

# CO<sub>2</sub>URIER

## CARBON NEUTRAL COURIER SERVICES

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POL-ECO-SYSTEM  
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Poznań



**CO<sub>2</sub>URIER**  
**Carbon Neutral Courier Services**





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# Agenda

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- 1) Project partners
- 2) Project objectives
- 3) Project findings
- 4) Next steps
- 5) Lessons learnt

# Project partners



**CO<sub>2</sub>URIER**  
Carbon Neutral Courier Services



A science-based and business-orientated non-profit organization

Expertise in carbon footprints and lifecycle assessments



A courier company based in Łódź, Poland

Focus on express and city delivery

Testing and implementation of the sustainable business plan, including carbon offset experiment



Non-profit and independent research institute based in Mannheim, Germany

Substantial experience in climate policy evaluation and design

Implementation and scientific evaluation of carbon offset mechanism for Quriers



Non-profit and independent research institute based in Konstantynów Łódzki, Poland

Provides tailor-made research services in the field of environmental engineering

Business and economic analyses of courier market and Quriers company



**CO<sub>2</sub>URIER**  
Carbon Neutral Courier Services

# Project objectives

1. Identify elements bearing the potential to reduce environmental impacts from CEP services
2. Provide concrete sustainability improvements in the CEP service industry by creating more environmentally-friendly services

Status Quo: Calculation  
of Quriers' carbon  
footprint

Analyzing potential for  
improving sustainability  
of Quriers' business  
model

Implementation of  
carbon off-setting  
mechanisms

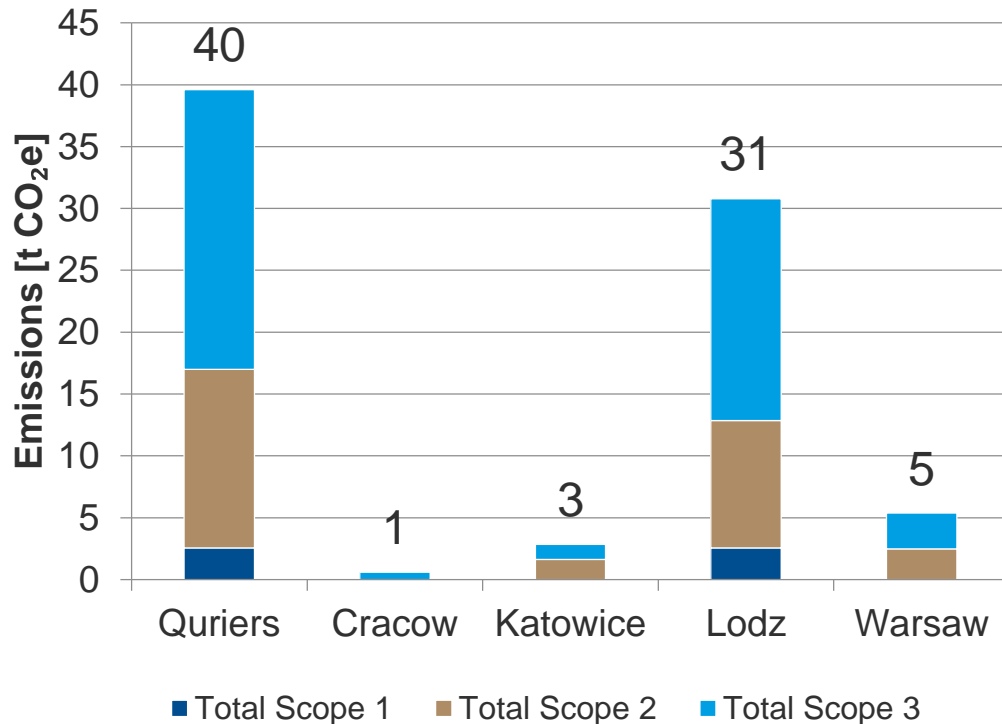
Scientific evaluation and  
strategy for roll-out

# Project findings: Environmental impact assessment of Quriers



**CO<sub>2</sub>URIER**  
Carbon Neutral Courier Services

## 1) CORPORATE CARBON FOOTPRINT (CCF)



## 2) PRODUCT CARBON FOOTPRINT (PCF)

### OVERHEAD EMISSIONS

- 40t CO<sub>2</sub>e overhead emissions → allocation to all services
- 4.462 deliveries in 9/2016 → 747 g CO<sub>2</sub>e / service.

### CITY SERVICE – BIKE TRANSPORT

- Emission-free → only overhead emissions are applied

### CITY SERVICE – STANDARD

- 2,3% surcharge on city deliveries (by Quriers' cars) covers emissions compensation

### COOLED TRANSPORT

- higher emissions due to dry ice production + use → 9,2kg CO<sub>2</sub>e / parcel.

