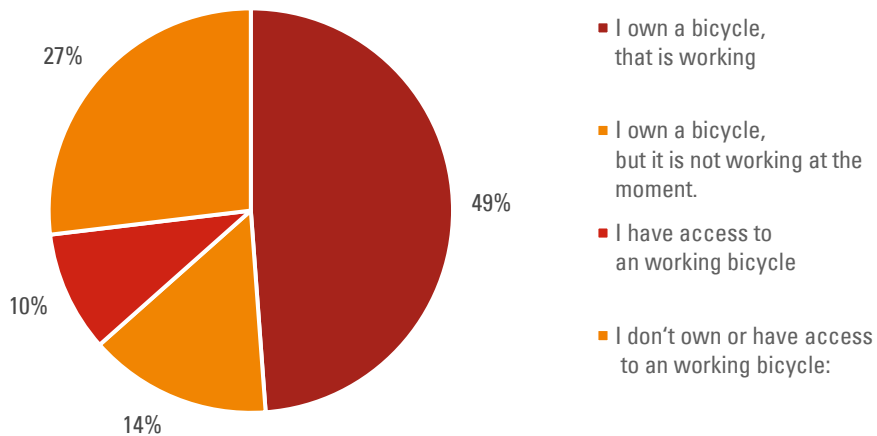


Figure 10: Access to bicycles of students in the Re-Cycling training

### Bike usage frequency

Question: During a normal school week (incl. weekends), on how many days do you use a bicycle?

