



Water and waste challenges looking forward

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CONCAWE

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- ▶ “The European Life expectancy still demonstrating an increasing trend for all EU Member States”.
 - ▶ David A. Leon, Trends in European life expectancy: a salutary view. International Journal of Epidemiology, 2011; 1-7
- ▶ “Considerable success has been achieved in reducing the discharge of pollutants to fresh and coastal waters, leading to considerable freshwater water quality improvements.”
 - ▶ 2010 State of the European Environment and Outlook Report, EEA, 2010
- ▶ Good Ecological Status and Chemical Status has been achieved or maintained for many European Water Bodies, since the publication of the Water Framework Directive
 - ▶ Remaining pressures are often not related to today's industrial discharges
 - ▶ Evaluation of published and endorsed RBMPs (June, 2010)
- ▶ “... industrial pollution seems to be an issue of the past ...”
 - ▶ Ten Rivers – A review of Europe's new water protection., EEB 2012
 - ▶ The EEB is a federation of over 140 environmental citizens' organisations that aim is to protect and improve Europe's environment

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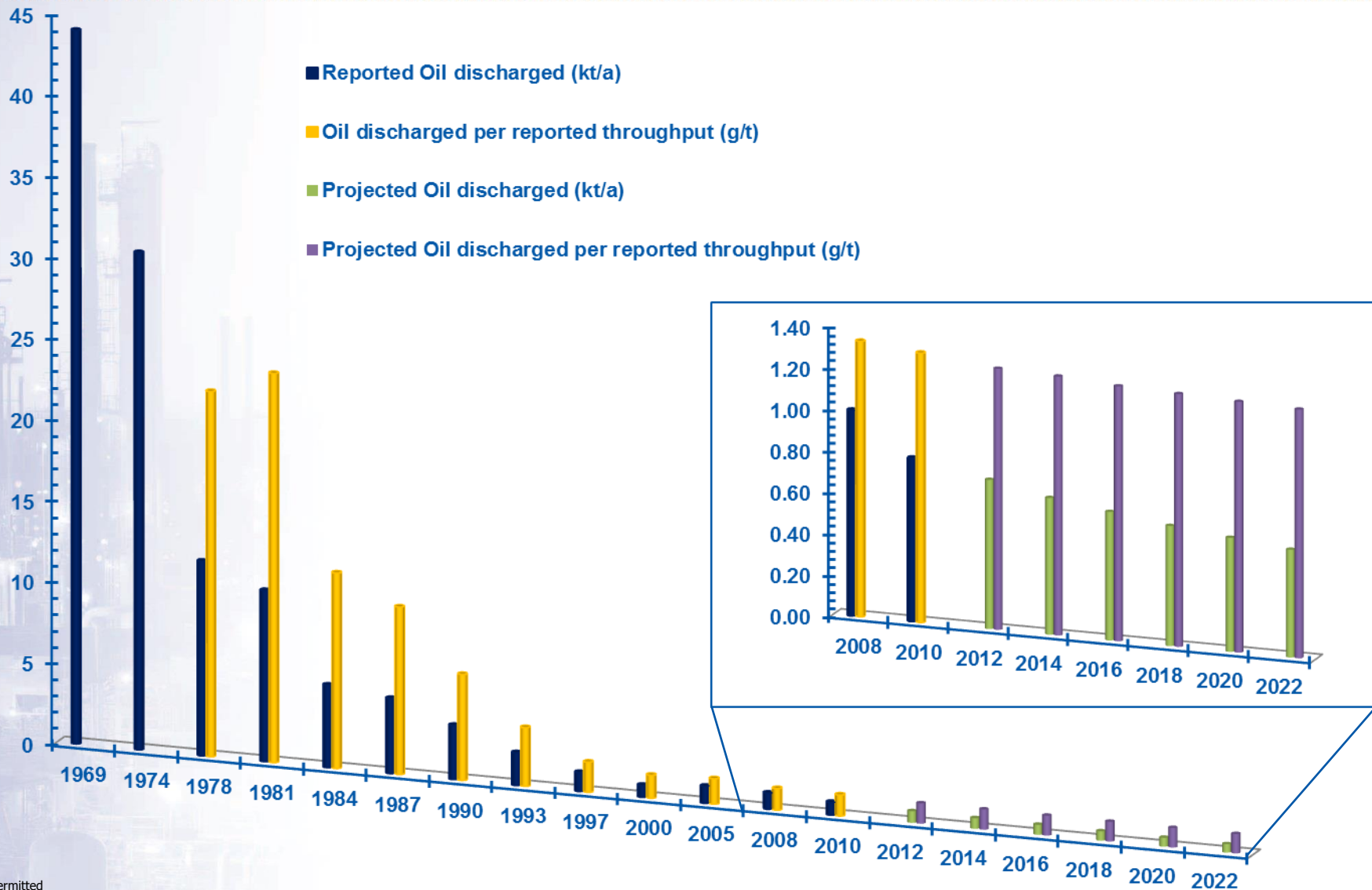
- ▶ Today's regulatory environment in the field of water has all the elements to achieve its intended goals but lack consistent implementation and delivery by Member States
 - ▶ Water resource efficiency may require additional
- ▶ Europe's water resources will remain improving
- ▶ In the field of water the Refining Industry has delivered and will continue to seek for further improvement, where possible, affordable and required
 - ▶ This becomes evident from the factual decrease of relative and absolute emissions and discharges
- ▶ The Commission will use the findings of the "Blueprint to Safeguard Europe's water" and the Water Policy Fitness Check to fine-tune the regulatory necessities
 - ▶ Not much new legislation
 - ▶ Pressure on Member States to deliver
 - ▶ The Common Implementation Strategy Guidance will propagate
 - ▶ Use biodiversity targets as an integrator of several policy objectives



