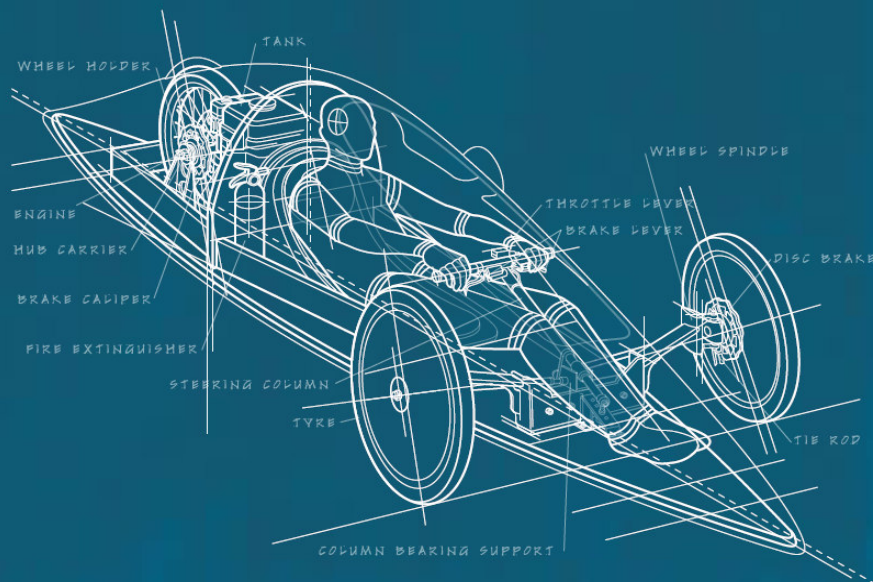


Shell ECO-MARATHON®

EUROPE

BRINGING ENERGY INTO THE FUTURE



EUROSPEEDWAY LAUSITZ – GERMANY
7 - 9 May 2009

www.shell.com/ecomarathon



Special Rules and Regulations - Europe 2009

Contents

Foreword	p. 1		
1- General	p. 2	3- Competition	p. 12
01 : Entries		43 : Track Access Conditions	
02 : Participant Reception		44 : Practice runs	
03 : Team Sign-In / Administrative Checks		45 : Compliance	
04 : Deposit		46 : Timekeeping	
05 : Ordering Mandatory Equipment		47 : Fuel Consumption Checks	
06 : Insurance		48 : Results	
07 : Damages Not Covered by Event Organisers		Prototype Group	p. 13
08 : Radio Connections		49 : Start of Race	
2- Safety	p. 4	UrbanConcept Group	p. 14
Principles	p. 4	50 : Principle	
09 : Safety Rules		51 : Starting Grid for First Leg	
10 : Penalties		52 : Starting Grid for the first leg	
Whole Circuit Premises and Campsite Rules	p. 4	Schedule – Test Runs and Competition	p. 14
11 : EuroSpeedway Rules and Regulations			
12: Noise Level		4- Trophies, Prizes and Awards	p. 16
13 : Barbecue – Cooking Area		53 : Award Presentation	
14 : Waste Management		54 : Grand Prizes and Other Awards	
15 : Smoking		55 : Special Awards	
16 : Drugs and Narcotics			
17: Alcohol			
18 : Moving Prototypes and UrbanConcepts			
Track and Pit Lane Specific Rules	p. 5		
<i>Prototypes and UrbanConcepts</i>			
19 : Driver Weight			
20 : Helmets			
21 : Driver Clothing			
22 : Drivers			
23 : Driving Knowledge Test			
24 : Driving Under the Influence of Alcohol			
25 : Access to the Track			
26 : Racing Direction			
27 : Radio Connections			
28 : Overtaking			
29 : Breakdowns and Other Incidents			
30 : Parking			
31 : Pedestrians			
32 : Panel Information to Prototypes and UrbanConcepts			
33: Bicycles / Cyclists			
34 : Alcohol Policy			
35 : Helmets and Clothing			
36 : On-Track Cycling			
37 : Off-Track Cycling			
Paddock Specific Rules	p. 8		
38 : Protective Equipment and Materials			
39 : Emergency Exits			
40 : Paddock Area Housekeeping			
41 : Material Safety Data Sheets (MSDS)			
42 : Safety Walks			

Foreword

The full Shell Eco-marathon Europe 2009 rules comprise of the [Shell Eco-marathon Official Rules 2009 Chapter I](#) and the Special Rules and Regulations Europe-2009

Shell Eco-marathon: Challenging hundreds of young people to find innovative solutions to fuel economy and sustainable mobility issues.

This educational project also acts a springboard for energy optimisation and sustainable development by encouraging the use of new fuels (LPG, hydrogen, biofuels, etc.).

Every year Shell¹organises an energy-economy competition on a real motor circuit known as the Shell Eco-marathon, this competition is governed by the rules and regulations presented herein.

Participating teams can enter

- The following groups:
 - **Prototypes:** Three- or four-wheel vehicles.
 - **UrbanConcept:** Four-wheel vehicles similar in appearance to regular cars and which are fit for on-road use.
- The following categories:
 - **Schools:** Secondary or technical schools preparing pupils for vocational training certificates, professional certificates or official second-level school-leaving examinations.
 - **Universities/Technical Colleges:**
 - Educational establishments preparing students for higher education diplomas (senior technician certificates, university-level technology diploma, etc.).
 - Establishments of higher education awarding university-level degree diplomas, or student associations.

In all cases drivers shall be pupils of the educational institution in question. Proof of enrolment must be provided upon request.

- The following engine types and energy classes:

Engine Types	Energy Classes
Combustion	Unleaded gasoline (petrol) 95 (EN228); diesel fuel (EN590); liquefied petroleum gas (LPG); Shell Gas-to-Liquid (GTL); fatty acid methyl ester (FAME); ethanol E100.
Fuel cell	Hydrogen
Solar	/

¹. In 2009 Shell Deutschland Oil GmbH, Suhrenkamp 71-77, 22284 Hamburg is the organizer of the event.