### TRANSPORT BY TRAIN (NATIONAL ONLY)

- 82% lower emissions than by car

# Project findings: Carbon neutral company strategy



Motto: *Do your best – offset the rest*

### 3 priorities:

- [1]
- Carbon offsetting programme
  - Further development of a long-term tree-planting program
  - Ensuring that subcontractors use low emission vehicles
  - Incentives for couriers to use less fuel
  - Installation of photovoltaic panels to provide green energy for the office and/or EV

- [2]
- Implementation of alternative logistics concept
  - Decreasing the consumption of consumables and packaging materials

- [3]
- Implementation of ISO 14001 standard
  - Change of energy supplier, providing energy from RES

# Project findings: The offsetting program



## Task: Design and analysis of a carbon offsetting program for online purchases

- Goal:
- Scientific assessment of determinants of green behavior in online decisions
- Our focus: The role of green stickers as a way to signal green behavior



[The sender of this delivery cares about the environment – your parcel is emission-free]

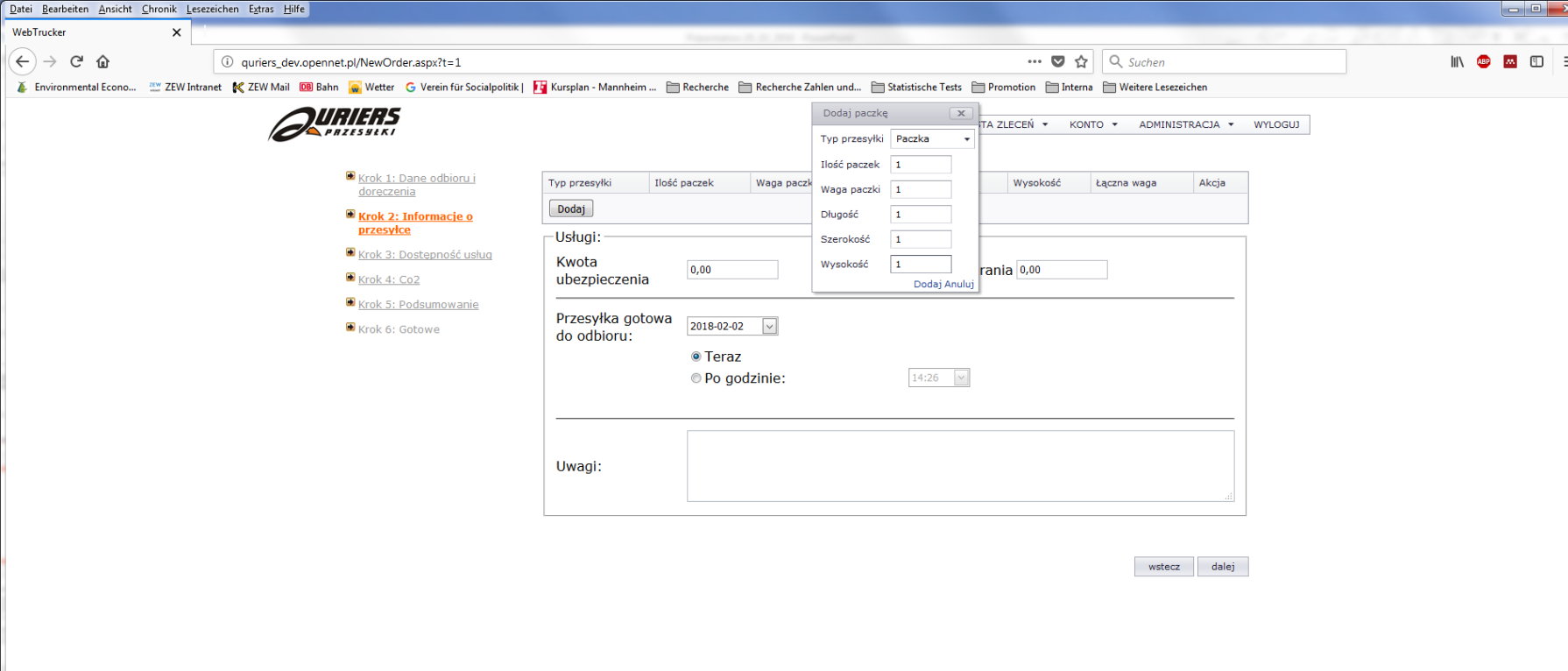
Nadawca troszczy się o środowisko –  
Twoja przesyłka jest zeroemisyjna

# Project findings: The offsetting program



- Major steps:

## Step 1: Adjusting the ordering process



The screenshot displays the WebTrucker interface for CO2 URIER. The main form is titled 'Dodaj paczkę' and includes the following fields and options:

- Typ przesyłki:** Paczka
- Ilość paczek:** 1
- Waga paczki:** 1
- Długość:** 1
- Szerokość:** 1
- Wysokość:** 1
- Przesyłka gotowa do odbioru:** 2018-02-02
- Teraz** (selected) or **Po godzinie:** 14:26
- Uwagi:** (text area)

Navigation buttons at the bottom include 'wstecz' and 'dalej'.

