



**CARBON  
FOOTPRINT**

**IZRADILI:  
Ariana Posarić  
Jurica Hrbud  
3. PM**

# CARBON FOOTPRINT

- ugljični otisak
  - mjera je ukupne emisije stakleničkih plinova koju izravno ili neizravno uzrokuje neka osoba, proizvod, tvrtka ili događaj



# VAŠ UGLJIČNI OTISAK

- <http://ziemianarozdrozu.pl/apps/online/en/kalkulator.html#>

KAKO RIJEŠITI UPITNIK?





**Prijavi se kao gost**

Prijavi se kao gost

Nakon prijave odaberite link u bloku *Popis svih kolegija* a potom željenu kategoriju i tečaj ili tečaj potražite upisom naslova u prozoru za pretraživanje.

**Moodle podrška korisnicima**

e-mail: [moodle@carnet.hr](mailto:moodle@carnet.hr)

telefon: +385 1 6661 616  
fax: +385 1 6661 615  
pošta:  
Hrvatska akademska i istraživačka mreža – CARNet  
Moodle podrška korisnicima  
Josipa Marohnića 5  
10000 Zagreb

**Korisni linkovi**

CARNet  
e-Tečajevi za primjenu u nastavi  
E-learning akademija  
Nacionalni portal za učenje "Nikola Tesla"  
eLektire  
Mahara

**Dobrodošli na CARNetov sustav za online učenje!**

Moodle je sustav temeljen na sustavu otvorenog koda, a namijenjen je izradi elektroničkih obrazovnih sadržaja te održavanju nastave na daljinu.

Svi članovi akademske i školske zajednice imaju pravo na potpuno besplatno korištenje i svu pomoć oko korištenja ovoga sustava. Sustavu se pristupa odabirom linka "Login" u gornjem desnom uglu ili iz bloka Login, uz korištenje [elektroničkog identiteta](#) u sustavu AAI@Edu.hr koji se korisnicima dodjeljuje na matičnoj ustanovi (školi, fakultetu, institutu).

U sustavu Moodle korisnici mogu **kreirati vlastiti online tečaj**. U tu je svrhu potrebno ispuniti "[Zahtjev za izradom vlastitog tečaja](#)" koji se nalazi u prvom bloku s desne strane. Pravo na otvaranje novog tečaja ima nastavno i drugo osoblje, zaposlenici na ustanovama članicama CARNeta. Otvaranje novog tečaja nije predviđeno za studente i učenike osim u iznimnim slučajevima i na preporuku mentora.

Osim toga, kroz sustav Moodle korisnicima su na raspolaganju i [e-Tečajevi za primjenu u nastavi](#). Želite li gotove tečajeve iz programa CARNetovog edukacijskog centra o programiranju, web dizajnu, multimediji te korištenju interneta implementirati u svoju nastavu, ispunite obrazac "[Izaberi e-Tečaj s gotovim sadržajem](#)".

**Važna obavijest**

Prateći tehnološke promjene, a s ciljem unapređenja usluge, CARNet svojim korisnicima uz postojeći sustav za online učenje Moodle 1.9, od početka studenog nudi i novi sustav Loomen koji se temelji na verziji Moodle 2.3, a dostupan je na adresi <https://loomen.carnet.hr/>. Sustav Moodle 1.9 bit će dostupan do 31. srpnja 2013. godine, kada se u potpunosti prelazi na korištenje sustava Loomen. [Više](#)

**Moji kolegiji**

[Kreativnošću i kulturom protiv CO2 otiska](#)  
Teacher: Ivan  
[Kliknite za pristup kolegiju](#)



**Poruke**

Ivan Miškulin  
Poruke... 1

**Otvaranje novih tečajeva**

Zahtjev za izradu vlastitog tečaja  
Izaberi e-Tečaj s gotovim sadržajem

**Moodle priručnici**

Moodle priručnik autorice Ivane Bosnić.

**Tečajevi za samostalno učenje:**

- Izrada online tečaja pomoću Moodle-a
- Igre u Moodle-u
- Korištenje Jinga u nastavi

**Popis svih kolegija**

Popis svih kolegija u sustavu

**Blog o e-obrazovanju**

Znanstveni edukativno-zabavni centar (ZEZ)  
Tjedan otvorenog obrazovanja  
Natjecanje Google Science Fair 2013

moodle ► CO2 otisak

Korisnici

Sudionici

Aktivnosti

Forumi  
Resursi  
Upitnici

Pretraži forum

Kreni  
Napredno pretraživanje

Administracija

Ocjene  
Profil

Moji kolegiji

1 razred vjeronauk  
KEMIJA 3 za gimnazije  
Kreativnošću i kulturom  
protiv CO2 otiska  
Svi kolegiji ...

