



## CO<sub>2</sub> ON THE WAY TO SCHOOL

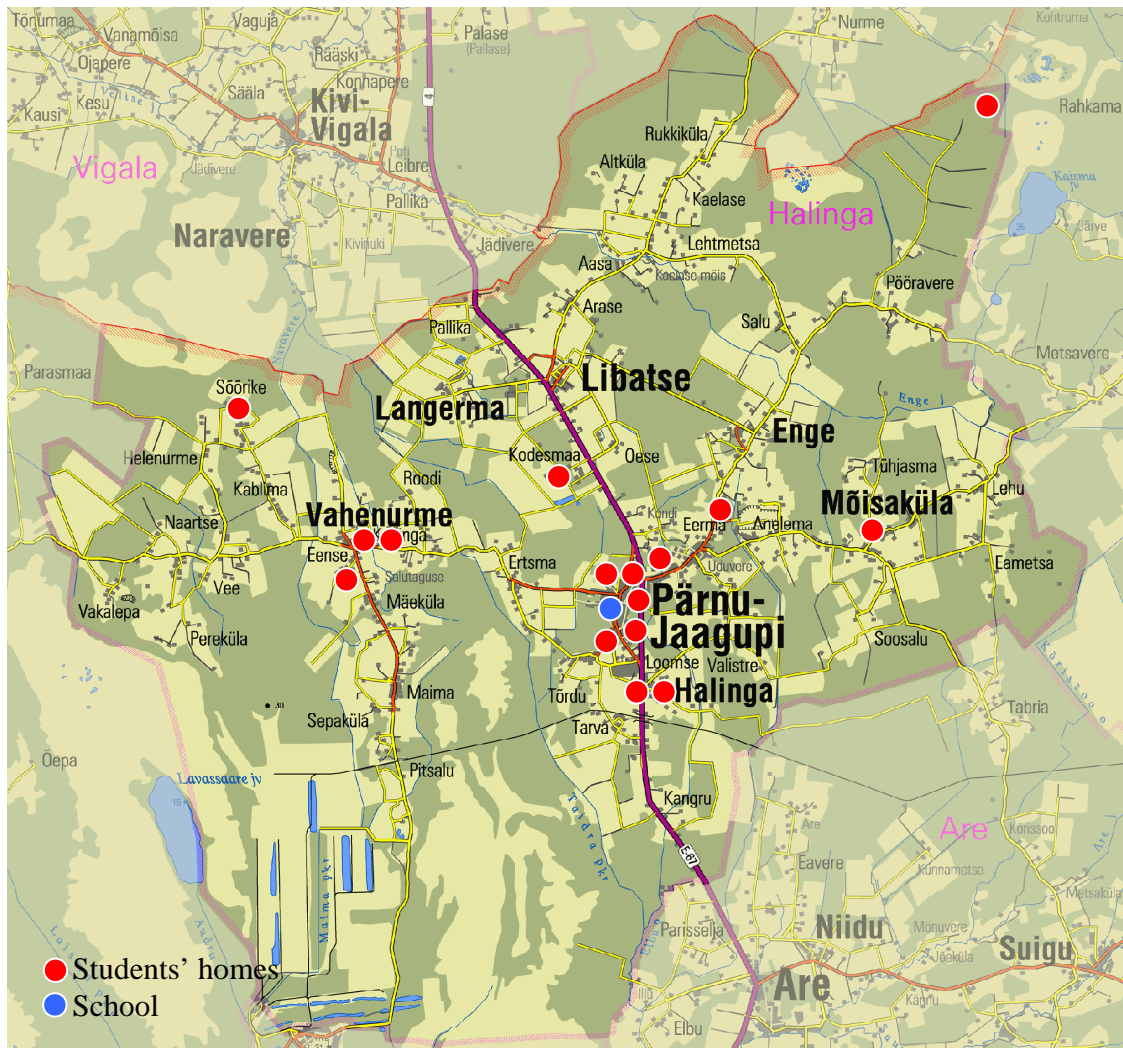


### **Our class**

The pupils of Pärnu-Jaagupi Secondary School (59 students) measured their school way distance and CO<sub>2</sub> emission on the way to school in spring 2009. In autumn the 7<sup>th</sup> class decided to go on with this project. We decided to focus on the transport issue.