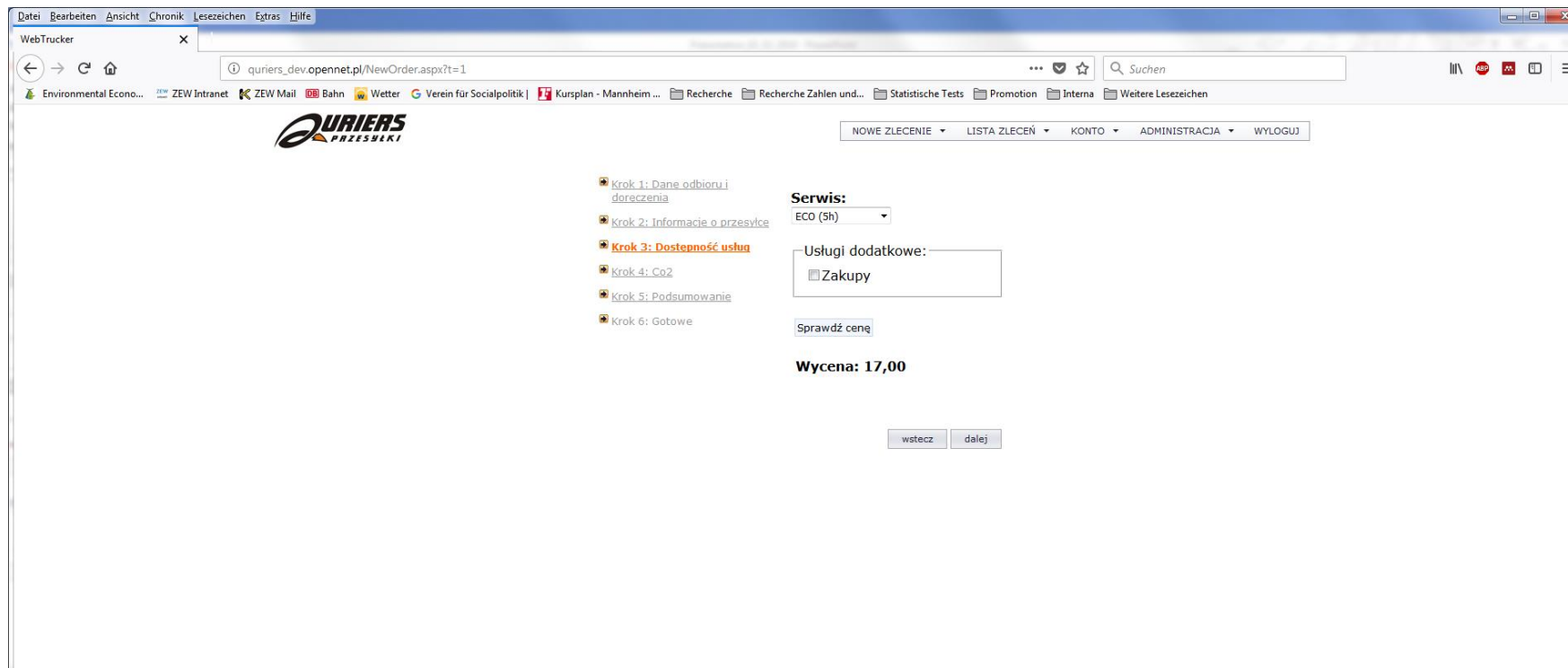


# Project findings: The offsetting program



- Major steps:

Step 1: Adjusting the ordering process



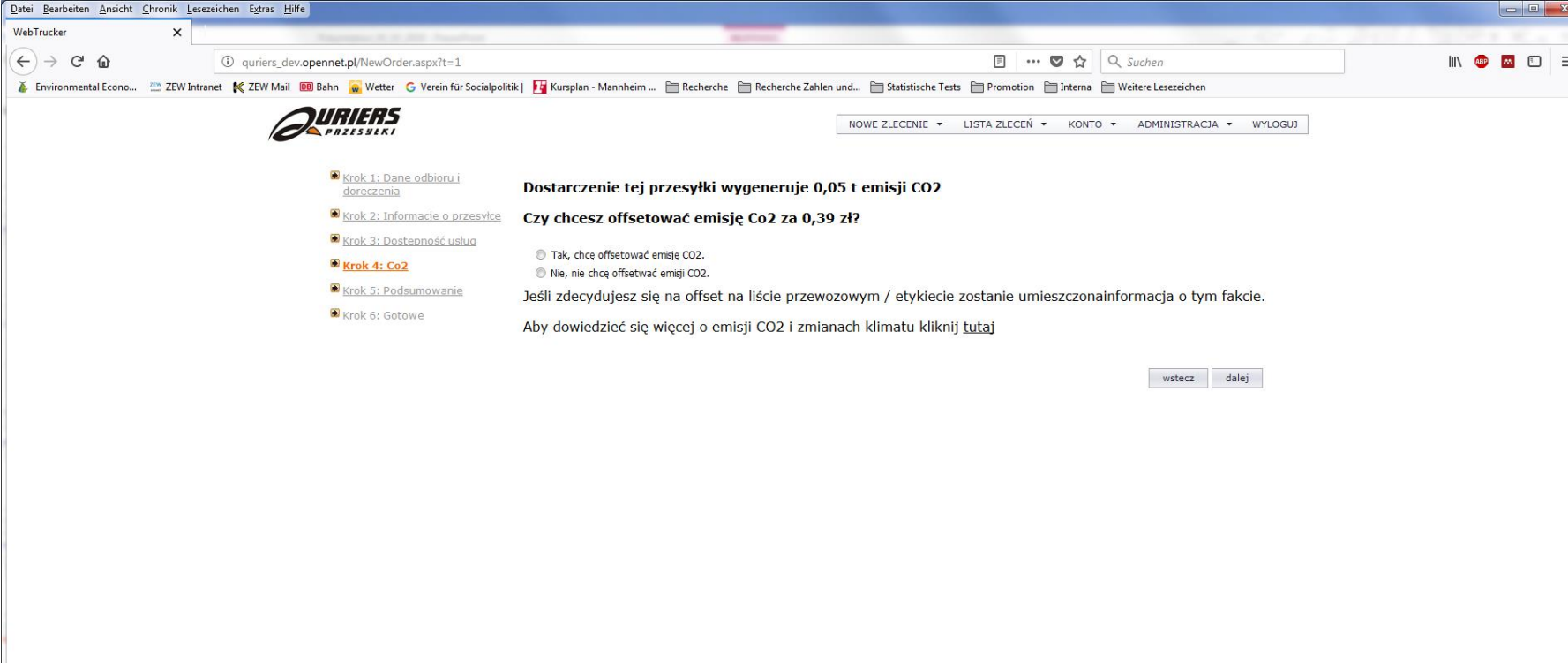
The screenshot displays the 'WebTrucker' application interface. The browser address bar shows 'quiers\_dev.opennet.pl/NewOrder.aspx?t=1'. The page features the QUIERS PRZESYŁKI logo and a navigation menu with options: NOWE ZLECENIE, LISTA ZLECENI, KONTO, ADMINISTRACJA, and WYLOGUJ. A progress indicator on the left lists six steps: Krok 1: Dane odbioru i doręczenia, Krok 2: Informacje o przesyłce, Krok 3: Dostępność usług (highlighted in orange), Krok 4: Co2, Krok 5: Podsumowanie, and Krok 6: Gotowe. The main content area includes a 'Serwis:' dropdown menu set to 'ECO (5h)', a 'Usługi dodatkowe:' section with a checked 'Zakupy' option, a 'Sprawdź cenę' button, and a price display 'Wycena: 17,00'. Navigation buttons 'wstecz' and 'dalej' are located at the bottom.

# Project findings: The offsetting program



- Major steps:

## Step 1: Adjusting the ordering process



The screenshot shows a web browser window with the URL `quriers_dev.opennet.pl/NewOrder.aspx?t=1`. The page displays the CO2 URIER logo and a navigation menu with options: NOWE ZLECENIE, LISTA ZLECEŃ, KONTO, ADMINISTRACJA, and WYLOGUJ. A progress bar on the left lists six steps: Krok 1: Dane odbioru i doręczenia, Krok 2: Informacje o przesyłce, Krok 3: Dostępność usługi, **Krok 4: Co2**, Krok 5: Podsumowanie, and Krok 6: Gotowe. The main content area shows the text: "Dostarczenie tej przesyłki wygeneruje 0,05 t emisji CO2" and "Czy chcesz offsetować emisję Co2 za 0,39 zł?". Below this, there are two radio button options: "Tak, chcę offsetować emisję CO2." and "Nie, nie chcę offsetować emisji CO2.". A note states: "Jeśli zdecydujesz się na offset na liście przewozowym / etykiecie zostanie umieszczona informacja o tym fakcie." and a link "Aby dowiedzieć się więcej o emisji CO2 i zmianach klimatu kliknij [tutaj](#)". At the bottom right, there are two buttons: "wstecz" and "dalej".