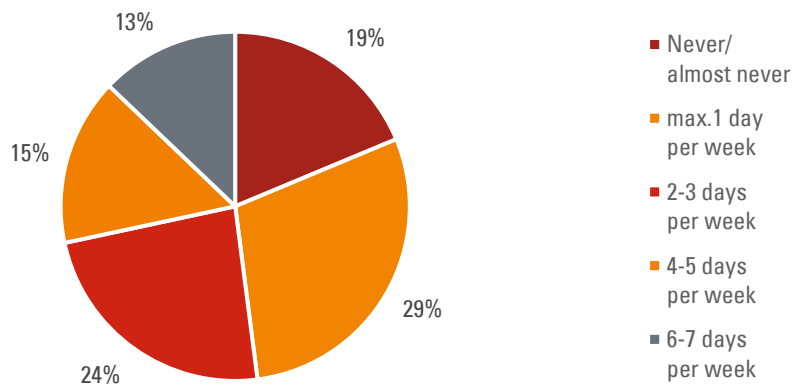


Figure 11: Bike usage frequency of students in the Re-Cycling training

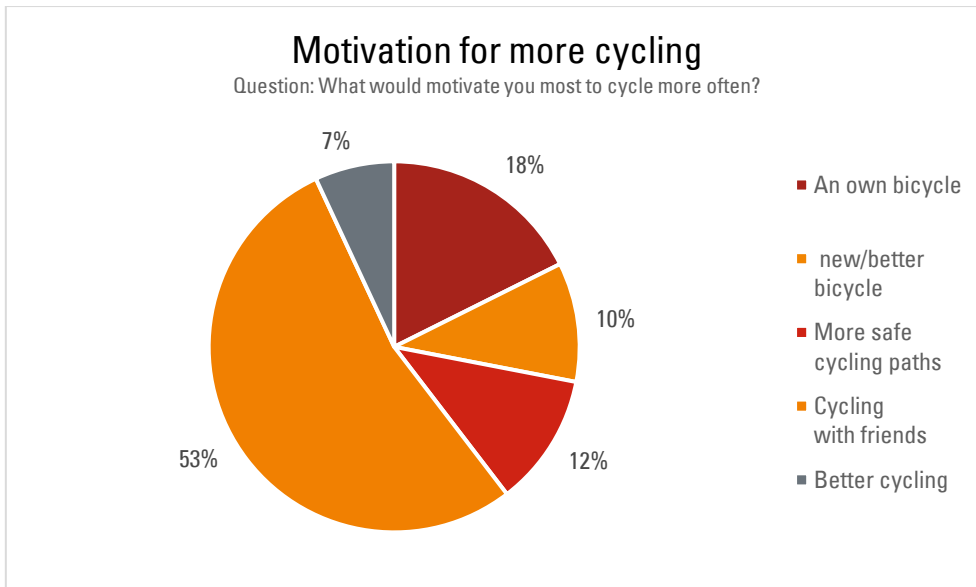


Figure 12: Motivation for more cycling of students in the Re-Cycling training

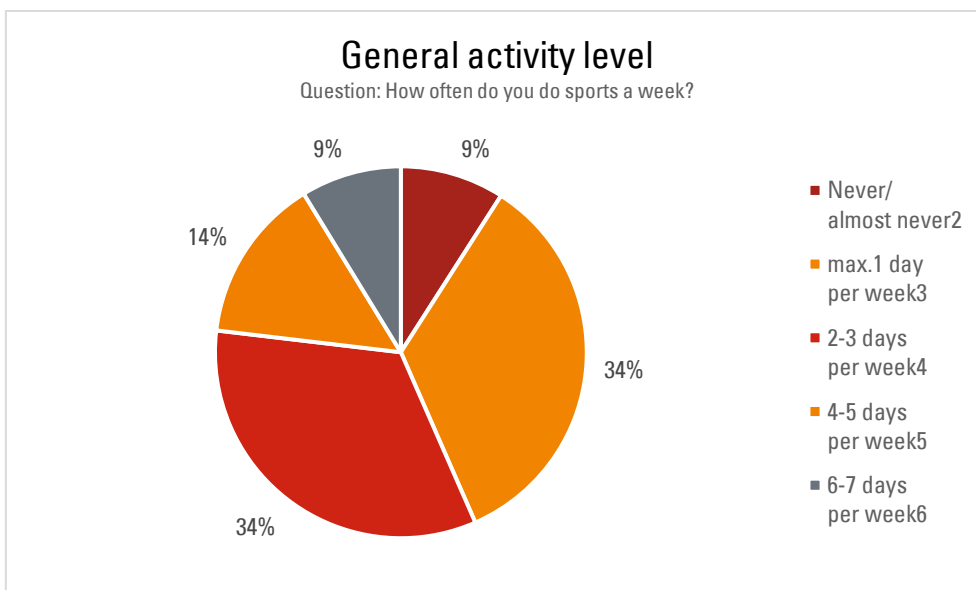


Figure 13: General activity level of students in the Re-Cycling training

**Target Value: Assessment methodology “distance travelled” not applicable**

## Indicator 4 – Green Mobility

The aim of indicator 4 was the Assessment of fairs ecological footprint (minimum food waste, food short delivery-chain, plastic free, etc.). As footprint assessment is very complex, the consortium agreed on using the Co2 event calculator from the international experts organisation "myclimate". Target value: Below the average footprint of small-scale sport events (at least one comparison per country).

Restriction of data: The character of the national Re-Cycling fairs did differ a lot from each other. Due to different settings of the delivered fairs in each country, not all partners were able to assess fairs ecological footprint. Results are available for Northern Macedonia and Italy. As a further consequence of the complexity of CO2 measurement of events and the uniqueness of the very first Re-Cycling-Fairs, no comparable sports event could be identified in any partner country for which a CO2 measurement was available.