Forum s vijestima



KALKULATOR CO2 otiska

1. upitnik možete riješiti zajedno sa svojom obitelji
2. posebno obratite pozornost na sugestije/objašnjenja unutar samog kalkulatora tijekom rješavanja upitnika
3. vrijedno je da zapišete i svoja zapažanja /komentare
4. obratite i pozornost na završne tekstove mogućnosti smanjenja emisije (u postocima) kod područja **industrijska i poljoprivredna efikasnost i promet** (*improvement of the industrial and agricultural efficiency i reduction of emission from the road transport*)
5. važno je da nas rezultati emisije CO2 po tonama godišnje ne **prestraše** (prosječno su puno veći su od prosjeka za cijeli svijet) ili učine **ponosnima** (emisija je manja od prosjeka SAD-a), već da vidimo što utječe pozitivno na smanjenje otiska i kako možemo biti odgovorniji prema našem jedinom zajedničkom domu – Zemlji
6. rezultate ćemo usporediti i analizirati i te pomoću njih, kao i vaših komentara, pokušati osmisliti projektne zadatke

NE ZABORAVITE IZABRATI zemlju CROATIA i regiju INLANDS LOWLANDS.

Nemojte zatvoriti prozor s rješenjima na kraju kalkulatora jer ćete ih trebati upisati u naš upitnik na ovoj stranici.

[KALKULATOR ziemianarozdrozu.pl](#)

[UPITNIK](#)

Najsvježije vijesti

Dodajte novu temu...  
(No news has been posted yet)

Buduća događanja

Nema predstojećih događaja

Prikaži kalendar...  
Novi događaj...

Nedavna aktivnost

Aktivnost od Tuesday, 26  
March 2013, 12:11  
Potpuni izvještaj o nedavnoj  
aktivnosti...

Course updates:

Upitnik dodan:  
UPITNIK

Resurs dodan:  
KALKULATOR  
ziemianarozdrozu.pl

Resurs dodan:  
OFFSETTING





# CO<sub>2</sub> Emissions Calculator

Within a year people emit 35 billion of carbon dioxide to the atmosphere. These are abstract and unimaginable quantities. Therefore, let's try putting it another way:

**Look outside the window. Imagine a cube standing far away with a bit over a kilometre. Big, isn't it? This is the size our power plants, cars and factories double the natural concentration of carbon dioxide every second. Imagine that every second we put such a cube on the equator, one beside the other one. Within one single day we will brick in the Earth with them over twice. And so it will happen for decades, faster and faster.**

Every one of us participates in emissions of carbon dioxide – gas causing climate change.

Sitting in a warm room, having a bath, travelling by car, train, doing the shopping – we use fossil fuels energy and contribute to carbon dioxide emission.

Calculator of individual emissions will count how your lifestyle translates into your carbon footprint. Not only from transport or flat but also considering consumption of industrial goods, food and all the other spheres of life.

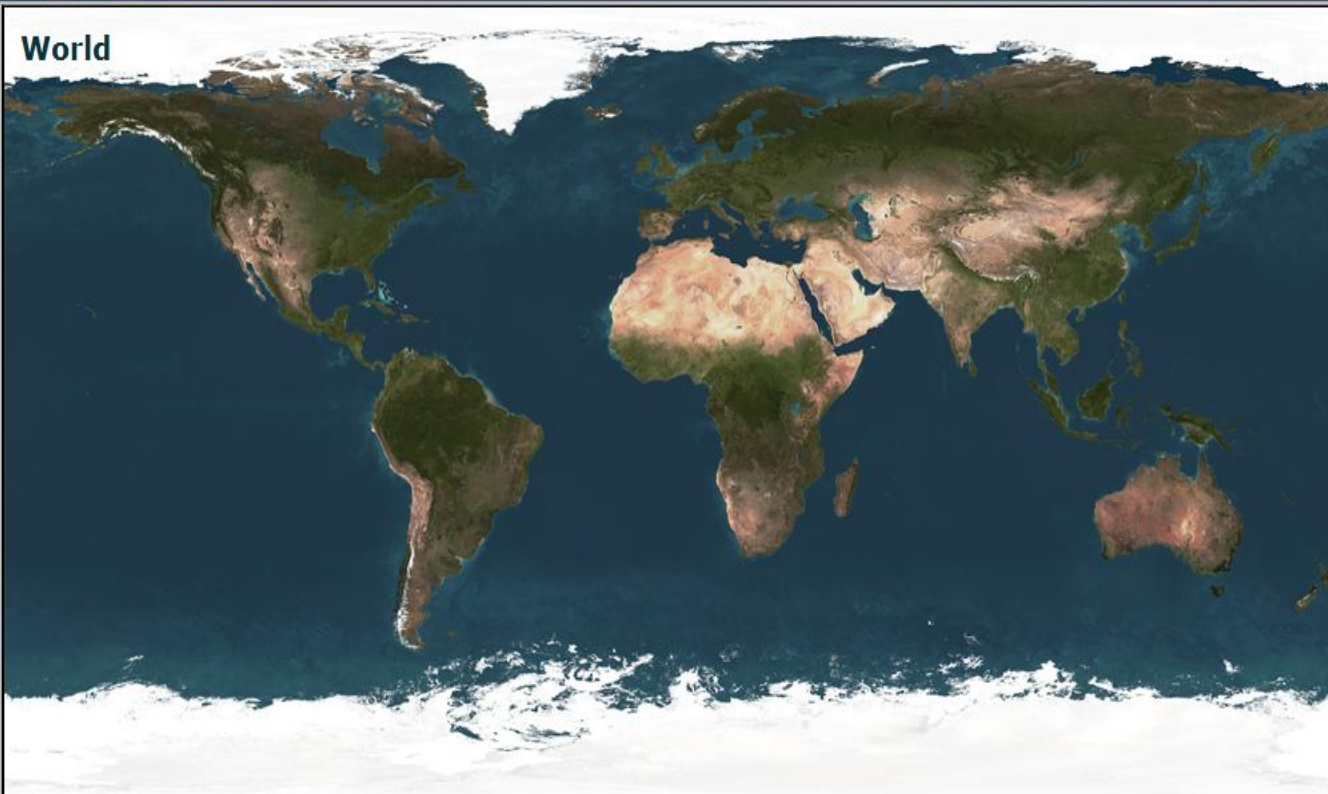
How does it relate the average in your country, to the lifestyle of an average American or Hindu? Is you emission level safe for the Earth or maybe your carbon footprint looks like the trace of Godzilla?