1 – GENERAL

In 2009 the Shell Eco-marathon Europe will be held from 07 to 09 May at the EuroSpeedway Lausitz, at Klettwitz in Germany. From 04 to 09 May teams are allowed on site. The rules and regulations apply during the entire duration of teams' presence on site.

Teams will be allowed on site from 15.00 Monday 04 May. Teams need to clear the infield and paddock areas at the latest by 20.00 Saturday 09 May. The camping site will be open to teams from 12.00 on Monday 04 May and will remain open to Sunday 10 May to allow for accommodation on Saturday night. Vehicle storage on surveyed grounds will also be provided.

By participating in the Shell Eco-marathon project, you recognize that the Event Organiser, Shell Deutschland Oil GmbH, and more generally all Shell Group companies have the right to use your image for advertising, marketing or promotional purposes associated with this event.

Article 01: Entries

For each entry, a team manager, a driver and a reserve driver shall be designated. The team manager shall be responsible for only one vehicle. S/he may be the driver for that vehicle, but for that vehicle alone.

The manager shall be the team's sole official liaison with Event Organisers. All information shall be addressed to him/her. For the purposes of the Event, s/he shall be responsible for and speak on behalf of the team .

Drivers shall be **at least 14 years old** on the day of the competition. The main driver for one vehicle may not be the reserve driver for another. One reserve driver may be assigned to two vehicles. However, once s/he has driven one of those vehicles (in practice or in the competition itself) s/he may no longer drive the other vehicle.

Article 02: Participant Reception opening hours

Tuesday 05 May - 15h00 to 19h00.

Wednesday, Thursday and Friday 06-08 May - 08h00 to 19h00

Saturday 09 May - 08h00 to 20h00

Article 03: Team Sign-In / Administrative Checks

Tuesday 05 May - 15h00 to 19h00

Wednesday 06 and Thursday 07 May - 08h00 to 19h00

Article 04: Deposit

Upon arrival at the motor circuit, the team manager must present a piece of official identification (national identity card or passport) and an American Express Traveller's Cheque to the value of €500 which shall be deposited as a security down payment in order to receive the following items.

- **transponder**
- **electrical connections and accessories**
- **joulemeter (solar vehicles only).**

The team manager will be required to countersign the traveller's cheque when depositing it. Only American Express Traveller's Cheques made out in Euros will be accepted. Bank-issued cheques and cash will not be accepted and failure to produce an American Express Traveller's Cheque will result in the team not being able to borrow the aforementioned items.

Upon return of the borrowed items intact and undamaged the deposited Traveller's Cheque shall be returned to the team manager. Please note that countersigned traveller's cheques are

equivalent to cash and are no longer secure. Failure to return the borrowed items intact and undamaged will result in forfeit of the complete deposit.

Article 05: Ordering Mandatory Equipment

This article applies to teams that do not yet have the required equipment in their possession and that can order it via the e-shop centre.

- Fuel tanks (gasoline or diesel fuel)

Standard fuel tanks shall be obtained from Event Organisers. These tanks are mandatory and shall not be modified.

- Prototype: 30, 100 or 250 cc
- UrbanConcept : 30, 100, 250 or 350 cc

- Hydrogen flow meter

- Horn

The above can be purchased at cost via the Shell Eco-marathon website (www.shell.com/eco-marathon), under the e-shop heading. To ensure prompt delivery, orders must be received **before 03 April 2009**. After that date fuel tanks may be purchased at the motor circuit in the technical area.

Article 06: Insurance

In conformity with legal requirements applicable to motoring events, Shell in Germany has taken out an insurance policy covering the liability of organisers, drivers and teams. The policy covers any physical injury for which the organisers or competitors may be held liable. For insurance purposes, competitors are considered as third parties to one other.

- Other damages are not covered by this insurance policy, notably as concerns theft or other damage occurring to team vehicles, cars and/or equipment in the pits or in other areas of the motor circuit. The insurance policy shall cover only the period of the practice sessions and the competition.
- Shell shall not be held liable in the event of unauthorised use of the track outside the regularly scheduled hours for practice and competition.

Article 07: Damages Not Covered by Event Organisers

Any damage caused by competitors to circuit facilities and surroundings and/or to Shell Eco-marathon facilities shall be charged to the teams having caused said damage.

Upon check-in, a traveller cheque for €500 shall be left with Organisers as a security deposit. This cheque shall be returned at race's end upon presentation of the electrical circuitry and accessories (see Article 4).

Article 08: Radio Connections

Radio communication between the vehicle and the pit area shall be permitted, provided that German law is respected and that the Organisers' radio network is not disturbed. Only radio equipment and radio frequencies which are officially approved by the German Telecom Regulation Authority (Bundesnetzagentur: www.bundesnetzagentur.de) shall be allowed. Teams that want to use radio communications are asked to apply directly by Bundesnetzagentur - respective application forms will be provided by Shell when teams receive final selection confirmation. Shell shall not be held liable for any incidents caused by radio equipment (see Articles 27 and 35).

Deadline for application: 15 March 2009. Application cost is €130 per frequency.

Bearing in mind article 27 we suggest teams make use of mobile phone equipped with hands free devices.

2 - SAFETY

PRINCIPLES

Article 09: Safety Rules

As with any activity there should be an understanding that certain inherent risks will be present. Recognising and controlling such risks are vital for the wellbeing of people and local surroundings. Safety is an essential consideration for the event Organisers. These Rules are to protect all individuals and surrounding areas and are in no way intended to curtail the spirit of the competition. Any activity deemed unsafe or outside of the spirit of the event will be met with appropriate sanctions by the event Organisers.