# Project findings: The offsetting program




- Major steps:


Step 2: Analyzing the role of the green stickers

- Customers were randomly assigned into three different groups
- Group 1: No sticker on the label

## Wizualizacja listu przewozowego

List przewozowy nr: strona A

 27000443080    Nr zlecenia: 320664    Typ: KRAJ    Serwis: DN    Strefa: 26




Nadawca: PL	Ilość 1	Potwierdzenie powrotu
NAZWA NADAWCY	Waga 4	Usługi dodatkowe:
ULICA, NR	Data nadania -----	MPK/REF /
KOD                      MIASTO	Data doręczenia	ODEBRAL
	Kierowca	
Odbiorca: PL	Odebrać do:	
NAZWA ODBIORCY	Doręczyć do:	
ULICA, NR	Ubezpieczenie 0.00	
KOD                      MIASTO	Oczekiwanie	
	Pobranie 0.00	
Płatność                      Płatnik -----		
Uwagi:		

potwierdzam odbiór przesyłki w stanie nienaruszonym  
(data + czytelny podpis odbiorcy)

wstecz    dalej

Öffnen von List\_2702560844.pdf

Sie möchten folgende Datei öffnen:

 **List\_2702560844.pdf**  
Vom Typ: PDF-Datei (272 KB)  
Von: http://quiers\_dev.opennet.pl

Wie soll Firefox mit dieser Datei verfahren?

Öffnen mit **Adobe Acrobat (Standard)**

Datei speichern

Für Dateien dieses Typs immer diese Aktion ausführen

OK    Abbrechen

# Project findings: The offsetting program




- Major steps:



Step 2: Analyzing the role of the green stickers

- Customers were randomly assigned into three different groups
- Group 1: No sticker on the label
- **Group 2: Sticker is automatically attached to the label (for program participants)**

## Wizualizacja listu przewozowego

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Nadawca troszczy się o środowisko -  
Twoja przesyłka jest zeroemisyjna!

<b>Nadawca:</b> PL	Ilość 1	Potwierdzenie powrotu
NAZWA NADAWCY	Waga 4	Usługi dodatkowe:
ULICA, NR	Data nadania -----	MPK/REF /
KOD                      MIASTO	Data doręczenia	ODEBRAŁ:
<b>Odbiorca:</b> PL	Kierowca	
NAZWA ODBIORCY	Odebrać do:	
ULICA, NR	Doręczyć do:	(data + czytelny podpis nadawcy)
KOD                      MIASTO	Ubezpieczenie 0.00	
	Oczekiwanie	potwierdzam odbiór przesyłki w stanie nienaruszonym (data + czytelny podpis odbiorcy)
Płatność                      Płatnik -----	Pobranie 0.00	
Uwagi:		

[wstecz](#)    [dalej](#)

# Project findings: The offsetting program



- Major steps:

Step 2: Analyzing the role of the green stickers

- Customers were randomly assigned into three different groups
- Group 1: No sticker on the label
- Group 2: Sticker is automatically attached to the label (for program participants)
- Group 3: Sticker can be optionally attached**

Wizualizacja listu przewozowego

List przewozowy nr: 27000443080 strona A

Nr zlecenia: 320664 Typ: KRAJ Serwis: DN Strefa: 26

**OURIERS PRZESŁKI** **CARBON 21 NEUTRAL DELIVERY**

Nadawca: \_\_\_\_\_ PL Ilość: 1  
NAZWA NADAWCY \_\_\_\_\_ Waga: 4  
ULICA, NR \_\_\_\_\_ Data nadania: \_\_\_\_\_  
KOD \_\_\_\_\_ MIASTO \_\_\_\_\_ Data doręczenia: \_\_\_\_\_  
Kierowca: \_\_\_\_\_  
Odbiorca: \_\_\_\_\_ PL Odebrać do: \_\_\_\_\_  
NAZWA ODBIORCY \_\_\_\_\_ Doręczyć do: \_\_\_\_\_  
ULICA, NR \_\_\_\_\_ Ubezpieczenie: 0,00  
KOD \_\_\_\_\_ MIASTO \_\_\_\_\_ Oczekiwanie: \_\_\_\_\_  
Pobranie: 0,00

Płatność: \_\_\_\_\_ Płatnik: \_\_\_\_\_

Uwagi: \_\_\_\_\_

Potwierdzenie powrotu: \_\_\_\_\_  
Usługi dodatkowe: \_\_\_\_\_  
MPK/REF: / \_\_\_\_\_  
ODEBRAŁ: \_\_\_\_\_  
(data + czytelny podpis nadawcy)  
potwierdzam odbiór przesyłki w stanie nienaruszonym (data + czytelny podpis odbiorcy)