Calculator will also help to indicate which changes may give the best results.

And if you draw a conclusion that your lifestyle is still too energy-consuming, the calculator will enable you to check what your impact of the planet would be if you lived the way you live given other sources of energy, changes in industry and transport.

Now select option "Start".





Find

Country 

Croatia

Czech Republic

Denmark

Region 

Inland lowlands

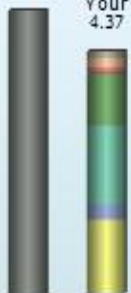
Select >>



## Emission

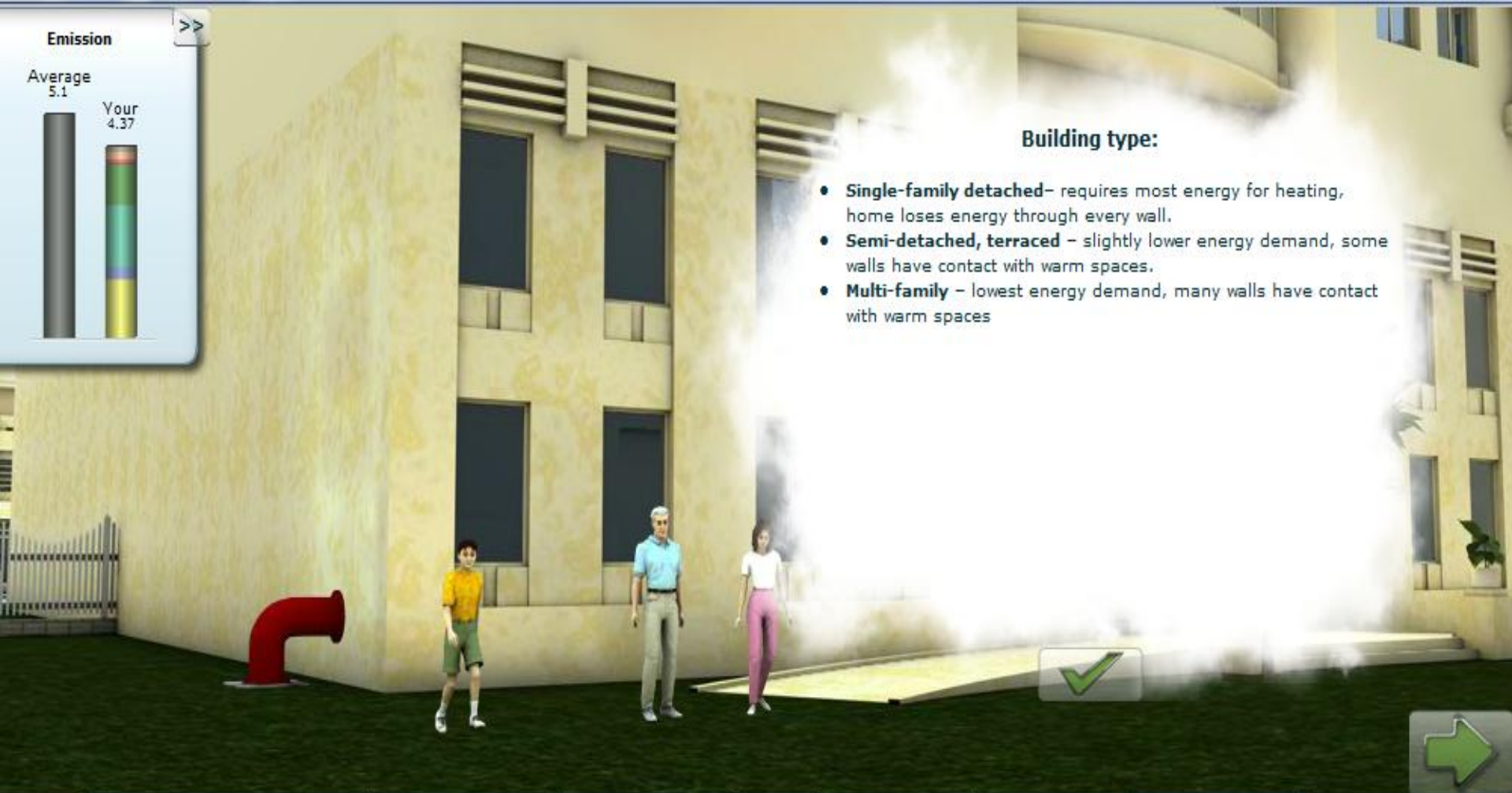
Average  
5.1

Your  
4.37



## Building type:

- **Single-family detached** – requires most energy for heating, home loses energy through every wall.
- **Semi-detached, terraced** – slightly lower energy demand, some walls have contact with warm spaces.
- **Multi-family** – lowest energy demand, many walls have contact with warm spaces



Home

Heating and air-conditioning

Private transport

Public transport

Food

Consumption

Your emission

Croatia

Building

Building type

Build of

Thermal insulation

Area [m<sup>2</sup>]

No of people

Multi-family

Concrete

Medium

100

3

Heating

Home heated in winter at temperature [°C]

Heat source

% from renewables  
[heat pump, sola collector, biomass]

Average: 21 C

Central heating – combined heat and power

0

Ventilation

Typical



## Emission

Average  
5.1Your  
4.33

% from renewables for heating [ground heat pump, solar collector, ...]:

Heating house with renewables reduces the need to burn fossil fuels for heating.

NE PRIHVAĆA IZNAD 200m<sup>2</sup>



Home Heating and air-conditioning Private transport Public transport Food Consumption Your emission Croatia

## Building

Building type

Build of

Thermal insulation

Area [m<sup>2</sup>]

No of people

Single-family detached

Brick

Medium

200

6

## Heating

Home heated in winter at temperature [°C]

Heat source

% from renewables  
[heat pump, solar collector, biomass]

Low: 19 C

Central heating – combined heat and power

0

Ventilation

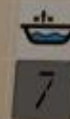
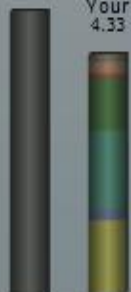
Typical

## Emission



Average  
5.1

Your  
4.33



## Heating and air-conditioning

In this section you give information enabling to determine energy demand to heat water that air-conditioning and taking a bath need.

Each bath requires heating water; it is also operation of filters, intermediate pumping station, waterworks and water treatment plants.

Air-conditioning is a luxury requiring, especially in warm climate, large quantities of energy. For instance, in Singapore, 2/3 of energy used in offices is used by air-conditioning.



Home

Heating and air-conditioning

Private transport

Public transport

Food

Consumption

Your emission

Croatia

### Baths

Weekly

Quantity of water poured into bath

Heating source

Number of baths

7



?

200 litres



?

Central heating – combined heat and power



?

Number of showers

0



?

### Air-conditioning







**Baths**

Weekly

Number of baths: 6

Number of showers: 21

Quantity of water poured into bath: 200 litres

Heating source: Central heating – combined heat and power

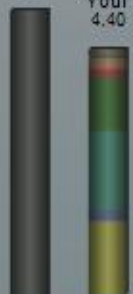
**Air-conditioning**

☐

## Emission

Average  
5.1

Your  
4.40



## Private transport

In this section you give information enabling to determine emission from a ride on private transport. The whole emission is taken into account, also that related to extraction and supply of fuel and vehicle production.

Passenger car is an incredibly energy-consuming means of transport. Engine efficiency is 20-30%, in addition we transport not only ourselves but first of all the car (the weight of a passenger/passengers and luggage constitutes only ~10% of the car weight). Let's consider that fuel has to be extracted, process and deliver to the station which needs energy. Add energy losses during stops in traffic jams and looking for a parking space. The vehicle has to be also produced and this requires a lot of energy. In total it is estimated that the transport of people and luggage spend nearly 1% of energy from consumed fossil fuels. The rest is lost. Oil deposits which our civilization rely heavily depend on, are running out while we waste 99% of it.