### CO2-emissions from Re-Cycling Fair 1 in Skopje

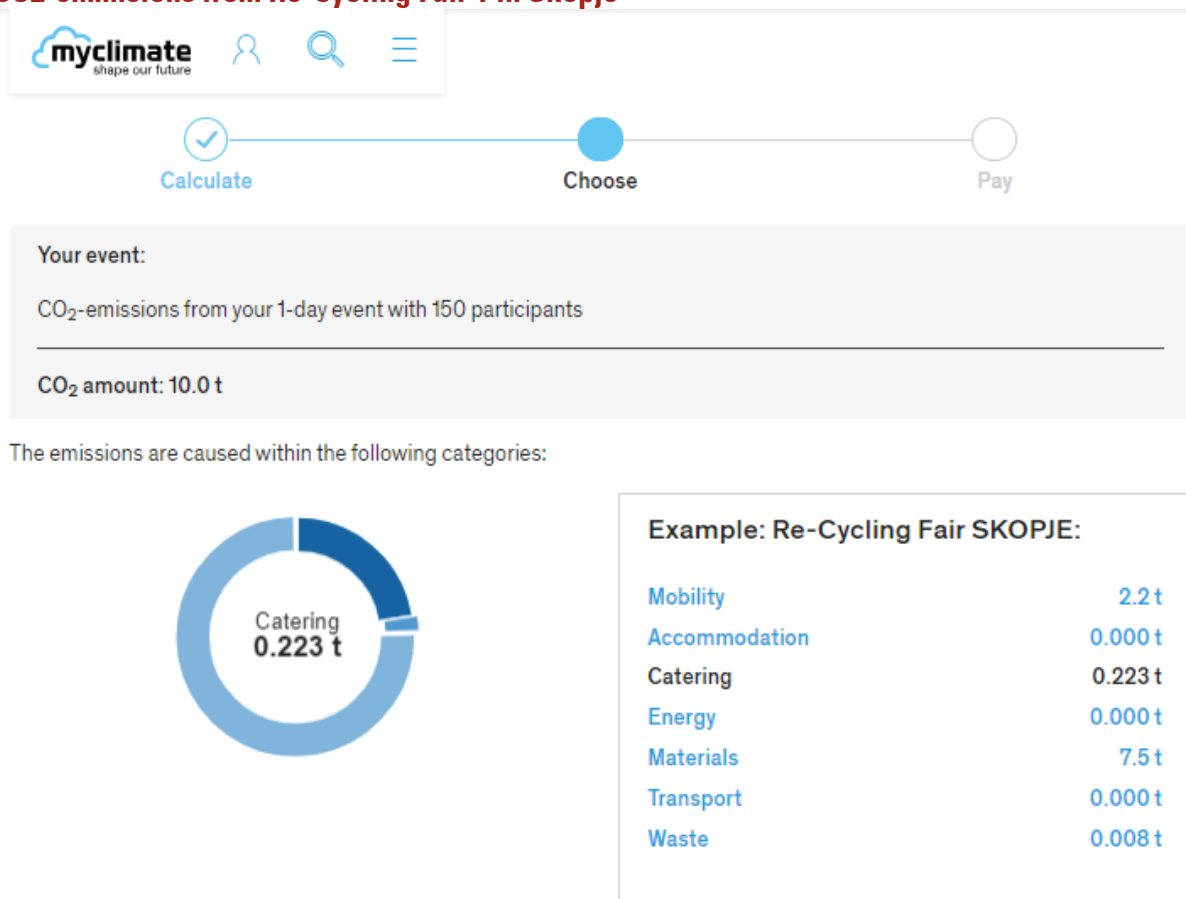


Figure 14: CO2-emissions from Re-Cycling Fair 1 in Skopje

### CO2-emissions from Re-Cycling Fair 2 (Velo Rodeo) in Skopje

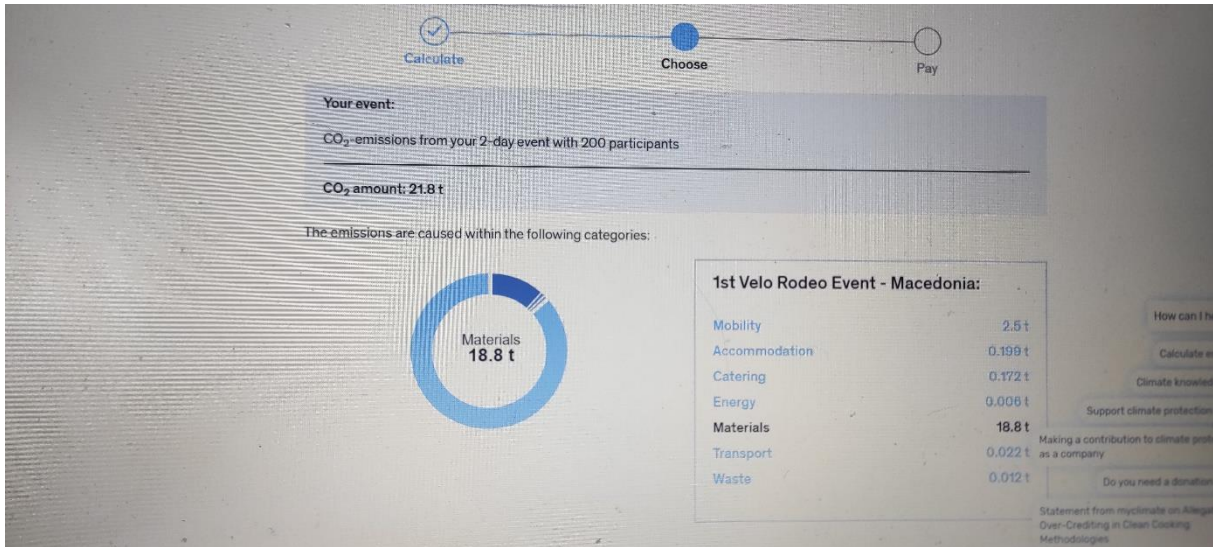


Figure 15: CO<sub>2</sub>-emissions from Re-Cycling Fair 2 (Velo Rodeo) in Skopje