Therefore, compliance with safe driving, general behaviour and sporting rules will be mandatory for everyone. All team members should comply with safety measures and notify Organisers about any anomalies or incidents. In the event of dangerous conditions team members are required to leave the affected areas immediately. All the areas covered by the event (Track, Pit Lane, Paddocks, Village, Camp site, etc.) will be monitored by the Organisers to assist teams in ensuring safe practices and behaviour.

Team managers shall be responsible for enforcing the following regulations with their team members, which is in the best interests of all participants and the success of the whole event. Any non-compliance with regulations will lead to the following penalties.

Article 10: Penalties

Non-compliance with the following safety regulations will result in a warning, invalidation of the attempt or disqualification of the team, depending on the severity of the breach.

Event Organisers will exclude, disqualify or otherwise penalise any competitor who, in the judgement of the Site and/or Race Director, will not have respected the safety rules expressed herein.

Except otherwise specified, Organisers will apply the following penalties for the following infractions:

- Non-compliance with on-track safety or driving rules (unsafe or unwise behaviour)
 - Non-compliance with off-track safety rules including but not limited to in the paddocks, village, campsite, and other off-track facilities.
-
- o 1st infraction: Formal warning to the Team Manager - No direct consequences
 - o 2nd infraction: Formal warning to the Team Manager - Best overall attempt invalidated at the end of the competition
 - o 3rd infraction: Formal warning to the Team Manager - Immediate Team disqualification.

WHOLE CIRCUIT PREMISES AND CAMPSITE RULES

Article 11: EuroSpeedway Rules and Regulations

Every participant should comply with the following Rules and Regulations of the EuroSpeedway: Rules and Regulations for Spectators at the EuroSpeedway, the Rules and Regulations for the Driver Camp, The Speedway Camp Rules & Regulations and the Fire Protection Regulation. More stringent rules in the present "Shell Eco-marathon Official Rules 2009" apply as well.

The EuroSpeedway Rules and Regulations will be communicated to teams in early 2009

Article 12: Noise level

In the interest of neighbourliness and respect for others, noise levels shall be kept to a minimum between 11pm and 7am at the campsite. A team dedicated to safety will have all freedom and power to impose respect of the appropriate noise level during these hours.

Article 13: Barbecue – Cooking area

A dedicated area is designed in the campsite for all cooking activities requiring naked fires such as barbecue and gas cooking. Therefore the use of such equipments outside the EuroSpeedway Camp of this area is strictly forbidden.

Article 14: Waste management

Each team is responsible for the upkeep of its immediate environment, including waste management. As such, the Organisers will put in place a sorted waste collection system at the race circuit. To save both energy and natural resources, participants are required to sort waste and to put it in the appropriate containers and bins.

Article 15: Smoking

Shell draws participants' attention to the fact that smoking is extremely harmful to health. In addition, considering the event type (similar to a car-racing competition) which requires the handling and storage of dangerous components and fluids such as gasoline, hydrogen, and other fuel materials, **smoking is only allowed in designated smoking areas.**

Article 16: Drugs and Narcotics

German law strictly forbids the use and distribution of narcotics. For further information, visit the German government web sites:

- Prevention against Narcotics and Drug Addiction
 - www.drugcom.de (in German only)
- Ministry of Health: http://www.bmg.bund.de/cln_110/nn_1195910/DE/Drogen-und-Sucht/drogen-und-sucht_node.html?nnn=true (in German only)

Law enforcement officers may intervene anywhere within the circuit premises to carry out searches for narcotics. In addition to legal prosecutions from the authorities, any drug and narcotics related breach of the regulations will be treated as equivalent to a 3rd infraction of the team (see article 10), even if no prior violation has occurred.

Article 17: Alcohol

- Shell draws participants' attention to the fact that the abuse of alcohol is harmful to health.
- We reserve the right to intervene and remove from the site and possibly apply a penalty any person found to be in a drunken state.
- Specific rules apply for pilots (articles 24) and cyclists (article 33).

Article 18: Prototypes and Urban Concept moving

- Everywhere else than on the track, all prototypes and Urban Concepts should be moved without the use of the engine. They will be manually pushed or pulled by an accompanying team member. This applies also on the pit lane and in the paddocks.
- It is strictly forbidden to run engine-powered prototypes and Urban Concepts outside of the track anywhere or at any time in the circuit premises, paddocks, campsite or on public roads.
- Exception: a dedicated "testing area" area is available for testing purposes only during official opening hours of the main track

TRACK AND PIT LANE SPECIFIC RULES

PROTOTYPES / URBAN CONCEPTS

Article 19: Driver Weight

- Drivers must weigh at least **50 kg** in full driving gear.
- Ballast may be fitted to the vehicle in the event the minimum weight requirement is not met. This ballast must be provided by the team, and must be effectively fitted to the vehicle in order to ensure absolutely no danger to the driver in the event of collision or rollover.
- The driver (in full driving gear) may be weighed before and after each official attempt. A **1kg** disparity between these two weights shall be tolerated in order to take into account weight loss by dehydration.

Article 20: Helmets

- For test runs and competition, drivers must wear protective helmets (motorcycle style that complies with national/European safety standards, ECE 22-05 is recommended). Labels must be clearly attached to the exterior of the helmet.
- Helmets worn by both the main and reserve drivers will be subject to Inspector's approval.
- Several styles of helmets are permitted, for example full-face or three quarter. Generally the full-face and three quarter style helmets can be affixed with face shields and are highly recommended. If a face shield is not utilised, safety goggles are required. Helmets must correctly fit drivers; otherwise they will not be approved for the event.