A litre of oil translates into 10 kWh of energy. It is energy corresponding to 60 hours of



Home

Heating and air-conditioning

Private transport

Public transport

Food

Consumption

Your emission

Croatia

Private

Vehicle size

?

Vehicle age  
[years]

?

Type of fuel

?

Fuel consumption  
litres/100km

?

Distance [km/week]  
(as driver or passenger)

?

Frequency of a drive with the  
other person

?

Air-conditioning

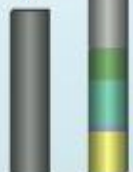
?



# Emission

Your  
8.83

Average  
5.1



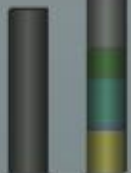
[Home](#)
[Heating and air-conditioning](#)
[Private transport](#)
[Public transport](#)
[Food](#)
[Consumption](#)
[Your emission](#)
[Croatia](#)

Private Vehicle size	Vehicle age [years]	Type of fuel	Fuel consumption litres/100km	Distance [km/week] (as driver or passenger)	Frequency of a drive with the other person	Air-conditioning
Medium	0-15	Petrol	8	200	Hardly ever	<input checked="" type="checkbox"/>
Small engine capacity	0-15	Petrol	6	60	Sometimes (50%)	<input checked="" type="checkbox"/>
Bicycle	0-15					

## Emission

Your  
8.63

Average  
5.1



## Public transport

In this section you give information allowing to determine emission from a ride on public transport. The whole emission is included, also emission connected with extraction and supply of fuel, production of vehicles and maintenance of infrastructure (e.g. railway lines, airports, etc.).



Home Heating and air-conditioning Private transport **Public transport** Food Consumption Our emission Croatia

### Public

Distance weekly

City bus	<input type="text" value="0"/> [km/week] ?	Minibus	<input type="text" value="0"/> [km/week] ?	Taxi	<input type="text" value="0"/> [km/week] ?
Long-distance bus	<input type="text" value="0"/> [km/week] ?	Tram/underground	<input type="text" value="0"/> [km/week] ?	Commuter train	<input type="text" value="0"/> [km/week] ?
				Long-distance train	<input type="text" value="0"/> [km/week] ?

### Air transport

Class	<b>Economy</b> ?	Short-distance flights (to 2,000km)	<input type="text" value="0"/> [hours a year] ?
		Long-distance flights (over 2,000km)	<input type="text" value="0"/> [hours a year] ?



# Emission

Your  
8.89

Average  
5.1



55

Home Heating and air-conditioning Private transport Public transport Food Consumption Your emission Croatia

## Public

Distance weekly

City bus 0 [km/week] ?

Minibus 0 [km/week] ?

Commuter train 55 [km/week] ?

Long-distance bus 0 [km/week] ?

Tram/underground 0 [km/week] ?

Long-distance train 0 [km/week] ?

Taxi 0 [km/week] ?

## Air transport

Class Economy ?

Short-distance flights (to 2,000km) 0 [hours a year] ?

Long-distance flights (over 2,000km) 0 [hours a year] ?



## Food

Quantity of food

Average



The place of food origin

While buying I do not pay attention to the country of origin or seasonal nature



Frequency of meat consumption

1-2 times a week



Frozen food

Once a week



Refrigerator

High efficiency (A class)



☐ freezer detached

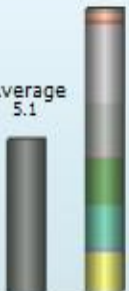
☒ Washing machine



# Emission

Your  
9.44

Average  
5.1



Home
Heating and air-conditioning
Private transport
Public transport
Food
Consumption
Your emission
Croatia

## Food

Quantity of food

Rather a lot



The place of food origin

While buying I do not pay attention to the country of origin or seasonal nature



Frequency of meat consumption

Every day



Frozen food

Every day



Refrigerator

High efficiency (A class)



☒ freezer detached

☐ Washing machine

Your  
9.44Average  
5.1

## Consumption

In this section you give information enabling to determine emission related to the other consumption. Questions are selected so as to be able to correctly estimate emission related to your lifestyle, considering standards for a given country.

If you wonder where emission related to work, factories and offices is, then it is here to a considerable extent (unless this work qualifies under category "food" or "social"). Creation and distribution of every item involves the use of energy and fossil fuels. Let's take something as tiny as mobile phone. How much CO2 emission results from such a small device?