- ▶ Aims to tackle the obstacles which hamper action to safeguard Europe's water resources and is based on an extensive evaluation of the existing policy addressing
 - ▶ Water quality
 - ▶ Water Framework Directive (2000) and Ground Water Directive (2006)
 - ▶ U-WWTD (1991) and IED (2010)
 - ▶ Water demand and availability
 - ▶ WFD Good Ecological Status presupposes a minimum ecological flow presence for the aquatic ecosystem to prosper (e.g. biodiversity preservation)
 - ▶ Equitable water rights
 - ▶ Water trading schemes?
 - ▶ Flood & Draughts
 - ▶ Green infrastructure and natural water retention
 - ▶ Ecosystem health
 - ▶ Natura 2000



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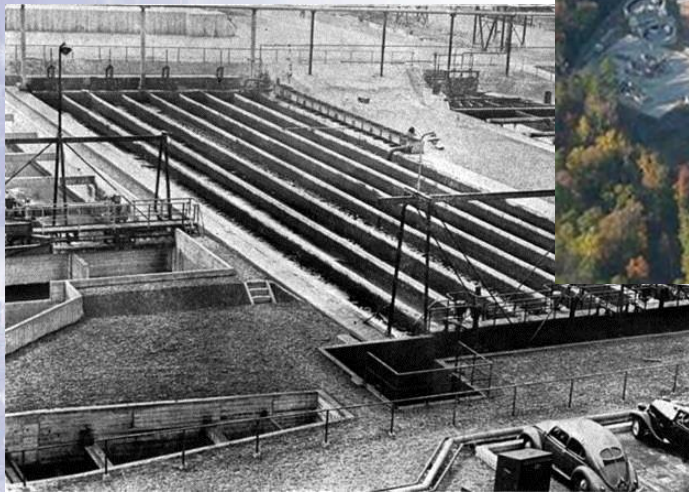