Article 21: Driver Clothing

- Drivers will not wear any street or casual clothing.
- A flame retardant racing suit is recommended for all drivers. (Norm DIN EN 531 gives appropriated material names).
- Synthetic underwear or clothing are forbidden
- Gloves and shoes are required; barefoot or socks-only are prohibited

Article 22: Drivers

Only the registered driver and the reserve driver will be authorised to drive the vehicle.

Article 23: Driving Knowledge Test

During vehicle inspection drivers may be questioned to test their knowledge of the driving race regulations. Any person having to drive a vehicle on the track may be questioned in the same manner.

Article 24: Driving under the Influence of alcohol

- Driving under the influence of alcohol is forbidden.
- Before using the track either for test runs or the competition, all registered drivers may be subject to random alcohol level checks. Such checks will be systematically conducted in case of serious incidents or accidents on the track.
- Alcohol levels, measured with a breathalyser, must be below the value of 0.1 milligram of alcohol by litre of exhaled air (mg/l).
- Any breach of the limit stated above will be penalized in line with Article 10 and subject to the following additional penalties:
 - Any alcohol related breach of the regulations will be treated at least as equivalent to a 2nd infraction of the team; even if no prior violation has occurred.
 - In addition, the affected driver is immediately banned from accessing the track as long as his/her alcohol level is above the stated limit. The 2nd driver may substitute the main pilot if s/he is eligible to drive.
 - Any second alcohol-related infraction will lead to the immediate disqualification of the entire team.

Article 25: Access to the Track

- Track access is authorized for prototypes and Urban Concepts only during official opening hours
- Vehicles must pass safety inspection prior to accessing the track for test runs. A safety sticker will be clearly affixed once the vehicle has passed the inspection. For test runs, only vehicles with a safety sticker will be allowed on the track. For the competition, only vehicles with safety and technical inspection stickers will be allowed to compete.

Article 26: Racing Direction

- Drivers are strictly forbidden to drive their car in the opposite direction to the race unless this is absolutely necessary in order to move the car from a dangerous position. This also applies to the pit lane.
- Breach of this regulation will be treated as equivalent to a 3rd infraction of the team (see article 10) leading to the automatic and immediate disqualification of the vehicle and team.

Article 27: Radio Connections

The use of hand-held communications devices is forbidden in all vehicles. However the use of fully voice-activated "hands-free" kits are allowed.

Article 28: Overtaking

- Drivers are required to give clear passage for other competitors wishing to overtake.
- The driver in the overtaking vehicle must sound its horn and overtake with caution.
- **Attention:** The driver of the overtaking vehicle is responsible for the safety of the manoeuvre.

- The driver of the vehicle being overtaken will use his/her rear- and side-view mirrors and must not change course suddenly.

Reminder: On the track, overtaking is authorised on both the right and the left, as long as the above-mentioned safety rules are followed. It is forbidden to overtake in the pit lane or cross over areas or when the yellow flag is waved.

Article 29: Breakdowns and Other Incidents

If a vehicle breaks down or is involved in an accident on the track, the driver will ensure that the vehicle is removed as quickly as possible to the (preferably inner) shoulder of the track. If the vehicle cannot continue under its own power, the driver will wait for a Track Marshal, who will arrange for assistance. It is forbidden to carry out repairs on the track.

Article 30: Parking

- **Off Track:** All vehicles must be parked inside the pit area, outside of the pit lane, for a temporary period or brought back to the paddocks for long-term parking.
- **On Track:** Intentional stopping on the track is forbidden. However, **during test runs only** if a breakdown occurs resulting in a vehicle stopping for less than two minutes parking is allowed only on the inside shoulder of the track.. If repairs require more than two minutes, the vehicle shall be towed back to the pit area by the safety services.

Article 31: Pedestrians

With the exception of the Track Marshals or any other person duly authorized by them and under their control, no pedestrian is allowed either on the track or on the track perimeter.

Track reconnaissance on foot is forbidden. However, the Organisers understand the need for teams to recognise the track. Only during test run days will pedestrians be allowed free access to the track, and this shall be for a maximum for one hour in the morning before the opening of the track for practice. (The same applies to bicycle access of the track).

Pedestrians are advised that their reconnaissance timing is shared with that for bicycles and should take all precautionary measures to avoid any accidents or collisions.

In public areas and on public roads pedestrians are invited to use pavements wherever available and to walk on the left side of roads if no pavement is available.

Article 32: Panel information to prototypes and Urban Concepts

The event Organisers recognise participants' need to communicate with drivers by the use of panel boards along the track. A dedicated panelling area is designed for these operations. Only two team members shall be allowed in said panelling area at any time. Panelling outside this area is strictly forbidden.

Article 33: BICYCLES / CYCLISTS

No bicycle will be allowed on the track during test runs. However, the Organisers understand the need for team reconnaissance of the track. Only during the test run days bicycles will have free access to the track, for one hour in the morning before the opening of the track for practice. Each team may have a single bicycle on the track. The cyclist shall wear a badge bearing the team's number. Only bicycles will be permitted and no electric or motorised two-wheel vehicles will be allowed

Cyclists are advised that their reconnaissance timing is shared with that of pedestrians and should take all precautionary measures to avoid any accidents or collisions. Cyclists should particularly avoid cycling close to the inner shoulder of the track where pedestrians can walk.

Article 34: Alcohol policy

Article 24 of the section PROTOTYPES / URBAN CONCEPTS will apply similarly to cyclists.

Article 35: Helmets and clothing

- When cycling a bicycle anywhere inside or outside the circuit premises, cyclists must wear a protective helmet complying with European norm DIN EN-1078 and appropriate footwear. Any cyclist who does not comply with this regulation exposes his/her team to a formal warning and sanction as stated in article 10 of this document.

- We strongly advise cyclists against cycling bicycles with naked arms and legs

Article 36: On-track cycling

On track, cyclists are strictly forbidden to cycle in the opposite direction to the traffic flow.