Not only is it decagrams of plastic and metal.... It is also the whole network of operator's base stations (each has air-conditioning with the power of many kilowatts), its engineers' work, designers' and producer's technologists work, factories, transport of devices, offices and shopping arcades, hundreds of people in marketing, sales network, customer service, accounting and IT departments...

Basically, whatever you spend money on, it involves carbon dioxide emission from fossil



Home

Heating and air-conditioning

Private transport

Public transport

Food

Consumption

Your emission

Croatia

### Consumption

Expenditure

Average income (country) ▼

?

Recycling

Part of rubbish goes for recycling ▼

?

Clothes

I buy new when old clothes are worn-out ▼

?

Packaging

I do not any particular attention to it ▼

?

Furniture and electronic

I usually buy new but I use them for a long time ▼

?

Recreation

I like spending time in cinemas and restaurants/cafes the most ▼

?

Electricity

On average - I try not to waste current ▼

?

% of energy from  
renewable sources

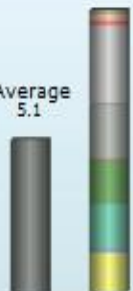
0

?

☒ Electrical lighting☐ Clothes dryer☒ TV☒ Video/DVD☒ cable or satellite television☒ Computer☒ Radio, Hi-fi set



## Emission

Your  
9.41Average  
5.1

☒ Home
 ☒ Heating and air-conditioning
 ☒ Private transport
 ☒ Public transport
 ☒ Food
 ☒ Consumption
 ☒ Your emission
 Croatia