## CO<sub>2</sub>-emissions from Re-Cycling Fair in Italy

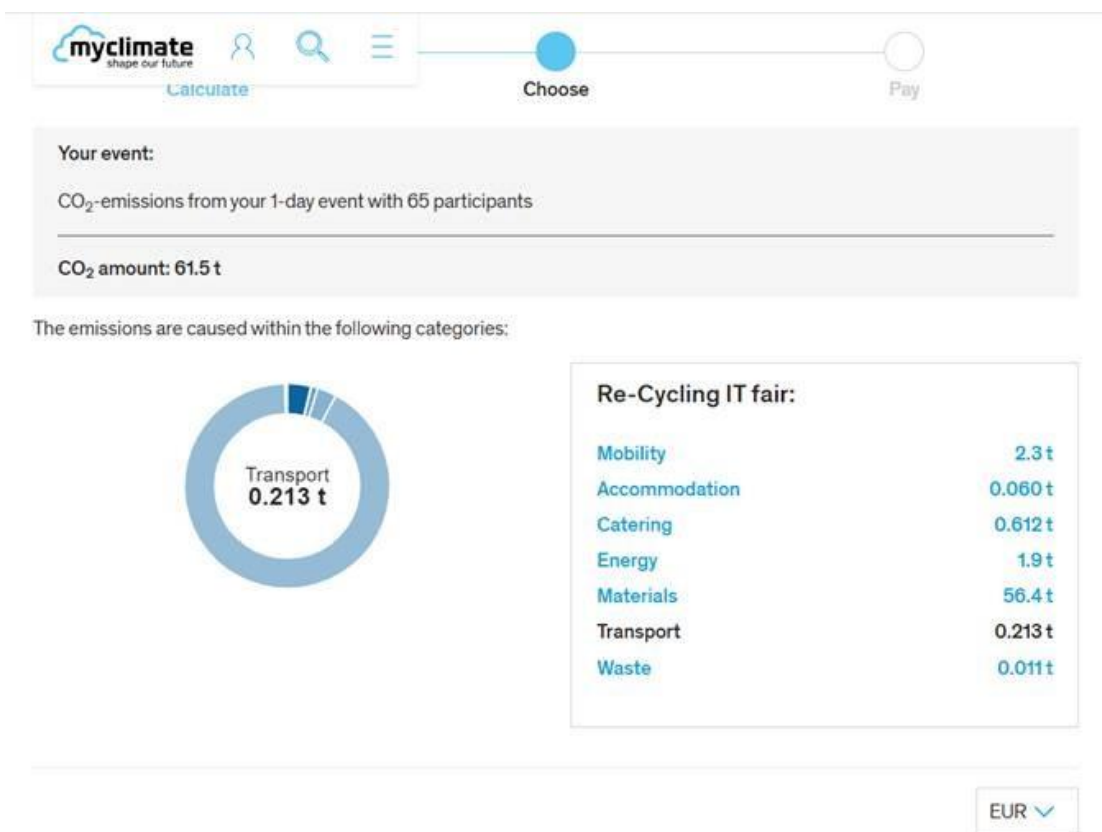


Figure 16: CO<sub>2</sub>-emissions from Re-Cycling Fair in Italy

**Target Value: Assessment methodology comparison not applicable**

### Indicator 5 – Economic Impact

The aim of indicator 5 was to estimate cost-savings opportunities, generated at the level of small-scale circular economy ecosystems. Target Value: 15% savings for the families compared to national market prices.

Restriction of data: Not at all fairs bicycle sale or repairing could be offered due to school setting restrictions in Austria and Italy. The data provided for Northern Macedonia is vague. Very good data could be gathered at the French Re-Cycling Fair. There this example is used as a best practice reference.

#### Repair statistics Re-Cycling Fair France (Heureux Cyclage)

Bicycle Parts Repaired or Replaced Today	Count
Repair the inner tube	14
Replace the inner tube	6
Inflate the tires	15
Adjust the brakes	22
Replace the brake cable	6
Adjust the gears	5
Replace gear cables	
Adjust the saddle height	12
Clean the bicycle chain	5
Shorten/replace the bicycle chain	4
Repair the lights	
Replace bicycle grips	
Steering adjusted	3
Derailleur replacement	2
Freewheel replacement	1
<b>Sum</b>	<b>95</b>

Each repair process is estimated to take about 15 minutes (0.25 hours). The cost of a professional hour's work in a bicycle workshop is estimated at 80 euros per hour. The 95 repairs carried out therefore correspond to 23.75 hours of work. The Re-Cycling Fair in France thus contributed to a total cost saving of 1,900 euros. Material costs of approximately 200-400 euros can be added on top of that.

**As the services of the Re-Cycling Fair were free of charge to the families, a cost saving of 100% was achieved compared to national market prices.**

### Indicator 6 – Economic Impact

The aim of indicator 6 was to know more about the interest and motivation of our target groups from the fairs. Target Value: Deduction of recommendations for the target group and fairs

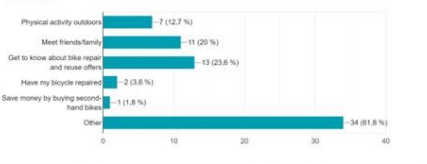
The context in which the Re-Cycling Fairs took place in the partner countries was very heterogeneous, which is why the following results cannot be meaningfully compared with each other. For future events in the respective countries, the analyses provide useful information for further improving the Re-Cycling Fairs.

## Impact Assessment: Indicator 6 – Social Dissemination

### Austria

2. What are your key motives to join the event today?

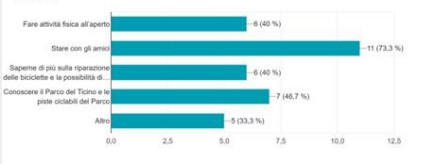
55 Antworten



### Italy

2 Che cosa ti aspetti dalla partecipazione all'evento di oggi?

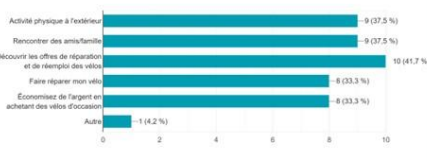
15 Antworten



### France

2. Quelles sont vos principales motivations pour participer à l'événement aujourd'hui ?

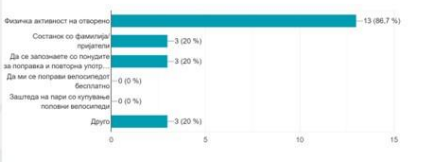
24 Antworten



### North Macedonia

2. Кои се вашите клучни мотиви да се приклучите на настанот денес?