### **Our community**

We live in the western part of Estonia, in Pärnu County at Halinga parish. It is a small region with a territory 365 km<sup>2</sup>



Map of the parish Halinga. You can see that via municipality goes the motorway. It's very dangerous for pupils and very polluting too. The roads covered with asphalt are painted red. Most of our roads haven't covered with asphalt (yellow on the map).

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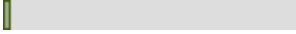
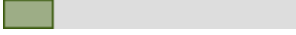





## Results of our group works

### Transport modes

This table shows the number of reporters that have used the various transport modes

#### Modes of transport

foot		37.0% (17)
bicycle		2.2% (1)
car small		2.2% (1)
car medium		17.4% (8)
car large		2.2% (1)
bus		65.2% (30)
minibus		2.2% (1)



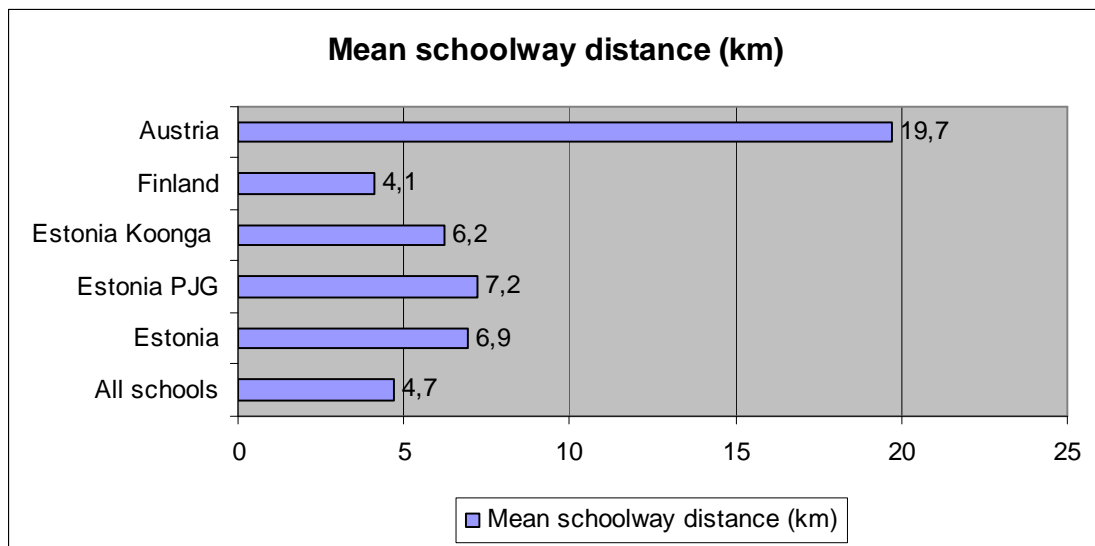
*Bicycles in front of our school*

Most of our students go to school by bus. Unfortunately there are not enough students who go to school by bike; only one of the responders goes to school by bicycle.

If we compare our results with the results of the whole world then we can see that Estonian students mostly use buses, but students from other participating countries go to school mostly on foot.

