

# The utilization of recycled asphalts in France

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*AAPA : Tour to Europe  
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# *OUTLINE OF THE PRESENTATION*

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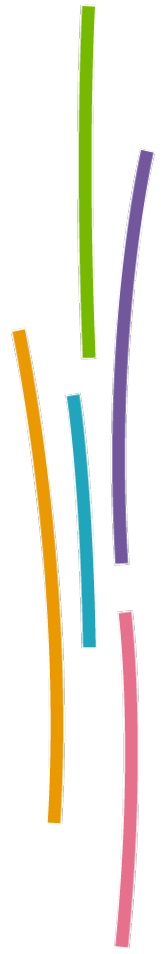
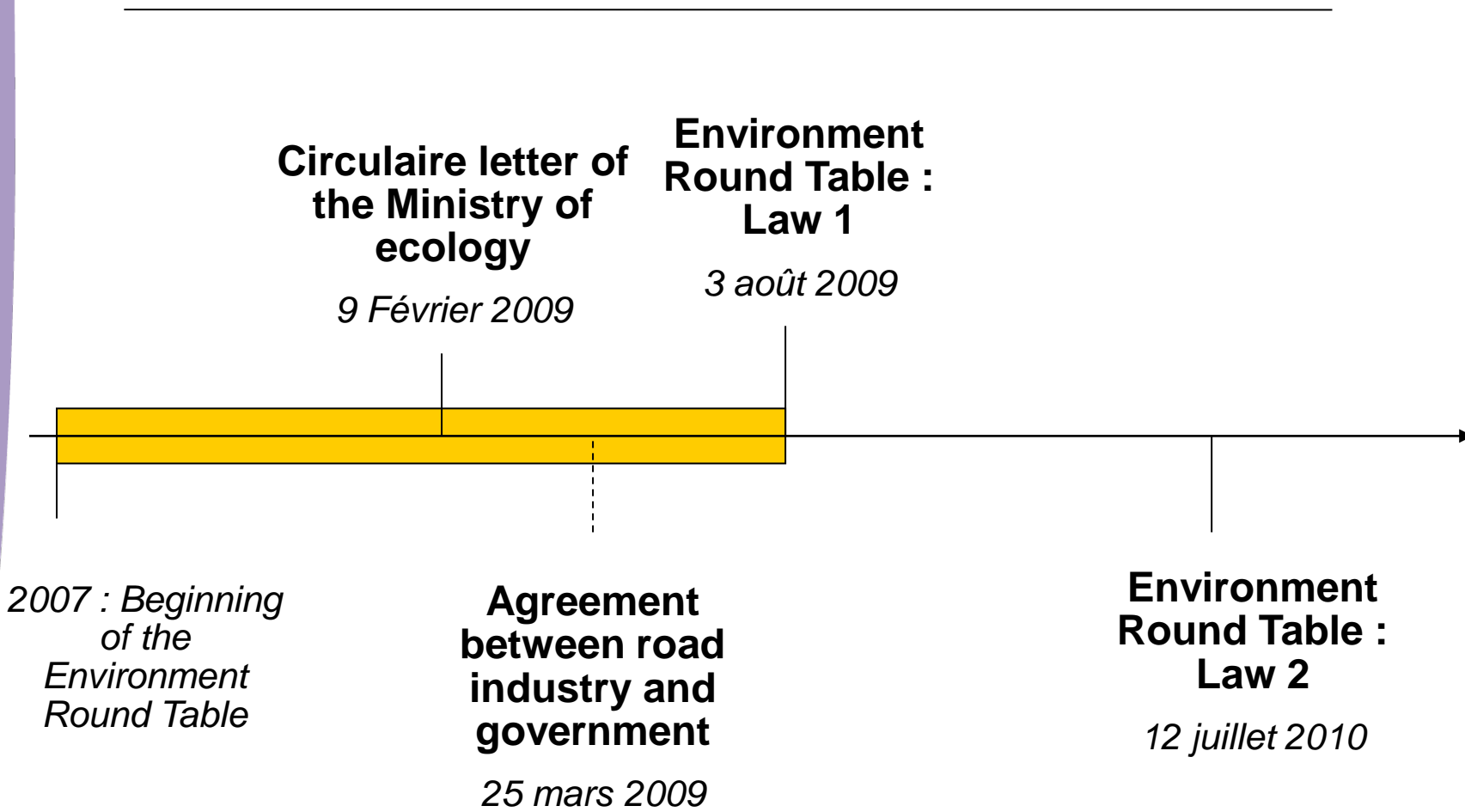
**1- LAWS**

**2- CONSEQUENCES OF THE LAWS**

**3- HEALTH IMPACT**



# FRAMEWORK LAWS



# *Environment Round Table (law 1 and 2)*

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- The aim of the environment Round Table is to define the key points of government policy on ecological and sustainable development issues for the coming five years.
- The law I and II consists to preserve biodiversity, natural environments, human health and non-renewable resources.