15 Antworten



1 Luogo e data

Co-funded by the European Union

Erasmus+

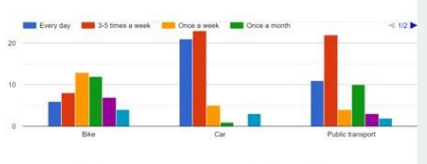
RE CYCLING

## Impact Assessment: Indicator 6 – Social Dissemination

### Austria

4. How often do you use the following means of transport in everyday life?

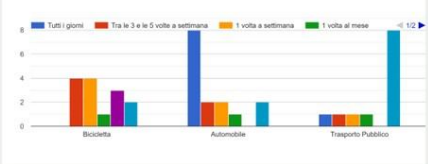
102



### Italy

4 Quanto spesso usi i seguenti mezzi di trasporto nella tua vita quotidiana?

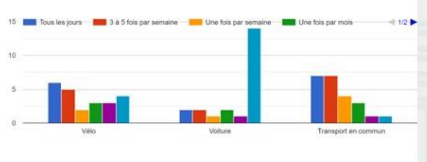
102



### France

4. À quelle fréquence utilisez-vous les moyens de transport suivants dans la vie quotidienne?

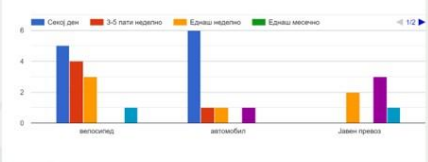
102



### North Macedonia

4. Колку често го користите велосипедот во секојдневниот живот?

102



2 Luogo e data

Co-funded by the European Union

Erasmus+

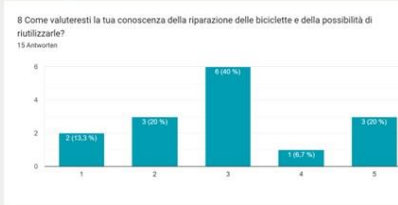
RE CYCLING

## Impact Assessment: Indicator 6 – Social Dissemination

### Austria



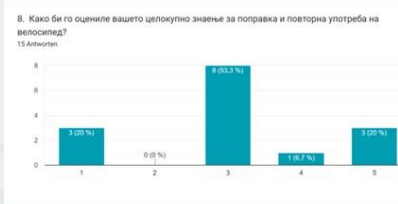
### Italy



### France



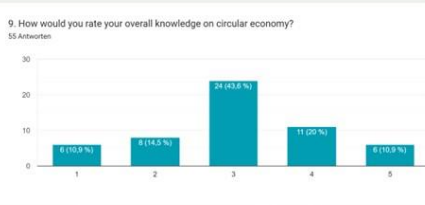
### North Macedonia



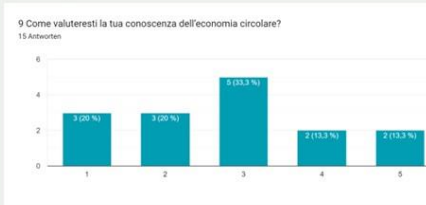
3 Luogo e data

## Impact Assessment: Indicator 6 – Social Dissemination

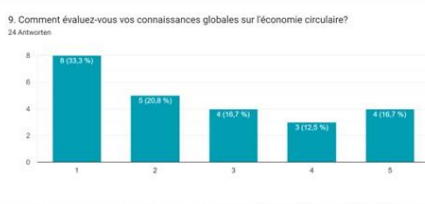
### Austria



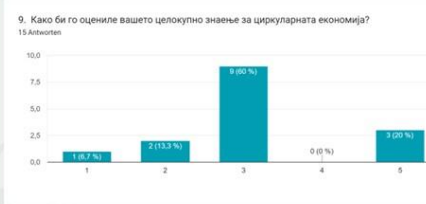
### Italy



### France



### North Macedonia



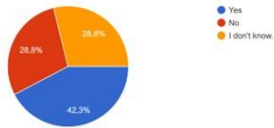
4 Luogo e data



## Impact Assessment: Indicator 6 – Social Dissemination

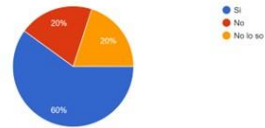
### Austria

13. Would you recommend the event to friends and family?  
52 Antworten



### Italy

13 Raccorderesti questo evento agli amici o ai familiari?  
15 Antworten



### France

13. Recommanderiez-vous l'événement à vos amis et à votre famille ??  
23 Antworten



### North Macedonia

13. Дали би го препорачале настанот на пријателите и семејството?  
14 Antworten



5 Luogo e data



## Conclusion

In light of the findings and insights presented in this impact report, it can be concluded that the Re-Cycling Bike Reuse and Riding Fair project has made significant headway in promoting cycling, sustainability, and circular economy principles within the biking sector. By means of a series of targeted interventions, including training programmes and fairs in four partner countries, the project was able to re-engage young people with sporting activities, particularly in the wake of the disruptions caused by the pandemic, while simultaneously fostering a healthy lifestyle through cycling. Furthermore, the project's focus on green mobility and bicycle reuse has facilitated the adoption of sustainable practices and contributed to a reduction in the waste associated with children's outgrown bicycles.

The Green and Sustainable Biking Training Programme yielded favourable results in terms of enhancing the participants' knowledge of circular economy principles, with notable improvements observed in their awareness of sustainability's role in the biking sector. However, limitations in data consistency and participant retention constrained the extent to which the "distance travelled" methodology could accurately capture all impacts. Notwithstanding these challenges, the programme's learning outcomes, particularly with regard to sustainable cycling practices, point to a favourable shift in the participants' knowledge base.