The use of hand-held communications devices is forbidden in all vehicles. However the use of fully voice-activated "hands-free" kits are allowed.

- In addition to possible penalties mentioned in the article 10, any breach of this rule or unsafe behaviour will lead to seizure of the bicycle until the end of the event.

Article 37: Off track cycling

- Bicycles or any other rolling device including but not limited to skateboards, roller-skates, rollerblades or scooters may not be used in the pit lane, the paddocks or the partner's village.

- In other areas and on inner and outer roads cyclists must pay particular attention to their driving environment, other traffic and particularly pedestrians

- In addition to possible penalties mentioned in article 10 any breach of this rule or unsafe behaviour will lead to seizure of the bicycle until the end of the event.

Paddock-Specific Rules

Article 38: Protective Equipment and Materials

Teams will share responsibility for safety matters and are required to provide the following for use at the event:

- Gloves for general work: leather or canvas.
- Gloves for handling fuel or motor oil: Chemical resistant.
- Safety glasses for all Team members. (Disposable types are permitted)
- Hearing protection for all Team members. (Approved Ear plugs or muffs)
- Duct tape to secure any cords or cables lying on the pit floor.
- Lift stands or appropriate raised platforms for vehicle tuning and repairs.
- Operational 6kg dry-chemical (powder) extinguisher suitable for "ABC" class fires (European norm DIN EN-3), of which the maintenance date is later than 31/5/2009 (to be placed in the garage).
- Dust masks when required for specific work involving composite material, e.g. for grinding
- Shell strongly advises participants to undertake works on prototypes and Urban Concepts with appropriate overalls clothing and to ban synthetic underwear or clothing.

Article 39: Emergency exits

Fire and emergency exits duly signaled must be kept clear from any obstructing equipment or vehicles.

Article 40: Whole Paddocks area housekeeping

Shell requires participants to exercise care in their stands especially regarding:

- Stand cleanliness
- Electrical connections (e.g. cabling on ground to be duct taped or appropriately secured)
- Display of regulatory stickers and posters e.g. the "no-smoking" and safety posters that will be supplied by the Event Organizer to each team upon their arrival.

NB: to develop best practice sharing in safety, all teams are encouraged to display specific safety pictures or posters in their stands.

- Clear separation between food and toxically/noxious products
- Proper tidying of fuels and other flammable products
- Respect of "now to work with hot sources" rule on hydrogen stands
- Extreme caution with heat sources: A dedicated area will be made available for cooking and barbecues. Therefore, naked fires will be strictly forbidden in the whole paddock area except those absolutely necessary to undertake mechanical works on prototypes and Urban Concepts. **It is mandatory to contact safety staff to obtain a special fire permit before welding.**
- Wearing of personal protection equipment
- Proper use of portable electric equipment and its protection

Any infringement to the paddock area housekeeping rules will expose the offending team to a formal warning and sanctions as stated in article 11 of this document.

Article 41: Material Safety Data Sheets (MSDS)

Except for approved race fuels or energy sources, upon request by the Event Organisers all teams should be able to provide the MSDS of any products they use in their stands e.g. solvents, cleaning agents, chemicals, etc.

Article 42: Safety walks

Structured safety walks will be run during the whole event, day and night, to ensure that safety rules are complied with.

3 - COMPETITION

Article 43: Track Access Conditions

During both the practice runs and the race, all vehicles shall comply with technical and safety rules and regulations. Whenever they enter the race track, the vehicle body shall be in place and shall bear all the race numbers, partner streamers and Shell logos required by regulations. These numbers and logos shall be supplied by the Event Organisers.

Article 44: Practice runs

During practice runs, prototypes and UrbanConcepts will have access to the track at the same time; only the section in front of the pit lane will be common, the rest of the track being separated for each vehicle category. Teams will receive a safety briefing to manage driving on the common section, and more specifically in the area where the two separate tracks join together. In case of problems or misconduct on the track, the Organisers reserve the right to split the practice runs and thereby reduce the practice time on track for each category.

Article 45: Compliance

Only those vehicles that comply with the present Official rules (SEM Official Rules 2009) are allowed to participate. No vehicle will be allowed on the track for practice or competition until it shall have been approved by the Organisers. The decisions of Organisers are final in all matters concerning the compliance of vehicle design and construction with the present Official rules (Chapter I and Chapter II),

The Organisers reserve the right to rescind vehicle approval upon further or more detailed checks. The Organisers must be notified of any modifications to the vehicle after inspection. Non-compliance with this rule will lead to immediate vehicle disqualification.

Article 46: Timekeeping

All vehicles will be equipped with an extra-flat electromagnetic transponder that will be fitted after vehicle inspection using adhesive tape or nuts, inside or outside the vehicle according to the vehicle's characteristics. A security deposit (travellers cheque) will be required for this transponder (See Article 04). The security deposit shall be returned upon presentation of the transponder at race's end.

Article 47: Fuel Consumption Checks

• Before the start

In addition of the driver, a maximum of two persons per team (with ID badges) can be present at the filling point and the starting line with the vehicle.

Competitors shall proceed to the starting line with the fuel system completely drained.

Inspectors shall fill the fuel tank in the starting area. In the case of **LPG-powered vehicles**, an LPG cartridge shall be fitted on the vehicle after weighing.

In the case of the top-ranked **gasoline-powered vehicles**, fuel consumption shall be measured with a precision balance. The fuel system will be filled by a Technical Inspector, and then the system, the fuel tank and the injector shall be weighed on the precision balance.

The fuel system (tank, hose and injector) shall be compact and easily dismantled in order to facilitate weighing. Before approving reinstallation of the duly weighed fuel system, Technical Inspectors shall verify that the engine is the one that was inspected and validated by the Head Inspector. They shall also ensure that gasoline is not present in the air intake.

