

SUSTAINABILITY TRENDS FOR HIGHWAYS

CSE Research Findings from Europe

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**CENTER for
SUSTAINABILITY and
EXCELLENCE**



SUSTAINABILITY THE HIGHWAYS

Definition

The creation of modern motorways which contribute to the development of the national economy, ensure the protection of the environment and improve the quality of life of the wider society





KEY FOCUS AREAS FOR SUSTAINABILITY

Sustainability topics/focus areas in Highways

- Road Safety
- Health and Safety at Work
- Climate change
- Emissions
- Water
- Traffic noise
- Strengthening local communities
- Economic performance
- Waste management
- Anti-corruption
- Data security
- Diversity and inclusion
- Empowering communities





SUSTAINABILITY INITIATIVES AND TRENDS IN THE HIGHWAY SECTOR

❖ SustainEuroRoad LIFE Project:

Proposes to create, validate and implement an innovative software to evaluate and reduce the environmental impact of road construction and maintenance in Europe

❖ Smart Highways :

- i. Photosensitive paints for road markings illuminating the road at night
- ii. Small turbine generators providing the driver with more light at night
- iii. Recharging electric vehicle batteries during driving
- iv. First glow-in-the-dark road of **Daan Roosegaarde's Smart Highway project (Oss, Netherlands)**





FUTURE :PHOTOVOLTAIC PAVEMENTS AND ROADS FOR ZERO EMISSIONS



France unveils the world's first
solar panel road:
Half-mile stretch could
provide enough energy to
power entire village's street
lights



RENEWABLE ENERGY THROUGH PIEZOELECTRIC- BASED TECHNOLOGY



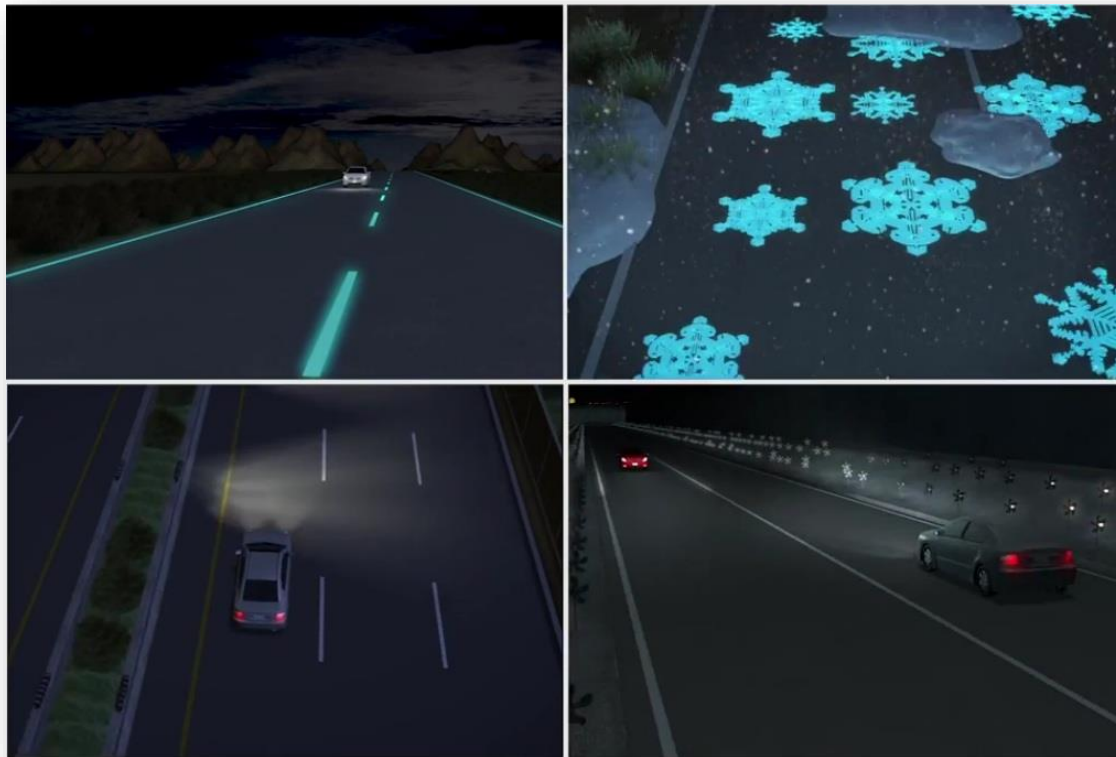
**Smart Highways That Can
Charge Your Electric Car Are
Coming To The U.K.**



