

Dear Madam or Sir,

We hope this email finds you well and healthy as far as possible with the current COVID-19 pandemic. 2020 was a challenging and exhausting year, not only for a startup like ACT. But besides all obstacles we could successfully finish on site pilot tests for example for remediation of soil with a construction company, remediation of wastewater with a nuclear power plant and a pilot project with a wastewater facility under real working conditions for several month. Furthermore, we did countless feasibility studies in our lab for various customers for soil and groundwater treatment and remediation of other contamination problems.

We are exceptionally proud of the Solar Impulse Label we were awarded with in September this year. Starting November, we participate in the PwC NextLevel Scale Sustainability Program, where we get access to numerous corporate partners of this renowned consulting company and can network with other startups in sustainability.

Although we could not be physically in conferences and meetings this year, we presented in several online conferences and attended network events. In December for example we participated in Green Days 2020 and Pollutec virtual edition. Maybe you participated as well and watched our presentation, then tell us about it, we would love your feedback!

We hope next year will be much better and with fewer restrictions for people and businesses. Today we send you our last Newsletter for this year with best holiday wishes, containing the December updates.

From our R&D department we are happy to provide you with a new update regarding customer projects.

Successful feasibility study completed with a large construction and engineering company from UK

The Problem: The feasibility study was with a large construction and engineering company from UK which is also provide soil decontamination and recycling. The target of the study was development of a simple, rapid and cost-effective on-site process for **decontamination of soil and removing of aromatic and aliphatic TPH and PAH.**

The Objective It is therefore the intention of our potential customer to cost-effectively and rapidly decontaminate the soil from organic materials to meet the UK threshold values regulation for each group of contaminants.

The Solution: We have implemented a series of laboratory treating methodologies for several hundreds of gr contaminated soil thereby demonstrating that through a simple process our SOA and AFA technology could be efficiently applied.

Pilot Results

Contamination	Pollution degree (ppm mg/kg)	After treatment (ppm mg/kg)	Reduction of pollution in %
TPH Aliphatic	1267	64	97%
TPH Aromatic	740		
PAH	42.3	2	95%

Maybe you face similar challenges in your business. Then please feel free to contact us.

Alpha Cleantec AG

Newsletter December 2020

We hope to see you next year after you hopefully had pleasant winter holidays and are fully recharged with new energy. We are looking forward to a year 2021 in which we can kickstart again turning the numerous pilot tests and studies we have done into on site projects in countries like Switzerland, Israel, Germany, Italy, Spain, UK, Columbia, Brazil, Russia and more.

We wish you a merry Christmas and a happy, successful New year! Above all, please stay healthy.

Your Alpha Cleantec Team

About Alpha Cleantec AG

We believe that our eco-system requires looking after so we have a world worth living in to pass to our next generations. Decontamination of soil and water from hazardous contaminants plays a major role in this regard, in our view. This is why we established Alpha Cleantec AG as an environmental technology company in 2016 with a vision to provide safe, green, rapid, efficient and cost effective technologies to resolve environmental harms and hazards caused by inadequate human and industrial activities.

Alpha Cleantec AG provides two technologies, AFA and SOA, achieving decontamination ratios of up to 97% for a wide range of contaminants in just hours (such as Hydrocarbons, BTEX, Petroleum leftovers, Aromatics, PAHS, Chlorinated Solvents, PCBs, Dioxins as well as Pesticides and Herbicides) to be applied for soil, wastewater and railway ballast treatment.

Contaminates treatable by Alpha Cleantec products and process

Contaminants	In-site		On-site	
	SOA	AFA	SOA	AFA
BTEX				
Benzene	✓	✓	✓	✓
Toluene	✓	✓	✓	✓
Ethylbenzene	✓	✓	✓	✓
Xylene	✓	✓	✓	✓
Petroleum Hydrocarbons				
Gasoline Range Organics (GRO)	✓	✓	✓	✓
Diesel Range Organics (DRO)	✓	✓	✓	✓
Oil Range Organics (ORO)	✓	✓	✓	✓
Aromatics				
Chlorobenzene	✓	✓	✓	✓
Bromobenzene	✓	✓	✓	✓
Dichlorobenzene	✓	✓	✓	✓
Nitrobenzene	✓	✓	✓	✓
Phenol	✓	✓	✓	✓
Styrene	✓	✓	✓	✓
Naphthalene	✓	✓	✓	✓
Trichlorobenzene	✓	✓	✓	✓
Trimethylbenzene	✓	✓	✓	✓
PCB				
PCB No 2	✓	✓	✓	✓
PCB No 5	✓	✓	✓	✓
PCB No 28	✓	✓	✓	✓
PCB No 52	✓	✓	✓	✓
PCB No 77	✓	✓	✓	✓
PCB No 101	✓	✓	✓	✓
PCB No 118	✓	✓	✓	✓
PCB No 138	✓	✓	✓	✓
PCB No 153	✓	✓	✓	✓
PCB No 180	✓	✓	✓	✓
PCB No 209	✓	✓	✓	✓
Pesticides and Herbicides				
Glyphosate	✓	✓	✓	✓
Goal	✓	✓	✓	✓
Dioxin				
2,3,7,8-TCDD	✓	✓	✓	✓
1,2,3,7,8-PeCDD	✓	✓	✓	✓
1,2,3,4,7,8-HxCDD	✓	✓	✓	✓
1,2,3,6,7,8-HxCDD	✓	✓	✓	✓
1,2,3,7,8,9-HxCDD	✓	✓	✓	✓
1,2,3,4,6,7,8-HpCDD	✓	✓	✓	✓
2,3,4,7,8-PeCDF	✓	✓	✓	✓
2,3,4,6,7,8-HxCDF	✓	✓	✓	✓
2,3,7,8-TCDF	✓	✓	✓	✓
1,2,3,7,8-PeCDF	✓	✓	✓	✓
1,2,3,4,7,8-HxCDF	✓	✓	✓	✓
1,2,3,6,7,8-HxCDF	✓	✓	✓	✓
1,2,3,7,8,9-HxCDF	✓	✓	✓	✓
1,2,3,4,6,7,8-HpCDF	✓	✓	✓	✓
PAHs				
Phenathrene	✓	✓	✓	✓
Naphthalene	✓	✓	✓	✓
Acenaphthylene	✓	✓	✓	✓
Chlorinated Solvents				
Tetrachloroethylene	✓	✓	✓	✓
Trichloroethene	✓	✓	✓	✓
Dichloroethene	✓	✓	✓	✓
Vinyl chloride	✓	✓	✓	✓

We plan to inform you in future whenever we accomplished projects, pilots or case studies. If you do not wish to get our company news, please let us know.

Kind regards

Mit freundlichen Grüßen

Andreas Danner

Alpha Cleantec AG

Phone: +49 (0) 6221 64924 0 · Fax: +49 (0) 6221 64924 72

info@alphacleantec.com · www.alphacleantec.com