In the case of **fuel cell-powered, vehicles** using a flow meter to measure consumption, a Technical Inspector shall reset the flow meter to zero.

In the case of solar vehicles, a Technical Inspector will reset the two joulemeters to zero.

• At the finish line

Competitors must refrain from any work on their vehicles prior to inspection of the vehicle by

Inspectors. Inspectors/marshals are the only people authorised to fill or top up the tank.

In addition to the driver, a maximum of two people per team (with ID badges) may be present at the finish line for measurements.

For vehicles using a fuel that it is in a liquid state at atmospheric pressure (petrol, diesel fuel, GTL, fatty acid methyl ester-type , ethanol), the quantity of fuel needed to refill the fuel tank shall be the basis for calculating fuel consumption. This volume shall be corrected for temperature variations. The volume consumed shall be measured at the reference temperature of 15°C.

For top-ranked gasoline vehicles, a Technical Inspector must be present during disassembly of the fuel system and during its transport to the weighing room, where s/he shall perform the weighing. After reinstallation of the duly weighed fuel system, the starter shall be verified by the Technical Inspector to ensure that the clutch setting has not been tampered with since the technical inspection. The Organisers may also request that the vehicle be brought to an enclosed area so that further inspection can be conducted prior to posting of the results.

For LPG-powered vehicles, the cartridge must be removed and weighed by an Inspector.

In the case of fuel cell-powered vehicles using a flow meter to measure consumption, an Inspector must read the value displayed on the meter.

In the case of solar vehicles, a Technical Inspector will register the values displayed on the two Joulemeters.

Article 48: Results

A list showing the best valid performance of each team will be posted at the end of each competition day* at Competitor Reception. The best result for the two days will be retained for the final ranking.

* Intermediate results shall not be considered official.

Internal Combustion Engines and Fuel Cell powered vehicles

Results will be expressed in kilometres per litre (i.e. theoretical distance covered using energy of Shell Unleaded 95) corrected to a temperature of 15°C.

Solar vehicles

Results will be expressed in quantity of energy (in Joules) consumed per km by the motor.

PROTOTYPE GROUP

Participants must complete eight (8) laps of the circuit in the normal racing direction.

Minimum speed: For their attempt to be validated, teams must complete the eight laps in a maximum time of 51 minutes with an average speed of approximately 30 km/h. The total distance to cover is 25.485 km (8 laps of 3.200 km minus the distance between the start and finish lines).

Each team will be limited to four official attempts: no more than three on Friday and no more than two on Saturday. The best result will be retained for the final classification.

Article 49 : Start of Race for Prototypes

- The first start shall occur at 8:30 a.m. on both Friday and Saturday.
- Only vehicles in full working order, e.g. complete chassis and body together, will be allowed in the queue to access the filling point 1 & starting line
- Drivers must wait until the starting line is clear before starting their attempt. They must wait for a signal from the flag bearer (green flag) before starting and will carefully enter the track at the merging point on the track/ pit lane.
- At the starting line, vehicles will start one by one. Vehicles must be at a full stop and must not receive any outside assistance during starting. Any pushing of the vehicle is prohibited.

- For vehicles using electrical starter :
The starter, and hence the red light, must be extinguished by the time the rear wheel of the vehicle crosses the start line. Failing to comply will invalidate the run which will nevertheless count within the maximum allowed number of attempts
- The vehicle may be accompanied by a maximum of two persons with ID badges (not including the driver). Once the vehicle has left the starting line, all team members shall leave the starting area with their equipment.

URBANCONCEPT GROUP

Article 50: Principle

Owing to the large number of Urban Concept vehicles that are entered in 2009, teams will be divided into two groups of equal size: Group 1 and Group 2. These two groups will compete one immediately following the other. However the Organisers reserve the right to merge the two Groups at any time, should the number of vehicles fit for running on track drop to a sufficiently low number during the course of the event.

The vehicles in each UrbanConcept group will compete in three legs as follows:

- o Each leg will be started with the vehicles in a starting grid.
- o Each leg will consist of 7 laps around the 3.173 km track, i.e. 22.081 km. The maximum time to complete the leg will be 53 minutes with a minimum average speed of approximately 25 km/h.
- o During each leg, vehicles must make three pit stops for a duration of 10 seconds each. The locations for these pit stops will be indicated by Organisers on the track just in front of the pit area. During the pit stops, drivers shall use their stop lights and their turn signals. Any teams failing to comply with this regulation will be subject to penalties.
- o The first pit stop must be taken at the end of 1st or the 2nd laps, the second at the end of the 3rd or the 4th laps and the third at the end of the 5th or the 6th laps. Within these intervals, the team manager will be free to decide when exactly to make each stop.
- o The final ranking for the UrbanConcept group shall be determined using each team's best performance from the three legs. Rankings for the two groups shall be combined for each fuel class.

Article 51: Start of competition for UrbanConcepts

The vehicle will be accompanied by the driver and by no more than two other team members.

- o At the assigned time (see schedule below), each team must bring its vehicle to the filling station in order to get a full tank of fuel or to have its flow meter or joulemeter read. Following this operation, the vehicle will be placed in an enclosed area (Parc Fermé) until the starting grid is formed. No tampering with the vehicle shall be allowed in the Parc Fermé.
- o The vehicles will then be arranged on the starting grid.
- o The track will be cleared 1 minute prior to the start.
- o Drivers will be instructed to start their engines 5 seconds prior to the start.

Each leg will be started by the waving of a flag.

No handicaps for distance or time shall be granted on the basis of starting order.

Article 52: Starting Grid for the First Leg (for each group)

The starting grid for the first leg shall be determined as a function of fuel/energy type, in light of specific safety considerations related to starting ability.

- o The first spots on the grid shall be reserved for internal combustion vehicles in the diesel and alternative diesel categories. These spots will be assigned by random selection.