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Then



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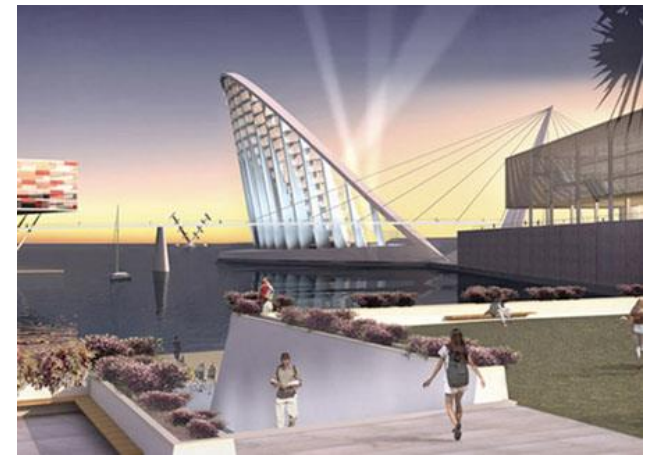
Now



Tomorrow



Or ?



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▶ Substances

▶ REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals)

- ▶ Evaluation of the product dossiers may restrict certain applications of substances or require improve risk reduction measures, including discharge controls

▶ Emissions

▶ Industrial Emissions Directive (IED)

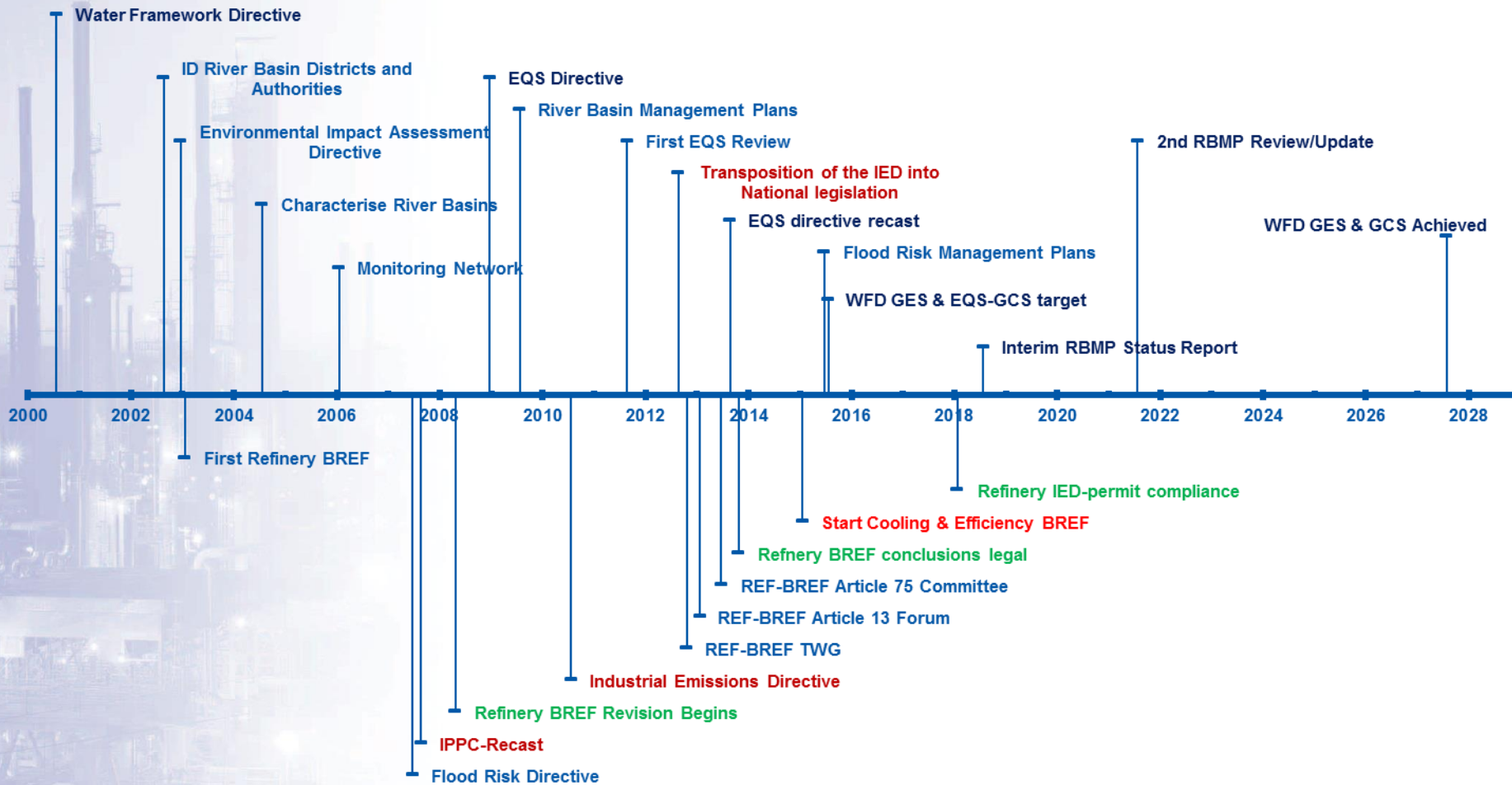
- ▶ Transposition of the Directive
- ▶ Finalisation of the Refinery BREF revision (Q2-2013)
- ▶ Adoption of the BAT Conclusions (Q4-2013)
- ▶ Implementation of the BAT Conclusions (Q1-2014 to 2018)
- ▶ Start of the combined Cooling and Resource Efficiency BREF revision (2015)