With regard to their environmental impact, the fairs were markedly successful in reducing their ecological footprint through the implementation of initiatives designed to minimise waste and source sustainable materials. Nevertheless, the limitations of measuring CO<sub>2</sub> emissions and making comparisons of footprints demonstrate the complexities of assessing the environmental impact of events that vary considerably in terms of context and execution. From an economic standpoint, the fairs yielded significant cost savings for families. The French event, in particular, merits recognition as a model for best practices, offering complimentary repair services that directly benefited local communities.

In conclusion, the Re-Cycling project has established a precedent for the promotion of sustainable practices within the biking community, and offers a replicable model for similar future initiatives. To build on these achievements, it is recommended that data collection methods be standardised in order to improve longitudinal impact assessment, that repair services be expanded across all fairs, and that local stakeholders be continued to be involved in order to increase community engagement. As such, the project not only addresses immediate environmental and economic benefits but also paves the way for sustainable, long-term engagement in green mobility and circular economy practices in the biking sector.

## **ANNEX**

**ANNEX 1: Questionnaire working knowledge (Indicator 1)**

**ANNEX 2: Green Mobility Survey (Indicator 3)**

**ANNEX 3: Tally sheet economic impact assessment (Indicator 5)**

**ANNEX 3: Questionnaire Target Group survey (Indicator 6)**

# Survey: Erasmus+ Project "RE-CYCLING"

Dear participant,

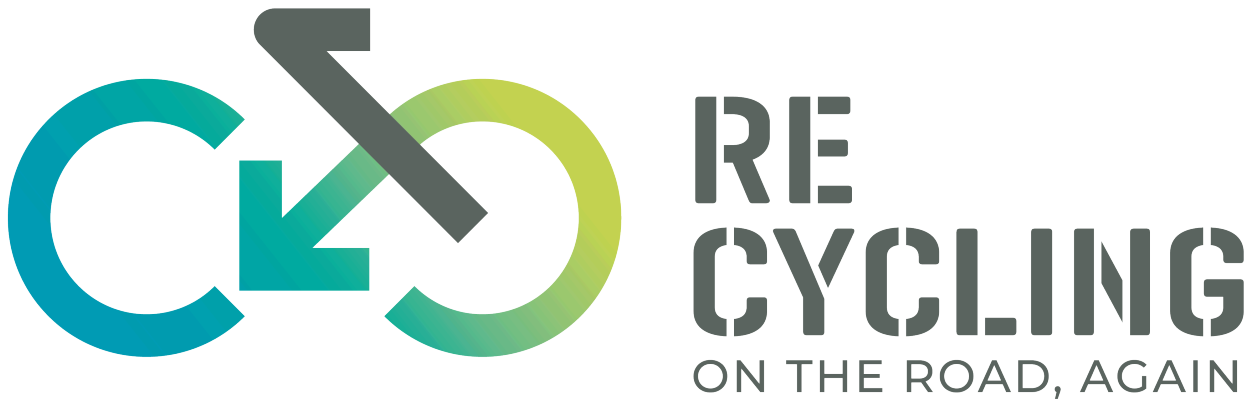
In the framework of the Erasmus+ project "RE-CYCLING", this short survey evaluates your current level of knowledge on sustainability, recycling and circular economy in the bike sector.

Thank you for taking the time to support us with your insightful answers.

The data will of course be evaluated anonymously.

*\* Gibt eine erforderliche Frage an*

---



## General knowledge on sustainability and circular economy

1. How would you rate your overall knowledge on sustainability? \*

*Markieren Sie nur ein Oval.*

1 2 3 4 5

Very      Very Good

## 2. Which are the official dimensions of sustainability? \*

*Multiple answers are possible.*

*Wählen Sie alle zutreffenden Antworten aus.*

- Economy
- Education
- Environment
- Health
- Society

## 3. How would you rate your overall knowledge on the issues and goals of the European Green Deal? \*

*Markieren Sie nur ein Oval.*

1 2 3 4 5

Very      Very Good

## 4. How would you rate your overall knowledge on circular economy? \*

*Markieren Sie nur ein Oval.*

1 2 3 4 5

Very      Very Good

## 5. How familiar are you with the difference between a linear economy and a circular economy? \*

*Markieren Sie nur ein Oval.*

1 2 3 4 5

Not      Very familiar

6. How important are sustainability projects in your working environment? \*

*Markieren Sie nur ein Oval.*

1 2 3 4 5

Not      Very important

### **The role of sustainability and circular economy in the bike sector**

7. How important is it for the bike sector to integrate sustainability into future projects and business models? \*

*Markieren Sie nur ein Oval.*

1 2 3 4 5

Not      Very important

8. Are the following offers and activities strategies for circular economy and increasing sustainability in the bike sector? \*

**A: Bike Sharing Services**

**B: Constant change in manufacturing standards**

**C: Re-thinking product design**

**D: Lightweight and non-durable products**

**E: Re-use of individual parts**

*Wählen Sie alle zutreffenden Antworten aus.*

	No, not at all	Rather no	Partly	Rather yes	Yes, definitely
<b>A: Bike Sharing Services</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>B: Constant change in manufacturing standards</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>C: Re-thinking product design</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>D: Lightweight and non-durable products</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>E: Re-use of individual parts</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



# WP4: Green Mobility Survey



Leipzig \ 17 january 2024



## Green Mobility Survey: **General Information**

**Name of the School:**

**Name of the class/group:**

**Name of the teacher/trainer:**

## Green Mobility Survey: Instructions for teachers and trainers

With the following short survey we would like to assess the mobility and cycling activities of the participating students.