Nadawca troszczy się o środowisko -  
Twoja przesyłka jest zneutralizowana

wstecz dalej

# Project findings: The offsetting program



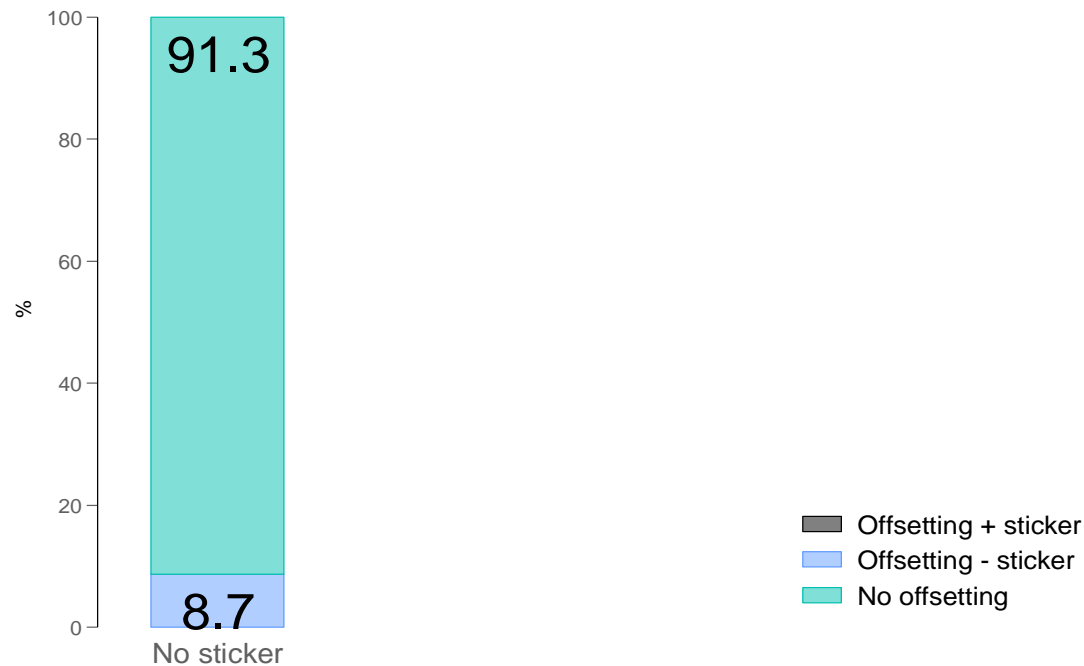
- **Data**
  - we observe online orders between March 28 and July 31, 2018
  - 4678 purchases from 118 different customers
  - the largest share of services (72.6%) are city services
  - av. emissions: 4.7 kg per order
  - av. (hypoth.) price for offsets: 1.4% of total price per order

<b>Treatments</b>	<b>Total # of orders (%)</b>
T#1 (baseline treatment without sticker)	1326 (28.3%)
T#2 (mandatory sticker)	1568 (33.5%)
T#3 (optional sticker)	1784 (38.1%)
<b>Total</b>	<b>4678</b>

# Project findings: The offsetting program



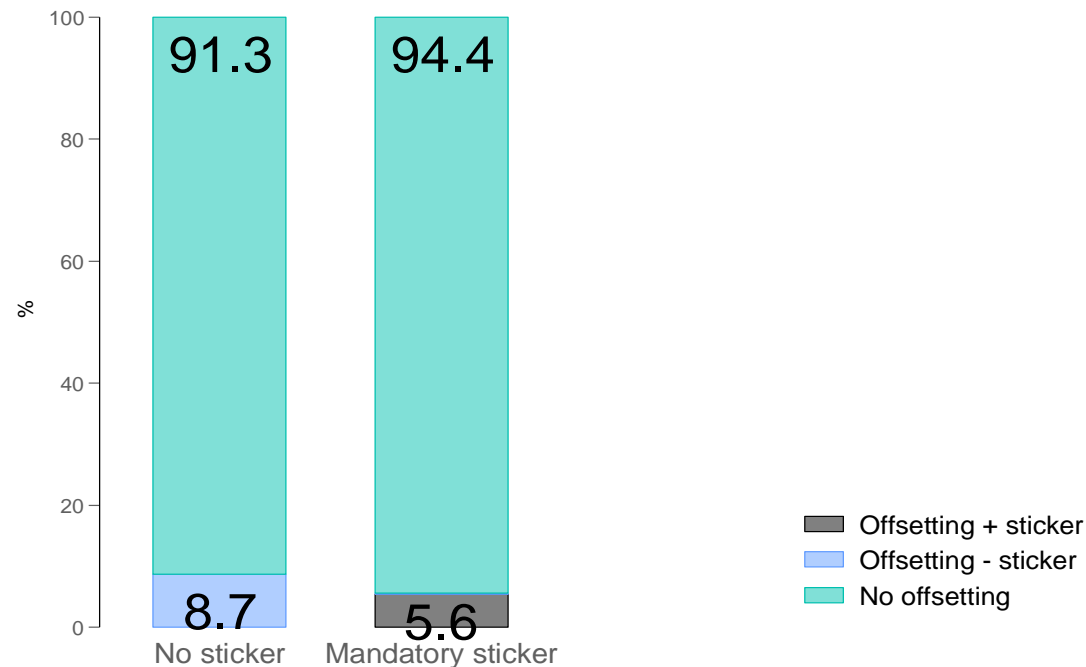
- Key results (T#1 baseline treatment without sticker)
- Without any sticker on the label, **8.7%** of all orders are CO<sub>2</sub> neutral