▶ European Pollution Release and Transfer Register

▶ Water Framework Directive and associated legislation

- ▶ Start of the second River Basin evaluation cycle (2015)
- ▶ Implementation of water pricing policies (2014 and onwards)
- ▶ Updating and extending the CIS guidance (2013 to 2019)





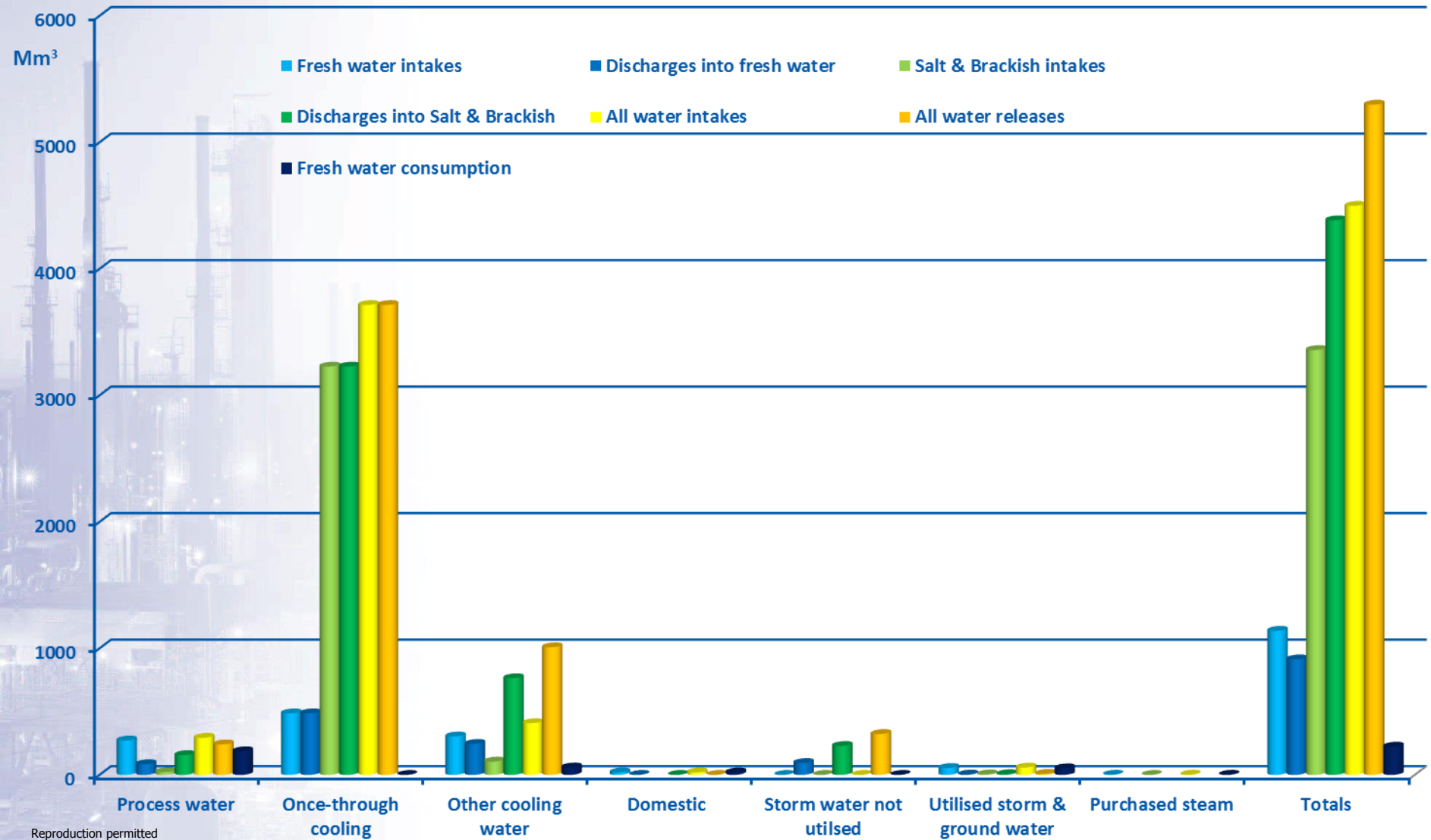
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- ▶ Water is rising on the agenda as a natural resource becoming under pressure
 - ▶ Climate change
 - ▶ Water use intensification
 - ▶ Over-abstraction
 - ▶ Sustainable availability of good quality water
- ▶ The Blueprint indicates that sustainable water availability is included in the WFD target of Good Status
 - ▶ Requires quantitative water management foundation based upon the “Ecological flow concept”
 - ▶ CIS guidance will be developed to ensure that in the next RBMP cycle this can addressed
 - ▶ A 2015 deadline for this guidance finalisation
- ▶ Water foot printing
 - ▶ Assuring that people understand their water use associated with products