FUTURE : SMART LIGHTING ROAD



First glow-in-the-dark road of Daan Roosegaarde's Smart Highway project (Oss, Netherlands)

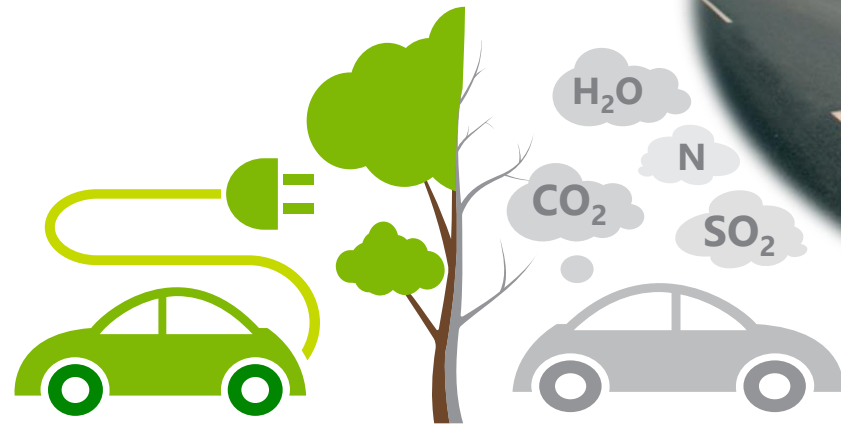




FUTURE : CHARGING THE CAR

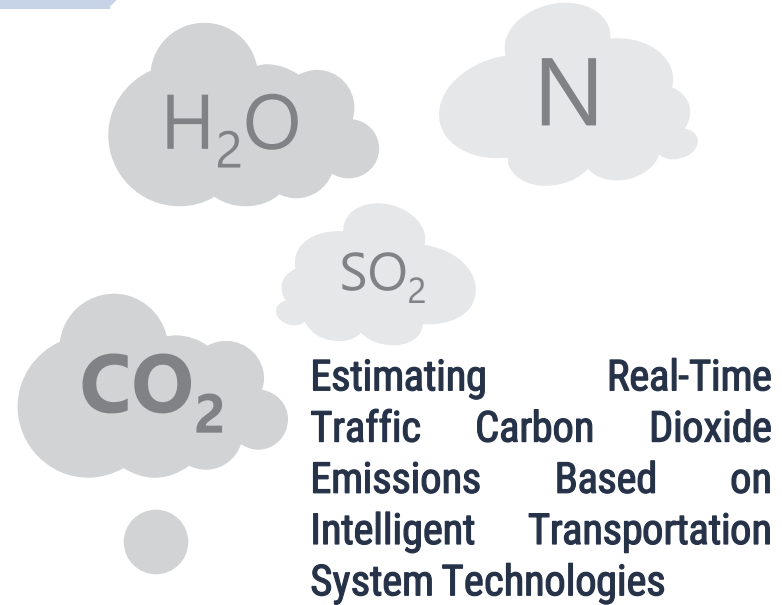
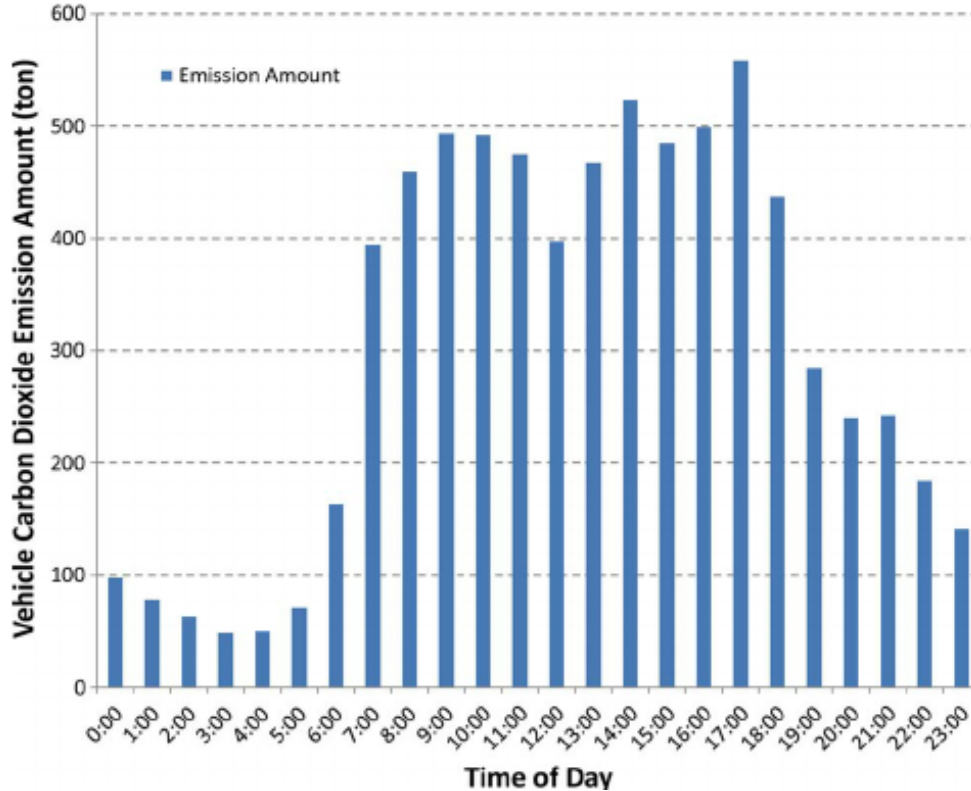


Smart Highways will charge your car and tell you what the weather is





REAL-TIME TRAFFIC CARBON DIOXIDE EMISSIONS BASED ON IT SYSTEM TECHNOLOGIES





SUSTAINABILITY STRATEGIES

- **Road safety** (constant upgrade of services and training of employees) → Particular importance in **raising awareness** on road safety in children and adults
- Increase the level of **satisfaction of drivers** with an **integrated management system**
- A **healthy and safe working environment** with respect to employees' rights and individuality
- **Least possible environmental impact** (over and above the legislation): calculation of carbon footprint, reduction of green house emissions, fight against climate change
- **Close to local societies** via programs and actions mainly for schools, institutions and socially disadvantaged groups