### PLEASE NOTE:

- There are only questions where the children have to choose **ONE** answer and raise their hand (**one choice**).
- Please ask these questions to your group/class and note the **TOTAL NUMBER OF ANSWERS** on the sheet or in the PowerPoint presentation.

Thank you very much!

## Question 1: Main means of transport

On a typical **school day**, what is your main mode of transport? By main mode, we mean the one that takes the longest time. (*one-choice*)

My main mode of transport on a typical school day is:

Car or motorbike	Walking	Public transport	Cycling	Street Scooter
Total answers:	Total answers:	Total answers:	Total answers:	Total answers:

## Question 2: Possession/Availability of a bicycle

Do you own a functioning bicycle or have access to a functioning bicycle (e.g. from family or friends)? *(one-choice)*

I own a bicycle, that is working.	I own a bicycle, but it is not working at the moment.	I have access to an working bicycle.	I don't own or have access to an working bicycle:	Other
Total answers:	Total answers:	Total answers:	Total answers:	Total answers:

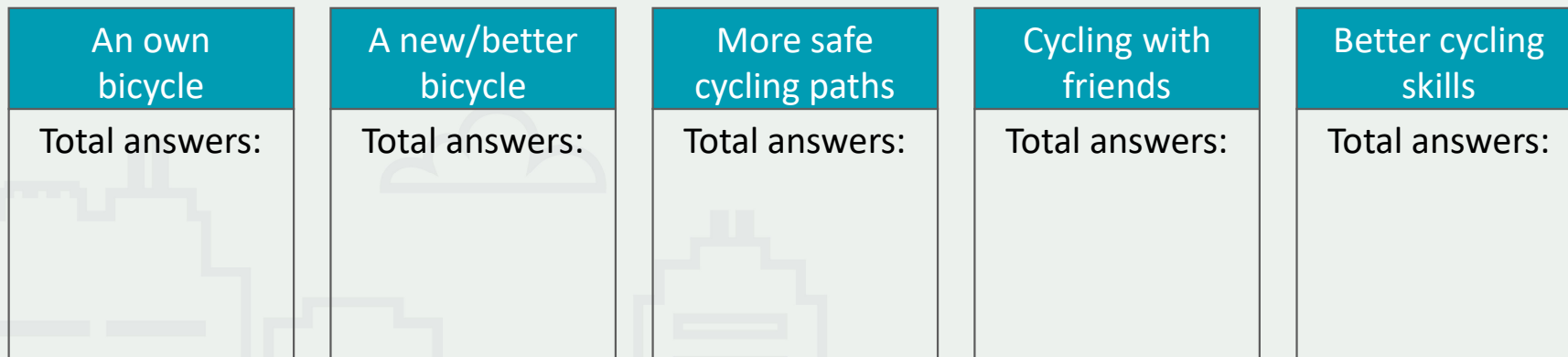
## Question 3: Bike Usage Frequency

During a normal school week (incl. weekends), on how many days do you use a bicycle? *(one-choice)*

Never/ almost never	max.1 day per week	2-3 days per week	4-5 days per week	6-7 days per week
Total answers:	Total answers:	Total answers:	Total answers:	Total answers:

## Question 4: Bike Usage Motivation

What would motivate you most to cycle more often? (*one-choice*)



## Question 5: Physical activity

How often do you do sports a week?

Never/ almost never	max.1 day per week	2-3 days per week	4-5 days per week	6-7 days per week
Total answers:	Total answers:	Total answers:	Total answers:	Total answers:

## Survey: REPAIR STATION (Indicator 5 – Economic Impact)



Event: \_\_\_\_\_ Date: \_\_\_\_\_

Dear participant,

This short survey evaluates the repair services of the event in order to learn about the needs and expectations of the attending people in case of bike repair. The data will be evaluated anonymously.

**Thank you for taking the time to support us within the Erasmus+ “Re-Cycling” project with your insightful answers.**

Please

- use a separate page of the feedback survey for each day.
- fill in the first page of the document during the event. We invite you to use it as a tally sheet to record the number of replaced and repaired bike parts.
- share further insights at the second page for additional information about the customers needs.
- fill in general information at the end of the document and add your contact dates if you agree that we may contact you in case of questions.
- hand over the document at the end of the event to the organiser.