concaawe Intakes, discharges & freshwater consumption



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Category	Production tonnage (kt/a)	Fresh water consumption m ³ /tonne	Product fresh water footprint ml(H ₂ O)/l(product)
Low Boiling Point Naphthas	187,255	0.082	62
Kerosenes	57,221	0.025	20
Gas Oils (Diesel)	310,679	0.136	116
HFO	114,790	0.050	48
Highly Refined Base Oils	245	1.07E-04	0.09
Lubricant Base Oils (LBO)	8,517	0.004	3.6
Untreated/Acid-Refined Base Oils	51	2.25E-05	0.02
Paraffin Waxes	349	1.53E-04	0.1
Slack Waxes	385	1.69E-04	0.2
Petrolatum	120	5.26E-05	0.05
Foot's Oils	57	2.50E-05	0.02
Distillate Aromatic Extracts	783	3.44E-04	0.3
Treated Distillate Aromatic Extracts	51	2.23E-05	0.02
Residual Aromatic Extracts	43	1.89E-05	0.02
Petroleum Coke	4,920	0.002	2.4
Bitumen	30,499	0.013	16
Total (REACH registered volumes)	715,964	0.315	13

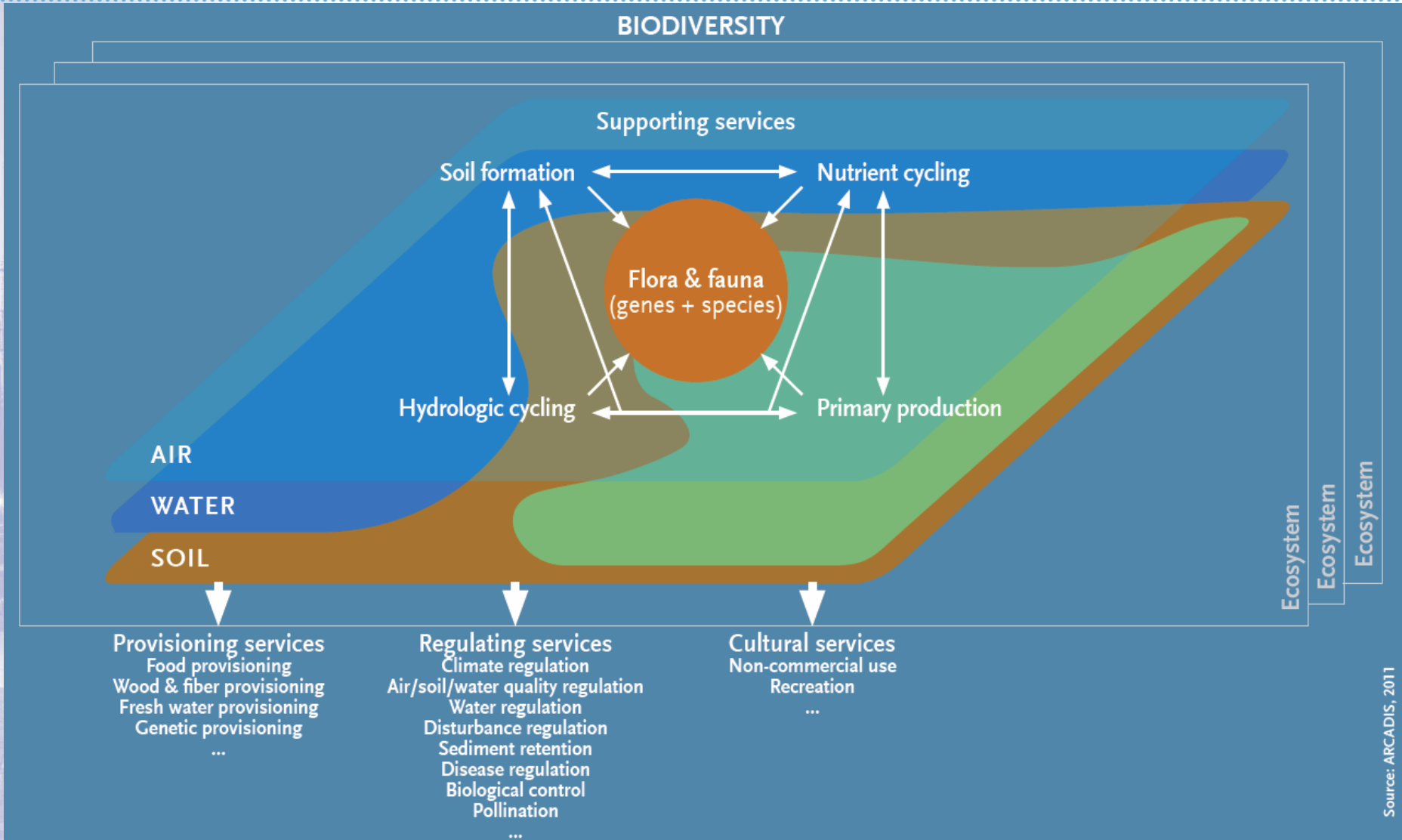
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- ▶ Biodiversity is the degree of variation of life forms within a given species, ecosystem, biome, or an entire planet.
- ▶ Biodiversity is a measure of the health of ecosystems.
- ▶ A healthy ecosystem is assumed to deliver the services expected
- ▶ A diverse ecosystem is assumed to react on pressures in way that prevent ecosystem health degradation