### Mean school way distance

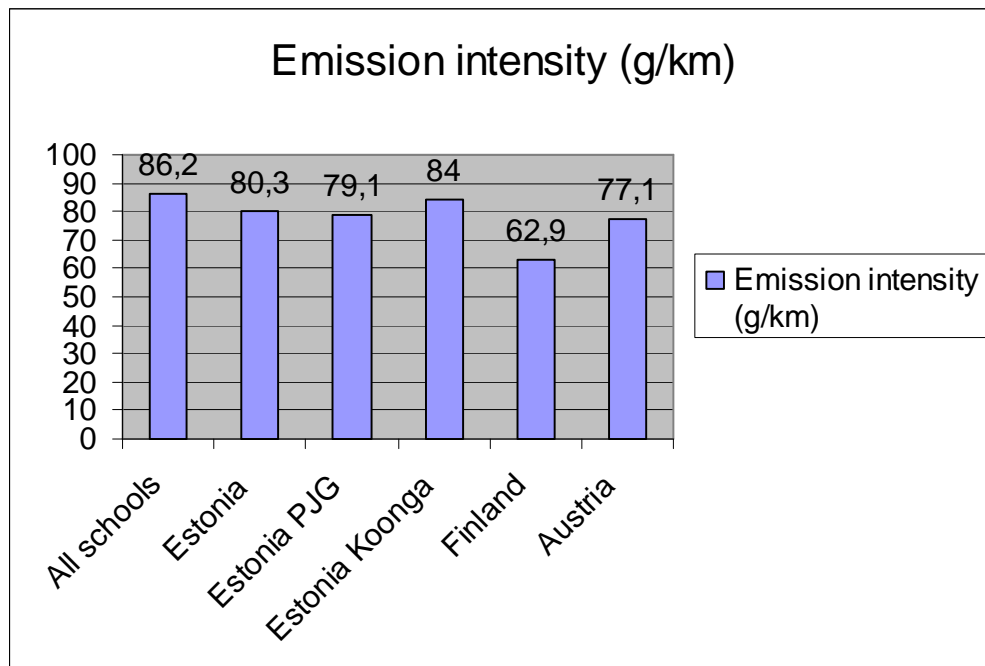
It was very interesting for us to get to know the distance from home to school in the different countries. We thought to this day that the school way of our pupils is very long, but now we saw that it wasn't. The average distance to school in Austria is **19,7 km!!** It is quite long.



### Emission intensity

As we can see the CO<sub>2</sub> emission intensity on our way to school is a little bit smaller than the average results of all other schools. We think it is due to the school buses system in Estonia

But the situation in Finland is quite good! It means that the pupils of Finland go to school on foot or by bike. It seems that their transport system is very environmental friendly.



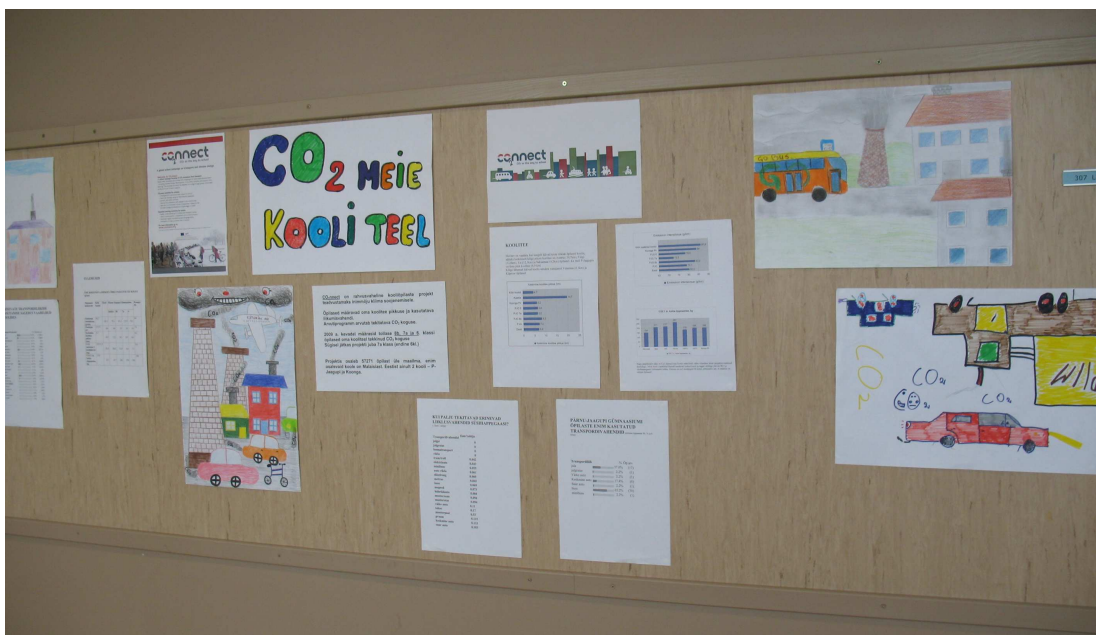
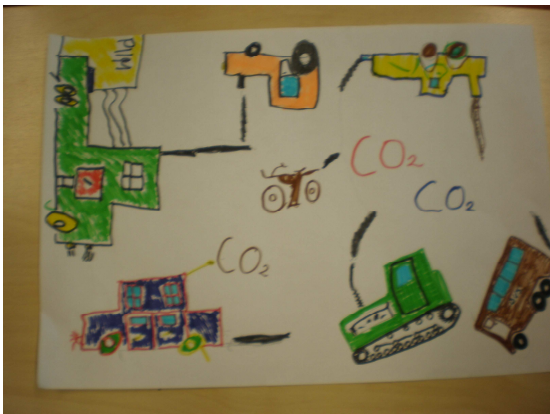
### **Why don't I go to school by school bus?**