## Consumption

Expenditure

Average income (country) ▼



Recycling

A lot of rubbish goes for recycling ▼



Clothes

I buy new modern clothes regularly ▼



Packaging

I do not pay particular attention to it ▼



Furniture and electronic

I usually buy new but I use them for a long time ▼



Recreation

I like spending time in cinemas and restaurants/cafes the most ▼



Electricity

On average – I try not to waste current ▼

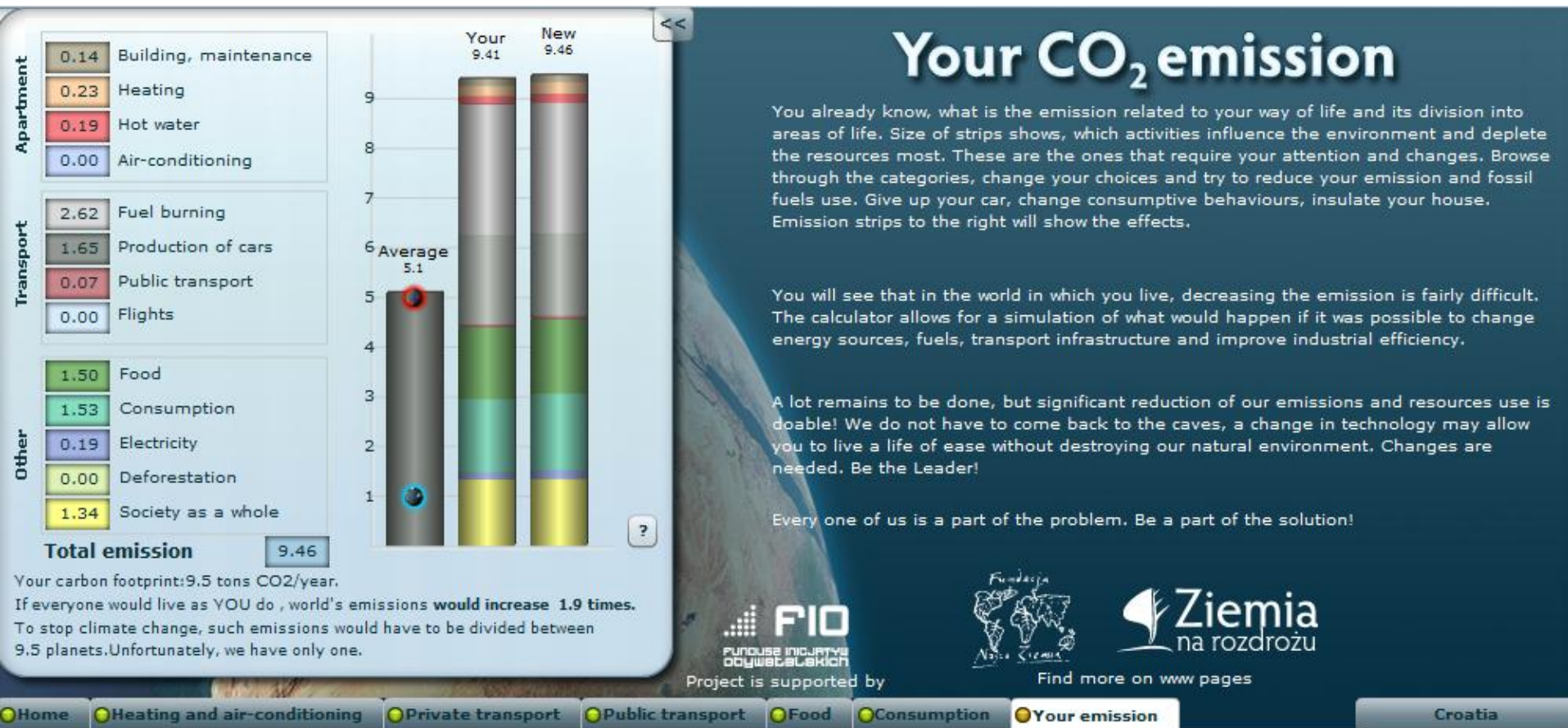
% of energy from  
renewable sources

0



- ☒ Electrical lighting
- ☐ Clothes dryer
- ☒ TV
- ☒ Video/DVD ?
- ☐ cable or satellite television
- ☒ Computer
- ☒ Radio, Hi-fi set

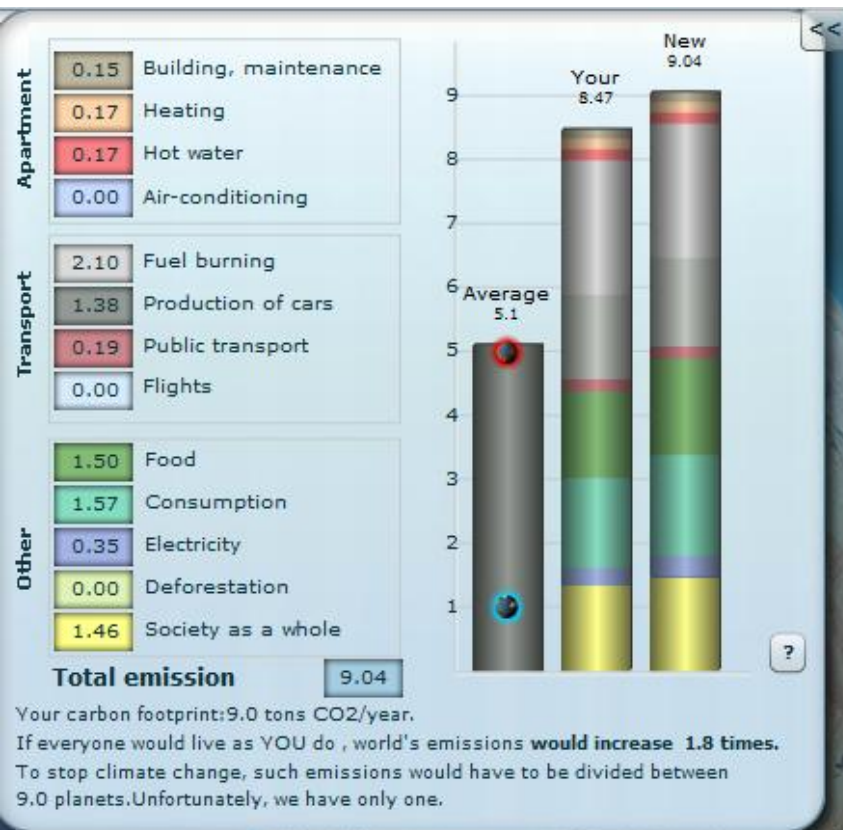
# Ariana



Energy production	simulation of 100% of energy from gas burning (also, most of biofuel)	?
Improvement of the industrial and agricultural efficiency	20% (rapidly achievable in a simple way)	?
Reduction of emission from the road transport	0% (present state)	?



# Jurica



## Your CO<sub>2</sub> emission

You already know, what is the emission related to your way of life and its division into areas of life. Size of strips shows, which activities influence the environment and deplete the resources most. These are the ones that require your attention and changes. Browse through the categories, change your choices and try to reduce your emission and fossil fuels use. Give up your car, change consumptive behaviours, insulate your house. Emission strips to the right will show the effects.

You will see that in the world in which you live, decreasing the emission is fairly difficult. The calculator allows for a simulation of what would happen if it was possible to change energy sources, fuels, transport infrastructure and improve industrial efficiency.

A lot remains to be done, but significant reduction of our emissions and resources use is doable! We do not have to come back to the caves, a change in technology may allow you to live a life of ease without destroying our natural environment. Changes are needed. Be the Leader!

Every one of us is a part of the problem. Be a part of the solution!



Project is supported by



**Ziemia**  
na rozdrożu

Find more on www pages

Home Heating and air-conditioning Private transport Public transport Food Consumption **Your emission** Croatia

Energy production simulation of 100% of energy from gas burning (also, most of biofuel) ?

Improvement of the industrial and agricultural efficiency 0% (present state) ?