# Road Work voluntary Agreement

## March 25, 2009

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What's that? : Declination of the environmental Round Table Law in the field of Road work

Six signatories to this agreement :

- The National Federation of Civil Engineering (FNTP)
- The Professionnal Union of the earthwork industry (SPTF)
- The Union of Road Industry (USIRF)
- Syntec- Civil Engineering (Syntec Ingénierie)
- The French Ministry of ecology, sustainable, developpement, Transport and Housing
- The Association of department of France (ADF)

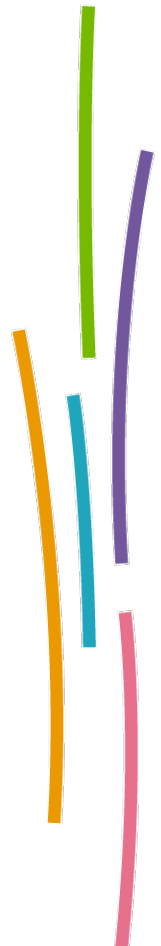


# Road Work Agreement

## March 25, 2009

### Ten Commitments

- Preserve biodiversity and natural environments,
- **Preserve non-renewable resources and develop the use of recycled mix,**
- Reduce water consumption during the earthworks,
- **Creation of the Institute Of Roads, Streets and Infrastructure for Mobility (IDDRIM),**
- Develop research and disseminate innovation,
- Improve road safety, safety of workers and neighbourhood during the works,
- Reduce emissions of greenhouse gases and energy consumption,
- Increase the environmental performance of road,
- Promote local versions of the national Road Work Agreement
- Follow and evaluate commitments



# *Circular letter of the ministry of ecology February 9, 2009*

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## Two recommendations

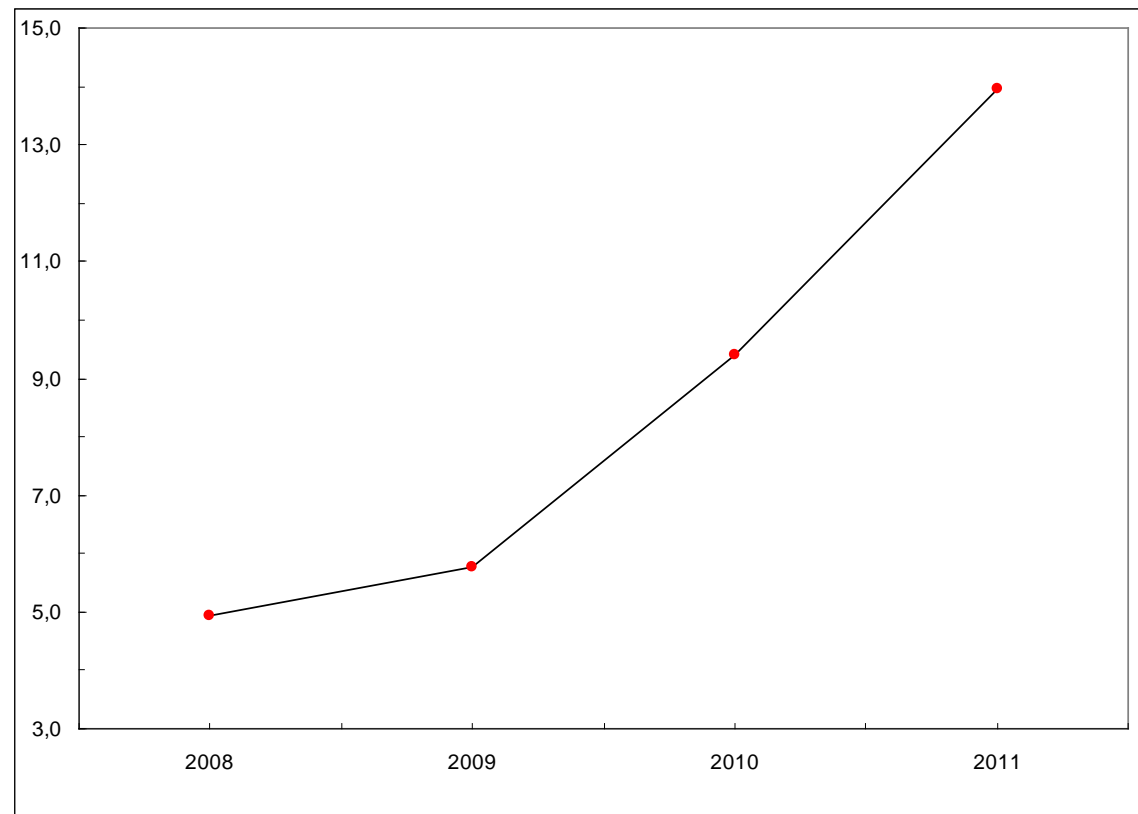
- Authorize the incorporation of 10 % of recycled asphalt in the asphalt concrete without type testing (NF EN 13108)
- Integration, into government contract, of criteria which encourage the use of recycled asphalt.