- Because the buses are so small and crowded
- Because it is a long way to the bus stop
- Because the bus goes too early
- Because the bus goes too slowly
- The roads are in bad condition





## Drawing posters, pictures





## A questionnaire about transport

In order to study CO<sub>2</sub> emission from transport, the seventh-formers of our school compiled a questionnaire covering the topic and interviewed 13 people from the school staff and the local municipality government.

The questions they asked were the following:

1. How do you get to work?
2. How far from the workplace do you live?
3. Why do you use a car?
4. How many people do you take in your car?
5. Why don't you use a bus or a bicycle?
6. How do you think we could reduce CO<sub>2</sub> emission from transport in our community?



way to

To the question why people use cars, they answered that they lived far away, the bus stop was too far, the bus schedule was bad, the bag was heavy, and the main reason was – **it was just so comfortable.**

To the question about the number of people in a car the answer was – the more, the better. A good example was given by our headmaster who picked up four people on his work.

The reasons given for not using bicycles were – bad weather, long distance, bad road conditions, have to wear formal clothes...

All the interviewees agreed that it was better for health and environment to go to work on foot or by bike.

The students were very enthusiastic about the interviews and liked them a lot.



## Meeting with local authorities

The students visited the local municipality and presented their CO<sub>2</sub> project. The presentation included the results of the campaign, the results of their analysis and the results. The students also made some suggestions to the local authorities:

1. Build more cycle tracks, for example from Pärnu-Jaagupi to Uduvere and Vahenurme villages.
2. Build better asphalt roads, for example to Uduvere and Kergu villages.
3. Replace old school buses by new ones.
4. Improve the schedule of the school buses.



They also noted that first steps in the road of cleaning the environment have already been taken – last spring the first cycle track was open in our community and the biggest profit would be achieved when the nursery school replaced the old oil-shale based heating system by a new thermal heating system.

**In the course of the discussion a lot of questions came up  
Here they are: students' questions to the teachers and to the local  
authorities**

1. Is it possible to make machines not to pollute air?
2. Is it good or bad for Estonia that our climate is getting warmer?
3. Why is the climate getting warmer?
4. Could you invent something that could make people give up using cars?
5. Is it true that the warming of climate is only bad?
6. Why are bus tickets so expensive?
7. Why don't they give free tickets to the students who go to school in Pärnu?
8. Why are there so few sidewalks?
9. Why is petrol so polluting?
10. Why are there so few zebra-crossings?
11. Why are there so few asphalt roads?
12. Why are the roads often not cleaned from snow in winter?
13. Why are bikes so expensive?
14. Why are there so few bike roads?
15. Why are our school buses so old?

We haven't got answers to all questions, but we are working on with these



*Discussion with headmaster*



## Conclusion

### During this project we got to know that:

- CO<sub>2</sub> is one of the main greenhouse gases
- The average amount of CO<sub>2</sub> emitted per person for a typical country in Europe is around **7 tons – or 7000 kilograms!!**.
- Each student put into the atmosphere **154 kg** CO<sub>2</sub> from one year of travelling to and from school
- Each student from Pärnu-Jaagupi School put into the atmosphere **217kg** CO<sub>2</sub> from one school year of travelling to and from school
- To protect our environment we have to go **on foot** or ride **by bike**
- the most polluting means of transport is a large car and less polluting is electric car
- In most European countries transport is somewhere between **20 and 25%** of a carbon footprint.

We understood that each person can chip in for reducing CO<sub>2</sub> emission from transport!

**We enjoyed that kind of activities very much!**

**We hope we and our school are now more environmental friendly**