- o The next spots will be for internal combustion vehicles in the gasoline and alternative gasoline categories. These spots will be assigned by random selection.
- o Finally, the last spots will be reserved for fuel cell and solar-powered vehicles. These spots will be assigned by random selection.

For the following legs, the starting order by fuel group will be maintained as is, for safety reasons. However, the starting position within each fuel group will be updated from best to worst performance order.

Tentative Schedule* - Test Runs and Competition – May 2009

		Technical Inspections	Prototype Competition	1 st UrbanConcept Group	2 nd UrbanConcept Group
WEDNESDAY 06	09h00	Technical Inspections			
	10h00		Mandatory Briefing for Team Managers		
	11h00		Prototype test runs	UrbanConcept test runs	
	19h00		Track closes	Track closes	
	08h00	Technical Inspections			
THURSDAY 07	09h00		Mandatory Briefing for Team Managers		
			Prototype test runs	UrbanConcept test runs	
	16h30		Track closes	Track closes	
	16h30	End of inspections		Fuel tanks filled	
	17h00			Starting grid	
FRIDAY 08	17h15			Start of race	
	17h45			End of race	Fuel tanks filled
	18h15				Starting grid
	18h30				Start of race
	19h30				End of race
	8h00		Mandatory Briefing for Team Managers		
	08h30		Start of race		
	11h05		Last vehicle starts		
	11h30			Fuel tanks filled	
	12h00		Track closes	Starting grid	
SATURDAY 09	12h15			Start of race	
	12h45				Fuel tanks filled
	13h15			End of race	Starting grid
	13h30				Start of race
	14h30				End of race
	14h45		Start of race		
	18h10		Last vehicle starts		
	19h00		Track closes		
	8h00		Mandatory Briefing for Team Managers		
	08h30		Start of race		
	12h40		Last vehicle starts		
	13h00			Fuel tanks filled	
	13h30		Track closes	Starting grid	
	13h45			Start of race	
	14h15				Fuel tanks filled
	14h45			End of race	Starting grid
	15h00				Start of race
	16h00				End of race

Final Schedule will be confirmed every morning for the ongoing day during the mandatory morning team briefing. The Organisers reserve the right to change this schedule at any time in case of poor weather conditions or any other unpredictable event.

Wednesday 06/05

- 09h00–19h00: Technical inspections
- 10h00: Mandatory Briefing for Team Managers
- 10h00–11h00: Track reconnaissance by foot or bike
- 11h00–19h00: Practice runs prototypes and Urbanconcepts
- 19h00: Track closes

Thursday 07/05

- 08h00–16h30 : Technical inspections
- 08h00: Mandatory Briefing for Team Managers
- 08h00–09h00: Track reconnaissance by foot or bike
- 08h30–16h45: Practice runs prototypes and Urbanconcepts
- 16h30–17h00: Tanks filled for UC Group 1
- 17h00– 17h15: Starting grid for UC Group 1
- 17h15–18h15: Race for UC Group 1
- 17h45–18h15: Tanks filled for UC Group 2
- 18h15–18h30: Starting grid for UC Group 2
- 18h30–19h30: Race for UC Group 2

Friday 08/05

- 08h00: Mandatory Briefing for Team Managers
- 08h30–12h00: Race for Prototypes
- 10h45: Access to the queuing area closed for Prototypes
- 11h05: Last Prototype start
- 12h00: Track closes for Prototypes
- 11h30–12h00: Tanks filled for UC Group 1
- 12h00–12h15: Starting grid for UC Group 1
- 12h15–13h15: Race for UC Group 1
- 12h45–13h15: Tanks filled for UC Group 2
- 13h15–13h30: Starting grid for UC Group 2
- 13h30–14h30: Race for UC Group 2
- 14h45–19h00: Race for Prototypes
- 17h45: Access to the queuing closed for Prototypes
- 18h10: Last Prototype start
- 19h00: Track closes

Saturday 09/05

- 08h00: Mandatory Briefing for Team Managers
- 08h30–13h30: Race for Prototypes
- 12h15: Access to the queuing area closed for Prototypes
- 12h40: Last Prototype start
- 13h30: Track closes for Prototypes
- 13h00–13h30: Tanks filled for UC Group 1
- 13h30–13h45: Starting grid for UC Group 1

- 13h45–14h45: Race for UC Group 1
- 14h15–14h45: Tanks filled for UC Group 2
- 14h45–15h00: Starting grid for UC Group 2
- 15h00–16h00: Race for UC Group 2

4 - TROPHIES, PRIZES AND AWARDS

Article 53: Award Presentation

Trophies shall be presented to winning teams after the competition. Prize money shall be paid during the month following the competition. The following prizes shall be awarded:

Article 54 : Grand Prizes and Other Awards

	Prototype		Urban Concept	
Combustion Grand Prize ⁽¹⁾	Winner	1 000 €	Winner	1 000 €
	2nd place	800 €	2nd place	800 €
	3rd place	500 €	3rd place	500 €
Fuel Cell Grand Prize ⁽²⁾	Winner	1 000 €	Winner	1 000 €
	2nd place	800 €	2nd place	800 €
Solar Grand Prize	Winner	1 000 €	Winner	1 000 €
CO2 Award ⁽³⁾	Winner	1 000 €	Winner	1 000 €
Gasoline Fuel Award	Winner	800 €	Winner	800 €
Diesel Fuel Award	Winner	800 €	Winner	800 €
Alternative Gasoline Fuel Award ⁽⁴⁾	Winner	800 €	Winner	800 €
Alternative Diesel Fuel Award ⁽⁵⁾	Winner	800 €	Winner	800 €
Best School (common to P + UC) ⁽⁶⁾	Winner 800€			

The recipients of all of the above awards shall also receive a trophy.