# Consequences of the Framework Laws

- The use of recycled asphalt improved between 2008 to 2011.

% of Recycled asphalt in the asphalt concrete



- Writting of a technique guide for the utilization of recycled asphalt. 2 parts : material and type testing



# ASBESTOS USED IN PAVEMENT

## When

- Between 1974 et 1995

## Why?

- Best resistance to fatigue
- Best resistance to the tracking

## Who?

- **SCREG** : COMPOFLEX, MEDIFLEX, RUGOFLEX, DRAINOFLEX, BICOMPOFLEX

## How Many

- About 20 millions de m<sup>2</sup> of asbestos
- 1 à 2 % asbestos in the coating

## Where

?

**Health problem during milling, planing, and sampling**



# COAL TAR

- The tar was used in France from 1850 to 1975. It is no longer used today

Consommation de goudron en technique routière entre 1894 et 1946

Année	Nombre d'automobilistes	Longueur de routes revêtues (km)	Consommation routière de liants	
			Goudron (t)	Bitume (t)
1894	200	-	-	-
1895	500	-	-	-
1897	1 200	-	-	-
1900	3 000	-	-	-
1905	21 000	-	-	-
1910	54 000	-	-	-
1914	108 000	-	3 000	-
1918	95 000	-	2 000	-
1919	160 000	340	25 000	-
1924	603 000	11 000	80 000	3 000
1928	1 150 000	23 000	120 000	80 000
1939	2 000 000	350 000	650 000	250 000
1946	1 500 000	350 000	600 000	285 000
1978			100 000	2 798 000

- It is no longer used today

**Health problems occur each time the tar is heated**

# *Bituminous asphalt with medium level of PAH*

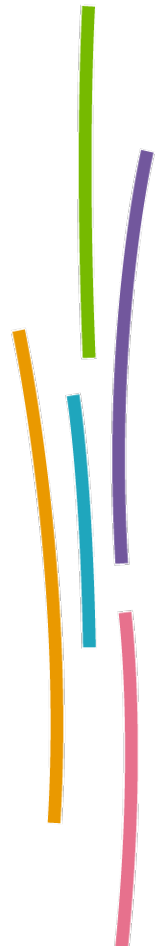
- **There is a threshold level value for the protection of the ground water (50 ppm)**
- **There is not a threshold level value for the health of the workers.**
- **The problematic is to find a threshold level value for the health of the workers (50, 100, 200 ppm of PAH in the bituminous asphalts?)**



# Working Group « Road Work – Health Impact »

## Composition

- The National Federation of Civil Engineering (FNTP)
- The Union of Road Industry (USIRF)
- The French Ministry of ecology, sustainable, développement, Transport and Housing
- The National Institute for research, health and Safety (INRS)
- The National Health Insurance fund (CNAMTS)
- The Professionnal Organisation specialized to building industry and civil engineering
- French Agency for Food, Environmental and Occupational Health and Safety (ANSES)



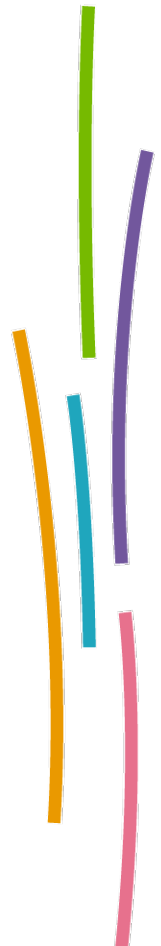
# Working Group « Road Work – Health Impact »

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Working group is divided in 3 tasks groups : Tasks Group

- **Characterization** : development of a method to assess the probability of presence of asbestos and tar in the pavement
- **Formulation and Manufacturing** : Write a material Safety Data Sheet for all coated mix
- **Methodology** : Propose methods for prevention for the interventions on roads or highways

results expected late 2012



# MERCI POUR VOTRE ATTENTION

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