# Project findings: The offsetting program



- Key results T#2 (mandatory sticker)
- Attaching automatically a sticker to the label **decreases** participation rates to 5.6%



Nadawca troszczy się o środowisko –  
Twoja przesyłka jest zeroemisyjna

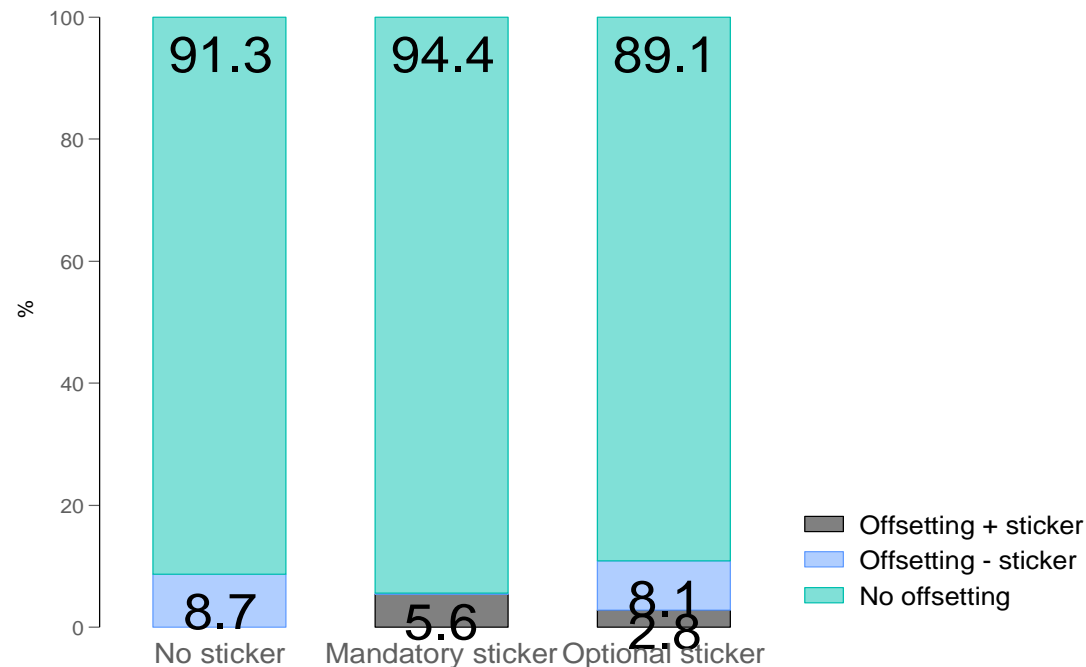
Note: Differences between treatments are statistically significant based on a chi-squared test on equality of proportions



# Project findings: The offsetting program



- Key results T#3 (optional sticker)
- Providing the sticker optionally leads to the **highest** participation rate (10.9%)
- Most of the program participants (8.1%) decide not to print the sticker on the label



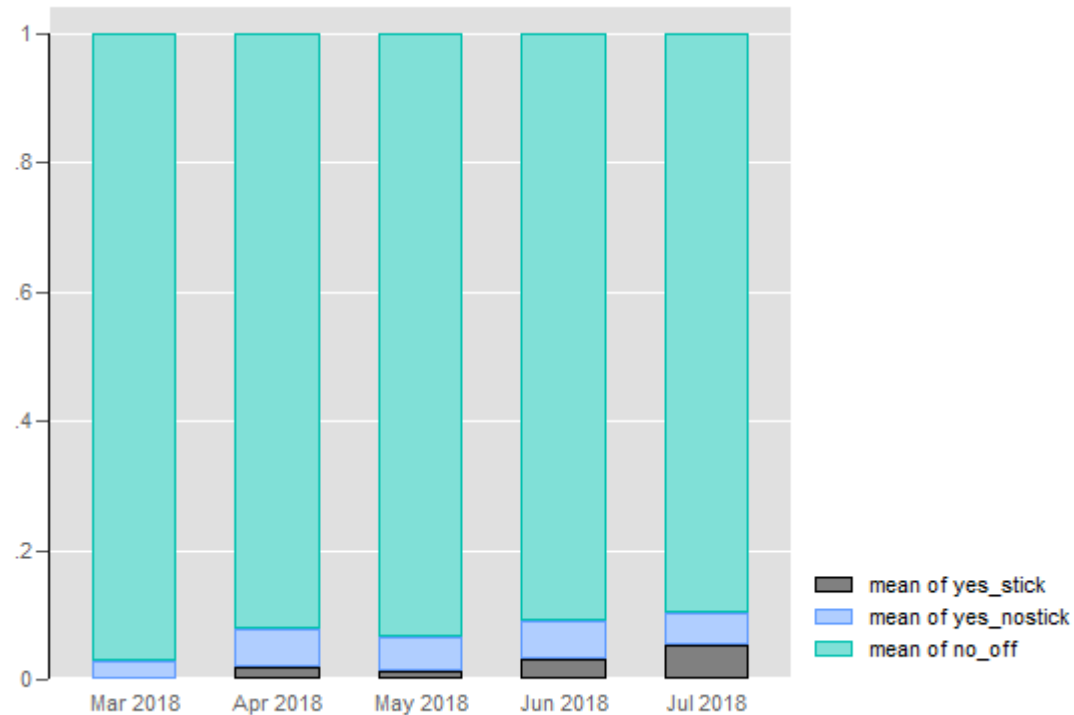
Follow-up survey to explore the reasons for these behavioral patterns

