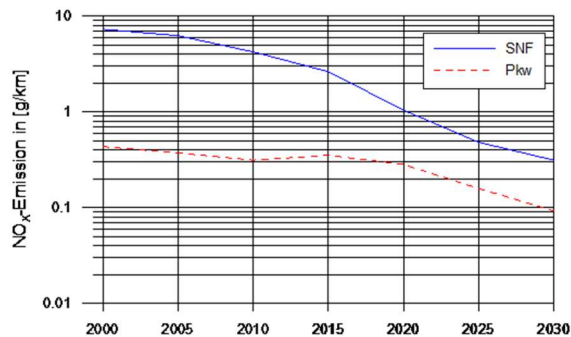
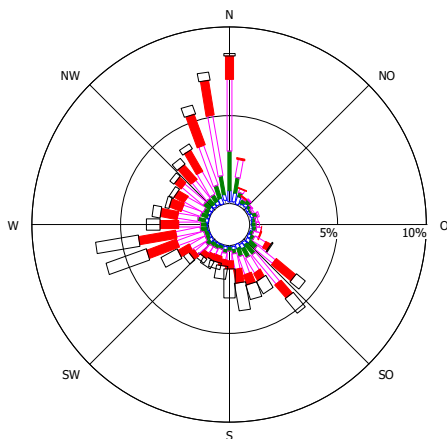


*Pollution map with concentration peak at the exit portal*



*Vehicle emission development demonstrated on the example of nitrogen oxides*

Wind distribution in percent



*Wind distribution*

When changing traffic routes, a focus lies on complying with current air pollutant limits; especially in connection with tunnels. While immission pollution through air pollutants is reduced at the surface along a tunnel, increased concentrations occur in the area of the tunnel portals. If there is housing construction within this area of impact, the statutory air pollutant limits can be exceeded. This is why immission prognoses are created already during the planning phase in order to discover critical points and integrate possible counter measures in the planning early on.

### Our services

- Immission prognoses at tunnels and on open roads
- Considering future vehicle emissions based on current data
- Three-dimensional spread calculation of free-blowing (e.g. portals) as well as evacuated (e.g. exhaust funnel) emissions
- Determining the impact of legal framework requirements (e.g. environmental zone)
- Considering the local conditions like buildings, terrain, trough area and wind distribution
- Considering economical options for the protection from immissions including the intended tunnel ventilation system
- Determining the background pollution and the sources contained

### Your benefit

- Professional and independent assessment of the immission situation in the surrounding area of infra structure facilities
- Recognizing concentration peaks early on and implementing optimizations
- Proof of compliance with current air pollutant limits
- Comparison between different options as basis for decision making