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**Workshop and Study Visit to Promote the Concept of ‘Best Available Techniques’ to reduce the environmental impact from Industry**

**Tentative date: 10 to 13 December 2017
Locations: Special Pars Economic and Energy Zone/Assaluyeh and Tehran**

The protection of air and water quality whilst saving resources, esp. energy poses an important challenge on a global scale. In order to build up a low emission and resource efficient industrial production, suitable legal and institutional frameworks promoting innovation as well as modern techniques and technologies are key.

Against this background, a policy for permitting and control of industrial installations has been developed and applied in Europe to achieve emission reductions from industry in a cost-effective manner. The concept is termed **“Best Available Techniques (BAT)”**. BAT is applied via permits and supervisions at all larger industrial installations in Europe. The broad and harmonised application (and implementation) of BAT (around 50.000 industrial plants in Europe) improves gradually resource-use, reduces emissions, and stimulates the development of innovative techniques, thus assisting to maintain competitiveness and decreasing external costs for the society by greening the economy. The *Industrial Emission Directive* adopted in 2010 by the EU provides the regulatory framework for the application of BAT, requiring that permit conditions (incl. emission limit values) must be based on BAT. In addition, the continuous development of supporting technical guidance (e.g. BAT Reference Documents & BAT conclusions) ensures constant industry modernisation. The developed legal framework provides legal security for both, the public administration as well as for the industry by stipulating the dialogue of regulators and industry in the permitting process.

The **envisaged one-week programme** will commence with a *three days* study tour and site assessment to the South Pars Special Economic Energy Zone (PSEEZ) in Assaluyeh. This will include an assessment of pre-defined sites within the PSEEZ (gas refinery and petrochemical installation) allowing a first analysis by the German experts. This will be followed by a discussion on the findings on environmental challenges within the PSEEZ and opportunities to increase resource efficiency, especially through the application of the BAT approach as well as through other measures such as reduction of gas flaring. The aim is to discuss options for the PSEEZ management to incentivize efficiency within the zone as well as for owners of single phases in light of economically and technically feasible options.

For the **preparation of the site assessment**, a questionnaire will be provided to the management of the PSEEZ to be shared also with operators of the concerned installations and to be **sent back to the German experts on November 15th at the latest.**

As a second part, a workshop will be held in Tehran. During the first half of the workshop, it is envisaged to present the concept of BAT to political decision makers, particularly to the Iranian Department of Environment (DoE). The aim is to share experience from Europe as well as from other countries and to explain the fundamentals of the BAT concept and the roles of different stakeholders in the process. This will include potential benefits for effective environmental law enforcement, but also for supporting competitiveness and increased innovation for the Iranian industry. By explaining the legal and institutional requirements and implications, the workshop shall support the decision making process of Iran, particularly of DoE, if a focus on BAT implementation in Iran shall be envisaged. During the second half of the workshop in Tehran, it is suggested to invite also selected stakeholder from the oil and gas sector in Iran to highlight the concrete applicability of BAT in industry. This will include permitting and monitoring processes as well as environmental inspections.