- Adoption of the **2030 Agenda of the United Nations**, via **Sustainable Development Goals (SDGs)**



HIGHWAYS SUSTAINABILITY STATUS (EUROPE / GREECE)

CONSTRUCTION IN EUROPE

- Use of **GRI: 62.2%** (G4, Standards, Citing)
- SDGs: 21.6%** refer
- CDP: 12.2%** report to the CDP
- UNGC: 17.6%** are member of the UN Global Compact
- External Assurance: 23%**

Number of Reporting Companies in Europe (2017-2019): **74**

Number of Reporting Companies Globally (2017-2019): **240**

HIGHWAY IN GREECE

Number of Reporting Companies in Greece (2017-2019 / Highway Sector): **3**



ΑΤΤΙΚΕΣ ΔΙΑΔΡΟΜΕΣ (4 years of reporting)



ΑΕΓΕΑΝ ΜΟΤΟΡΒΕΥ S.A. (3 years of reporting)



ΝΕΑ ΟΔΟΣ (3 years of reporting)

- Use of **GRI: 100%** (G4, Standards)
- SDGs: 100%** reference the SDGs
- External Assurance: 66.7%**



MAJOR SUSTAINABILITY REPORTING TRENDS IN GREECE

In Greece, 78% of examined companies use the Reporting Guidelines of the Global Reporting Initiative (GRI), while the proportion of reports that have sought external assurance remains low (41%) compared to European trends (53.7%).