(1) Shell Eco-marathon Grand Prize – Combustion Engines

This Grand Prize will be awarded to the “Internal Combustion” vehicle that posts the best fuel economy figure, regardless of the energy source used.

(2) Shell Eco-marathon Grand Prize –Fuel Cells

This Grand Prize will be awarded to the “Fuel Cell” vehicle that posts the best fuel economy figure, regardless of the energy source used.

(3) CO₂ Award

This award recognises the team that generates the lowest level of CO₂ emissions “from the well to the wheel”, i.e. the sum of emissions calculated in the fuel's complete life cycle, from source production to the fuel's use in the vehicle on site. These CO₂ emissions take into account the production, transport and distribution of the different energy sources used and will be calculated using international studies such as Concawe/Eucar/JRC WTW 2007, as references. CO₂ emissions will be calculated based upon the energy consumption measured at the end of each valid race attempt, corrected to 15°C.

Solar-powered vehicles are not eligible for this award.

Table of **Total Greenhouse Gas Emissions** from Well to Wheel:

Total quantity of greenhouse gas emissions (or gram-equivalents of CO₂) from the combustion of 1 MJ of fuel

	Total GHG g-CO₂/ MJ	Source
Shell ULG 95	85.9	Average for European refineries
Shell Diesel	87.5	Average for European refineries
Gepel-Butagaz LPG	73.6	Average of Imports to Europe from Remote Gas Fields
Compressed hydrogen	104.7	Average of Natural Gas Reforming EU-Mix
Ethanol E100	59.2	Average from European Wheat Conversion
Gas to Liquid	95.8	Average of Imports to Europe
Fatty acid methyl ester (FAME)	47.3	Average for European Rape Seed Oil, Glycerine as Chemical feedstock

A questionnaire about CO₂ emissions will be available on the online registration system in February 2009. Please note that it is imperative to submit your questionnaire by 31 March 2009 in order for your entry to be validated.

(4) Alternative Gasoline Fuel Award

This prize will be awarded to the ethanol or LPG vehicle that posts the best fuel economy figure.

(5) Alternative Diesel Fuel Award

This prize will be awarded to the FAME or GTL vehicle that posts the best fuel economy figure.

(6) Best school Award

These awards recognise the first-place team from secondary or middle school regardless of vehicle or energy class.

Article 55: OFF-TRACK AWARDS

Participating teams may also choose to compete for one or more off-track awards: Safety, Technical Innovation, Eco-friendly, Design, Communication and Marketing and Best team spirit.

Registration for off-track awards shall correspond to a specific project in a chosen area, and as such the special award questionnaires will be made available to teams in February 2009 via the on-line registration system for teams.

*Teams may register for the off-track awards by completing and submitting the corresponding questionnaires (available in February 2009) as well as a complete dossier for the Safety, s, Design, Eco-Design, Technical Innovation and Safety awards, before **31 March 2009**.*

The judges will meet in April in order to make a preliminary selection of teams. Only the selected teams will receive a visit from the judges in the pit area. Those teams are requested to have a team member present in the pit area at all times from Thursday afternoon to Saturday at noon.

Self nomination and a successful run is required to be eligible for the off-track awards, with the exemption for "Perseverance in the Face of Adversity" Award which does not require self nomination nor a successful run. More information about the awards will be communicated to teams in February.

>Safety Award

- First Prize: € 800 & Trophy
- Second Prize: € 500 & Trophy
- Third Prize: € 300 & Trophy

Awarded to the team with the best approach to safety for the entire team, vehicle design and general rules of the Shell Eco-marathon.

>Technical Innovation Award

- Winner € 800 & Trophy
- Highly recommended- UrbanConcept Certificate
- Highly recommended- Prototype Certificate

Awarded to the team which achieves the most significant technical advancement, which can be a planned, original technical solution or use of new materials

>Eco-friendly Award

- Winner € 800 & Trophy
- Highly recommended- UrbanConcept Certificate
- Highly recommended- Prototype Certificate

Awarded to the team that creates a design which contributes to the fuel efficiency of the vehicle and incorporates recycled and/or eco-friendly materials into the vehicle and production process

> Design Award

- Winner UrbanConcept € 800 & Trophy
- Winner Prototype € 800 & Trophy
- Highly recommended- UrbanConcept Certificate
- Highly recommended- Prototype Certificate

Awarded to teams with innovative design research in terms of ergonomics, aesthetics, choice of materials and technical feasibility. The originality and overall coherence of the design are also taken into account. The term “design” includes: vehicle structure, driving position, the engine, steering, suspension, braking, etc.

Attention:

Vehicles that have already won Design prizes in previous years are no longer eligible for the Design Award, except if significant modifications have been made to the construction of the vehicle and its body.

> Communication and Marketing Award

- Winner € 800 & Trophy

Awarded to the team that has made outstanding communications efforts concerning the Shell Eco-Marathon. All actions throughout the year are taken into account: participation at trade shows, creation of a website and all other activities that successfully promote the competition, its name, its founding principle, its educational aspects, etc. in the team's country of origin.

> Best team spirit

- Winner € 800 & Trophy

Awarded to the team which fostered cooperation and collaboration among team members and between them and others at the competition; demonstrated initiative to learn more about other teams and their vehicle; and contributed to the morale of team members and/or other teams at the competition.

>Perseverance in the Face of Adversity

- Winner € 800 & Trophy

Awarded to the team that overcomes the greatest obstacles/challenges in order to make it to the Shell Eco-marathon Europe or while participating at the Shell Eco-marathon Europe and demonstrated a can-do positive attitude. Please note that teams cannot self-nominate for this award.

➤ Other Awards

Shell reserves the right to create new awards that are either open to all competitors or restricted to those from a certain country (i.e. Education Award in Germany). Participating teams shall be notified accordingly.

.....