**Concept for the Study Visit to PSEEZ**

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| **Sunday, 10.12.2017** |
| **Time** | **Topic** | **Content & Objective** | **Speaker** |
| 09:00-10:00 | Arrival at PSEEZ&welcome | * Welcome by PSEEZ
* Introductory speech on the program
* Introduction of the IRN & GER experts
* Expectations of IRN & GER side
* Discussion on the agenda of the 3-day study visit and site assessment
 | Dr. SaboohiVPSTGER Experts |
| * General information on PSEEZ
* Meeting key actors (park management, representatives of the gas refinery to be visited, representatives of petrochemical installation to be visited)
* Important information for the visit
 | Mr. YoussefiPSEEZMr. HassaniSPGC |
| * Q&A on information provided by PSEEZ beforehand
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| 10:00-13:00 | Site assessment I:Gas refinery phase 5 | In-depth site-visit of the refinery, with focus on:* Production parts which are especially relevant for emissions to the environment
* Emission control of combustion installations & flue gas treatment
* Secondary techniques & end-of-pipe systems like waste gas abatement units (flares, thermal oxidisers, adsorption & scrubber units, filters for dust abatement)
* BAT to operate waste gas abatement units inter alia control & regulation techniques (function of waste gas abatement units like control of relevant indicators as oxidising temperature, pH, redox, difference pressures etc. & alarm system in case of deviations)
* Emission monitoring for air pollution control
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| 14:00-17:00 | Site assessment II:Jam petrochemical company | In-depth site-visit of the installation, with focus on:* Production parts which are especially relevant for emissions to the environment
* Emission control of combustion installations & flue gas treatment
* Secondary techniques & end-of-pipe systems, like waste gas abatement units (flares, thermal oxidisers, adsorption & scrubber units, filters for dust abatement)
* BAT to operate waste gas abatement units inter alia control & regulation techniques (function of waste gas abatement units like control of relevant indicators as oxidising temperature, pH, redox, difference pressures etc. & alarm system in case of deviations)
* Emission monitoring for air pollution control
* Emission control at storage tanks for organic liquids with high vapour pressure (e.g. petrol)
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| **Monday, 11.12.2017** |
| **Time** | **Topic** | **Content & Objective** | **Speaker** |
| 09:00-10:30 | BAT Insights from the German Environmental Authority | * Application of environmental law & potential of BAT to support ways for (i) effective environmental law application through (ii) a dialogue with the industry supporting improved competitiveness
 | Katja Kraus, Federal Environment Agency | In parallel, the other experts will prepare findings of site assessment ***– separate room would be needed*** |
| 10:30-10:45 | Coffee break |
| 10:45–12:15 | Insights from the GER industry | * How are chemical parks managed in GER?
* Options of the park manager to create incentives to increase resource efficiency?
* How does the industry cooperate with environmental authorities? (Benefits of environmental law)
 | TÜV Nord (tbc)Dr. Lutz von Meyerinck, KMW Outrage Management |
| 12:15-13:15 | Lunch Break |
| 13:15–15:00 | Discussion between IRN participants & GER experts on findings of site assessment | * Identification of challenges (environmental, economic etc.):
* Identification of most accessible measures to reduce environmental impact
* Key questions for the discussion:
* Q1: How does the Environmental Management System work especially for identification of environmental improvement possibilities?
* Q2: Does a self-inspection system for the environment exist to identify lacks & malfunctions? What consequences will be considered & measures carried out in such cases?
* Q3: What barriers does exist for the implementation of measures? Implementation gaps?
* Q4: What requirements would be needed for implementation?
* Q5: What roles would have to be defined for different actors?
 | Hilmar Mante,Bavarian Environmental Protection Agency Dr. Richard Schlachta,District Government of Upper BavariaThomas Frank,Envidatec GmbHDr. Lutz von Meyerinck,KMW Outrage ManagementMr. Hassani ziabariHSE of PSEEZ |
| 15:00-15:30 | Coffee break |
| 15:30-17:30 | Continued discussion between IRN participants & GER experts on findings of site assessment | * (continued discussion on above mentioned topics)
 | Hilmar Mante,Bavarian Environmental Protection Agency Dr. Richard Schlachta,District Government of Upper BavariaThomas Frank,Envidatec GmbHDr. Lutz von Meyerinck,KMW Outrage ManagementMr. Hassani ziabariHSE of PSEEZ |
| 17:30 | Wrap-up of the day, findings and conclusions |

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| **Tuesday, 12.12.2017** |
| **Time** | **Topic** | **Content & Objective** | **Speaker** |
| 08:30 - 09:15 | Environmental permitting system for industrial installations in the EU & GER | * Permitting requirements & process
* Duties for the operator
* Roles of the authority
* BAT as a precondition for permitting to ensure no hazardous environmental impacts by the operation of installations
 | Hilmar ManteBavarian Environmental Protection AgencyDr. Richard SchlachtaDistrict Government of Upper Bavaria |
| 09:15 -10:15 | Application of Best Available Techniques- examples | * Presentation of the application of BAT for the sector of chemical installations & refineries – Examples with focus on “air pollution control”
 | Hilmar ManteBavarian Environmental Protection AgencyDr. Richard SchlachtaDistrict Government of Upper Bavaria |
| 10:15  | Coffee break |
| 10:45 -11:30 | Emission monitoring of air pollutants & environmental inspection | * Examples for monitoring the control of emissions of air pollutants (e.g. continuous/periodic measurements)
* Inspection plans & programs, preparation of an on-site inspection
 | Hilmar ManteBavarian Environmental Protection AgencyDr. Richard SchlachtaDistrict Government of Upper Bavaria |
| 11:30 -13:00 | Wrap Up & final discussion  | * Views of IRN side
* Suggestions for follow-up
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| 14:30 | Flight to Tehran |