Reduction of emission from the road transport 0% (present state) ?

## UPITNIK CO2

\*1 Building, maintenance (**dom, održavanje**)

\*2 Heating (**grijanje**)

\*3 Hot water (**grijana voda**)

\*4 Air – conditioning (**klima uređaji**)

\*5 Fuel burning (**gorivo**)

\*6 Production of cars (**automobil**)

9.04

Što ste primijetili? O čemu bi se moglo raspravljati? Jeste li komentirali neke „?“ savjete/informacije u anketi?

ništa

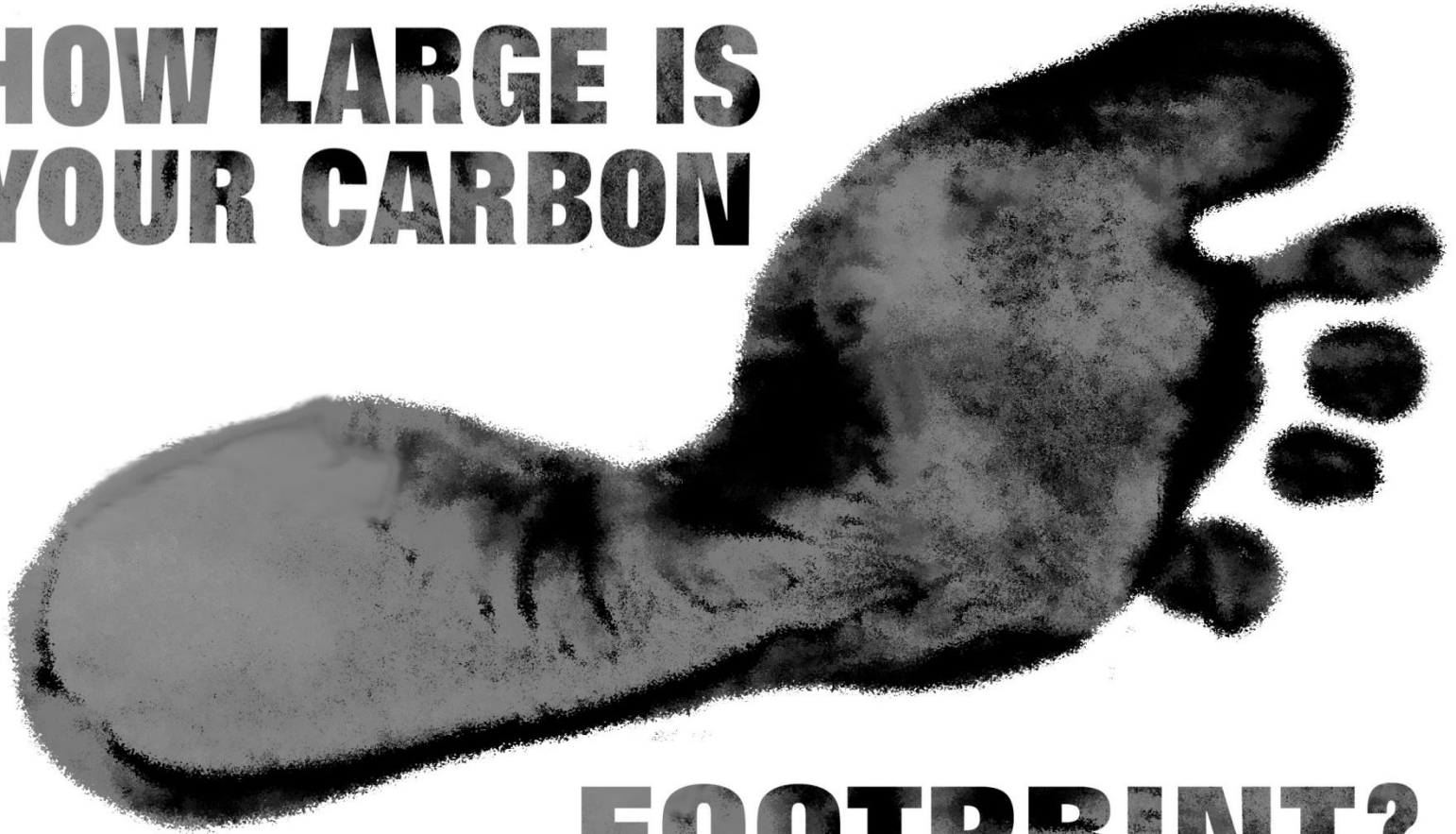
Putanja: body

Što ste primijetili? O čemu bi se moglo raspravljati? Jeste li komentirali neke „?“ savjete/informacije u anketi?

ništa

Putanja: body

**HOW LARGE IS  
YOUR CARBON**



**FOOTPRINT?**