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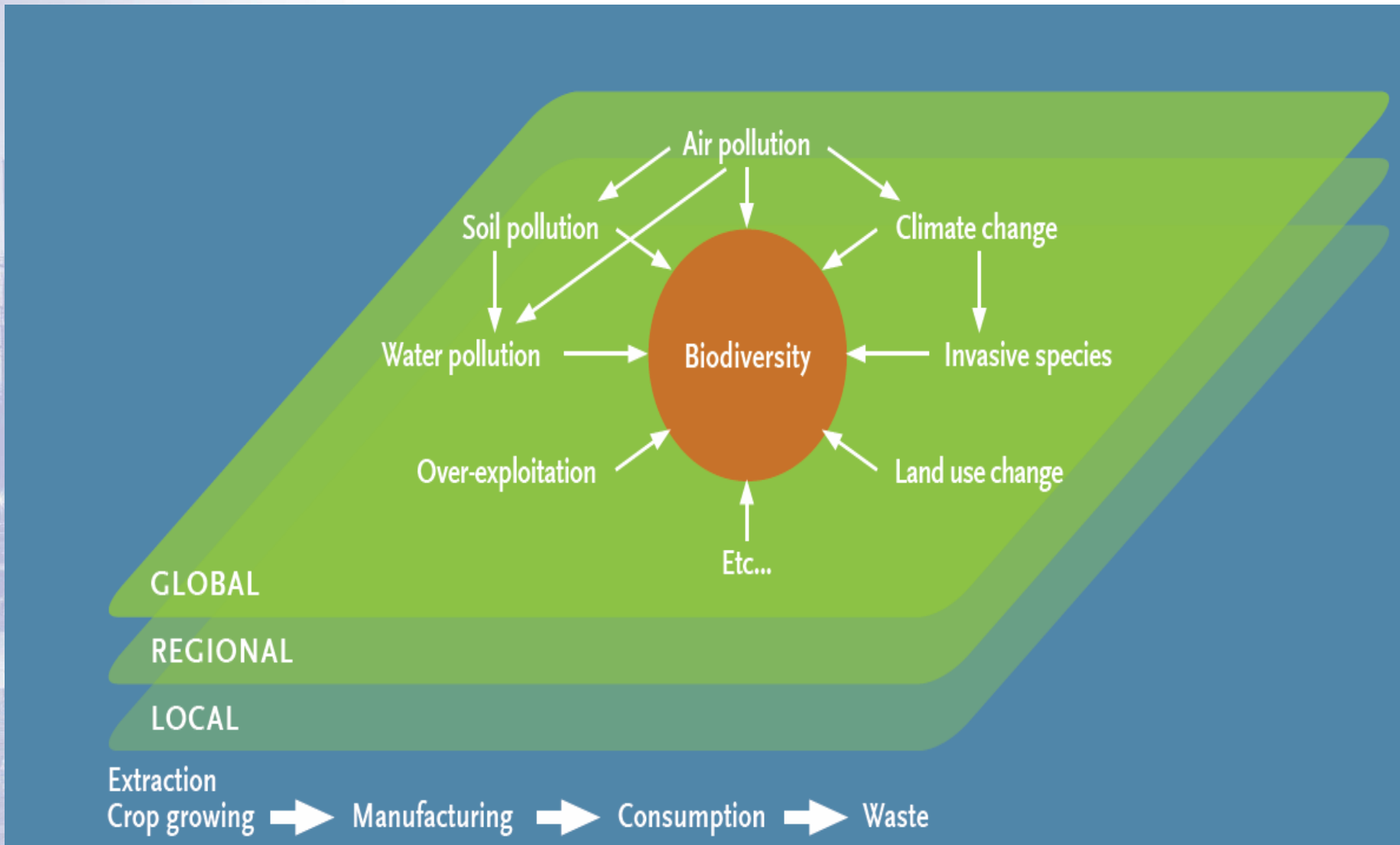


Source: ARCADIS, 2011

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CEFIC, Biodiversity guide, 2013





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CEFIC, Biodiversity guide, 2013



- ▶ COM 2050 vision
 - ▶ By 2050, European Union biodiversity and the ecosystem services it provides — its natural capital — are protected, valued and appropriately restored for biodiversity's intrinsic value and for their essential contribution to human wellbeing and economic prosperity, and so that catastrophic changes caused by the loss of biodiversity are avoided.
- ▶ COM 2020 headline target
 - ▶ Halting the loss of biodiversity and the degradation of ecosystem services in the EU by 2020, and restoring them in so far as feasible, while stepping up the EU contribution to averting global biodiversity loss.
- ▶ Biodiversity aspirations contribute to the EU's strategic objectives of:
 - ▶ A more resource efficient economy.
 - ▶ A more climate-resilient, low-carbon economy: Ecosystem-based approaches to climate change mitigation, while providing benefits beyond biodiversity conservation;
 - ▶ A leader in research and innovation;
 - ▶ New skills, jobs and business opportunities.





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