**Workshop on BAT in Tehran**

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| **Wednesday, 13.12.2017** |
| **Time** | **Topic** | **Content & Objective** | **Speaker** | **IRN -Participants** |
| 09:00 | Welcome from Iranian & German side |  | DoE |
| I**) Fundamentals & implications of the BAT concept for IRN authorities, mainly DoE** |
| 09:30-10.00 | Objectives & current status of IRN environmental legislation | Status, challenges & strategies | DoEVice Head Mr. Madani / Mr. Tajrishi | DoE |
| 10:00-11:00 | BAT as a modern concept to permit industrial installations - benefits & impacts | On the basis of German & European experiences, the following questions shall be addressed in this session:* What is BAT?
* What are the opportunities of BAT regarding effective environmental law enforcement as well as with regard to supporting competitiveness of the IRN Industry?
* BAT as dialogue between state actors & industry. What are potential benefits & consequences of introducing BAT?
* Experience from other countries (GER/EU). If Iran would engage in applying the BAT concept, which institutional & legal framework conditions would be indispensable?
* What does BAT imply for environmental legislation?
* Which role does BAT foresee for authorities, in particular environmental agencies? How to set up a dialogue between state actors & industry?
 | Katja Kraus,Federal Environment Agency | DoE |
| 11:00 | Coffee break |
| 11:30-13:00 | Policies for a climate friendly materials sector: Further experiences in the EU | * Main challenge (introduction)
* Voluntary agreements
* Eco-tax exemptions for industry
* Carbon pricing and the current discussion
* Project based carbon contracts
* Product benchmarks in the EU-ETS and their limitations
* Border Carbon Adjustments
* Benchmark based charge on the consumption of carbon intensive materials
 | Dr. Petra Opitz,DIW Econ |  |
| 13.00 | Lunch break |

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| II**) BAT concept as mean to intensify the dialogue between policy makers & industries; BAT as opportunity for increased competitiveness of the IRN gas/petrochemical industry** |
| 14:00 -15:00 | Introduction to BAT &applications, experience from GER, IRN & other countries in the industry | * Implementation of BAT in Germany, cooperation between environmental legislation and industry
* Examples of introducing BAT in the frame of German-international cooperation
 | Katja KrausFederal Environment AgencyThomas Frank,Envidatec GmbHDr. Lutz von Meyerinck, KMW Outrage Management | DoE & other relevant IRN authorities selected representatives from gas / petrochemical industry in IRN |
| 15:00  | Coffee break |
| 15:15-16:00 | Case Study:Environmental permitting system for industrial installations in the EU & GER | How does the BAT implementation process look like in practice?* **1. Permitting requirements** & process / duties for the operator / Roles of the authority / BATs as a precondition to ensure no hazardous environmental impacts by the operation of installations
* Presentation of the application of BAT for the sector of chemical installations & refineries with focus “air pollution control” – examples
 | Hilmar Mante,Bavarian Environmental Protection Agency Dr. Richard Schlachta,District Government of Upper Bavaria |
| 16:00-17:15 | Application of BAT- examples / Emission monitoring of air pollutants /environmental inspection | * **2. Control of emissions;** examples of air pollutants by monitoring (e.g. continuous/periodic measurements)
* **3. Inspection plans** & programs, preparation of an on-site visit
 | Hilmar Mante,Bavarian Environmental Protection Agency Dr. Richard Schlachta,District Government of Upper Bavaria |  |
| 17:15 | Wrap-up & final discussion | Wrap-up of the day, findings and conclusions | All participants |