Note: Differences between treatments are statistically significant based on a chi-squared test on equality of proportions

# Project findings: The offsetting program



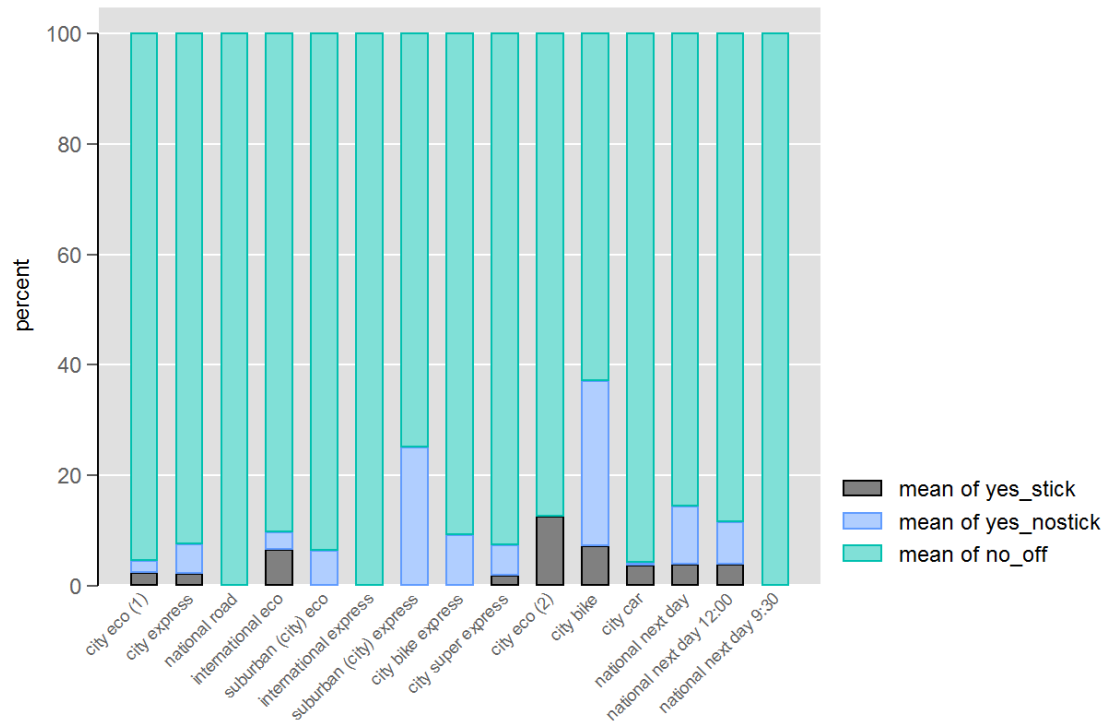
- Customers get more used to the sticker over time but still a large share of program participants prefer not to add the sticker to their parcel



# Project findings: The offsetting program



- Decision behavior varies across different type of services



# Next steps

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- Follow-up survey among Quriers customers to explore the reasons for the behavioral patterns
- Dissemination activities (scientific articles, conferences)
- Further implementation of the carbon neutral compay strategy by Quriers



# Lessons learnt

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## Scientific

- ✓ City services are more carbon intense than national ones, despite the lower distance
- ✓ Strong competition on a courier market – need to provide non-standard and tailored services
- ✓ Eco services as a market niche
- ✓ A mandatory sticker to signal pro-environmental behaviour does not necessarily increase participation rates in the carbon offsetting program
- ✓ Keeping the choice between showing and hiding program participation

## Administrative

- ✓ Previous successful collaboration between German and Polish partners as one of major success factors for the project
- ✓ Project objectives meet needs and ambitions of all partners involved
- ✓ Complementary expertise of all partners involved

# Thank you for your attention

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