The right **strategy** with **quantitative targets** that takes into account stakeholders' demands along with the **transparency** culture and the **Corporate Responsibility Report** will contribute to the growth of business results and will be considered as an investment rather than cost, with **significant benefits** such as:

- **Significant Cost savings** from carbon footprint reduction through energy and transport cost savings
- **Strengthening relationships with employees** and readability from society with measurable goals
- **Compliance** with investor requirements and reduction of operational risk



SOCIAL ECONOMIC IMPACT OF AEGEAN MOTORWAY (Communicate your social impact)

Το Κοινωνικο-οικονομικό μας Αποτύπωμα για το 2018 με αριθμούς

Πάνω από **€4.000.000** μη-συμβατικές περιβαλλοντικές επενδύσεις

Στηρίζουμε **449** έμμεσες και επαγόμενες θέσεις εργασίας

Στηρίζουμε πάνω από **637** τοπικούς και εθνικούς προμηθευτές με συνολική προμηθευτική δαπάνη προς αυτούς **€50.440.000**

€50.000 στην εκπαίδευση των εργαζομένων μας

Δαπανήσαμε **€134.000** για να διασφαλίσουμε και να πιστοποιήσουμε την υγεία και ασφάλεια των εργαζομένων μας

€105.000 σε προγράμματα εκπαίδευσης νέων για την οδική ασφάλεια, για την εκπαίδευση πυροσβεστών, σε υποστήριξη σχολείων και ποδηλατικών/αθλητικών εκδηλώσεων & σε εθελοντική δράση των εργαζομένων μας

€15.884.000 για την διασφάλιση της οδικής ασφάλειας μέσω τεχνικών εργασιών, εξοπλισμού και οδικής βοήθειας



€315.000 σε έμμεσες οικονομικές επιπτώσεις (συντήρηση δημοτικών υποδομών, κάρτες δέλεουσας ΑμΕΑ)

Καταβίβουμε **€8.549.000** σε φόρους και **€3.824.000** σε ασφαλιστικές εισφορές

€237.000 σε πρόσθετες παροχές στους **449** εργαζόμενους μας

Η οικονομική προστιθέμενη αξία μας αντιστοιχεί σε **0.02%** του ΑΕΠ

Μειώσαμε **4.4%** την ένταση των εκπομπών αερίων του θερμοκηπίου ανά χιλιόμετρο αυτοκινητόδρομου, ενώ παράλληλα μειώσαμε κατά **8.8%** των ενεργειακών έντασης ανά χιλιόμετρο αυτοκινητόδρομου

Επενδύσαμε **€4.300.000** στην αναβάθμιση των εγκαταστάσεων μας

Συμβολή στην Βιώσιμη Ανάπτυξη





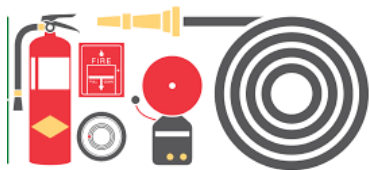
EXAMPLES OF INITIATIVES IN GREECE: ROAD SAFETY

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➤ Training Programs for Employees

Safety at work, fire safety and fire fighting signs, fire fighting practice



➤ Health and safety of users

Traffic management to road safety

- Timely driver information
- Patrol services and intervention teams
- Traffic Management Centre (T.M.C.)



➤ Raising awareness on road safety

- ✓ Distribution of informative/educational material related to road safety and educational actions and programs for children and adolescents
- ✓ Cooperation with entities and institutions for road safety
- ✓ Participation in associations, clubs and Universities
- ✓ Participation of executives in committees and research programs





THANK YOU!

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