### Repaired or replaced bike parts today

	Repairs	
repair inner tube		Total:
change inner tube		Total:
inflate tyres		Total:
adjust brakes		Total:
replace brake cable		Total:
adjust gears		Total:
replace shift cables		Total:
adjust saddle height		Total:
clean bike chain		Total:
shorten/replace bike chain		Total:
repair lights		Total:
change bike grips		Total:
<b>Sum total</b>		



## Additional Information

---

Additional service offered today:

---

---

Needs of people that were not offered today:

---

---

What percentage of bikes serviced by you today are kids, youth or adult bikes (approximately) ?

Please estimate in percent.

Kids bikes:            %	Youth bikes:        %	Adult bikes:        %
--------------------------	-----------------------	-----------------------

## General Information

---

Name of the station/service:

---

Name of the contact person:

---

E-mail address of contact person:

**Please don't forget to hand over the document to the organiser at the end of the event or E-Mail a scan directly to [re-cycling@mtf.bike](mailto:re-cycling@mtf.bike)**

**Thank you very much!**

# Event Feedback: RE-CYCLING

Dear participant,

In the framework of the Erasmus+ project "RE-CYCLING", this short survey evaluates your feedback on the event and interest in cycling.

**Thank you for taking the time to support us with your answers.**

The data will of course be evaluated anonymously.

\* Gibt eine erforderliche Frage an

---



**RE  
CYCLING**  
ON THE ROAD, AGAIN

1. 1. How did you hear about the event? \*

*Multiple answers are possible.*

*Wählen Sie alle zutreffenden Antworten aus.*

- Social Media/Internet
- Radio/TV
- Press/Print advertisement
- Family and Friends
- School
- Other

## 2. 2. What are your key motives to join the event today? \*

Please select the max. 3 answers that apply most to you.

Wählen Sie alle zutreffenden Antworten aus.

- Physical activity outdoors
- Meet friends/family
- Get to know about bike repair and reuse offers
- Have my bicycle repaired
- Save money by buying second-hand bikes
- Other

## 3. 3. How did you get to the event? \*

Multiple answers are possible.

Wählen Sie alle zutreffenden Antworten aus.

- By foot
- By bike
- By public transport
- By car
- Other

## 4. 4. How often do you use the following means of transport in everyday life?

Please select the answer per means of transport that applies most to you.

Markieren Sie nur ein Oval pro Zeile.

	Every day	3-5 times a week	Once a week	Once a month	Less than once a month	I don't use it.
<b>Bike</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Car</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Public transport</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## 5. 5. Do you own a bike?

*Multiple answers are possible.*

*Wählen Sie alle zutreffenden Antworten aus.*

- Yes, I bought it in a bike shop for new bikes.
- Yes, I got it as a second-hand bike.
- No, I share a bike with my family/friends.
- No, I use bike leasing or bike sharing offers.
- Other

## 6. 6. What are your key motives to ride a bike? \*

*Please select the max. 3 answers that apply most to you.*

*Wählen Sie alle zutreffenden Antworten aus.*

- Be active in nature/do sports outdoors
- Commute to work or school
- Save money (in comparison to other means of transport)
- Use a sustainable way of transport
- Explore new places during vacation
- Other

## 7. 7. Do you intend to use the bike more often in the future?

*Markieren Sie nur ein Oval.*

- Yes
- No
- I don't know.

## 8. 8. How would you rate your overall knowledge on bike repair and reuse?

*Markieren Sie nur ein Oval.*

1 2 3 4 5

Very      Very Good

9. 9. How would you rate your overall knowledge on circular economy?

*Markieren Sie nur ein Oval.*

1 2 3 4 5

Very      Very Good

10. 10. What kind of offers would motivate you to learn more about bike repair, bike reuse and circular economy? \*

*Multiple answers are possible.*

*Wählen Sie alle zutreffenden Antworten aus.*

- Print information material
- Short videos
- Repair workshops
- Second hand bike offers
- More activities in school
- Events like this
- None
- Other

11. 11. Which part of the event do you like most?

---

12. 12. What could be improved at the event?

---

13. 13. Would you recommend the event to friends and family?

*Markieren Sie nur ein Oval.*

- Yes
- No
- I don't know.

**Almost completed!**

In order to be able to evaluate your answers accordingly, we would be grateful if you could provide us with some personal information.

14. 14. To which gender identity do you most identify?

*Markieren Sie nur ein Oval.*

Female

Male

Other

15. 15. How old are you?

*Wählen Sie alle zutreffenden Antworten aus.*

Under 7 years old

8-15 years old

16-30 years old

31-60 years old

Over 60 years old

## 16. 16. Did you come in a group today?

If yes, please let us know a bit more about your group.

**To avoid duplications, please skip this question in case other members of your group did answer this already.**

Markieren Sie nur ein Oval pro Zeile.

	None	1 person	2 persons	3 persons	More than 3 persons
<b>Under 7 years old</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>8-15 years old</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>16-30 years old</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>31-60 years old</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Over 60 years old</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Thank you for your time and your answers!**

By filling out this form, you accept our [privacy policy](#). The evaluation of your answers will be anonymous. If there is anything else you would like to share or if you have any questions, please feel free to contact the Team of the Mountain Bike Tourism Forum at [recycling@mtf.bike](mailto:recycling@mtf.bike).

Further information:

[www.recycling.ibisprogetti.eu](http://www.recycling.ibisprogetti.eu)