

KETAN SHAH, PHD



## Education

Ph.D. – Civil Engineering (Environmental), The University of Texas at Arlington, 2021

MBA – Technology Management, Centre for Environmental Planning and Technology, 2012

B.E. – Chemical Engineering, The Maharaja Sayaji Rao University, 2009

## Specialty Certifications

Life Cycle Thinking in Business Decisions, Life Cycle Initiative, March 2020

## Professional Affiliations

American Society of Civil Engineers (ASCE)

American Environmental and Engineering Science Professionals (AEESP)

Solid Waste Association of North America (SWANA)

Air and Waste Management Association (A&WMA)

American Council of Life Cycle Assessment (ACLCA)

Institute for Sustainability, American Institute for Chemical Engineers. (IfS, AIChE)

International Solid Waste Association (ISWA)

## Professional Experience

Dr. Shah is experienced in environmental and solid waste engineering, providing engineering support services for design, permitting, construction management, and reporting for landfill projects in the northwest U.S. Projects involve GCCS system design, construction, and regulatory compliance. He is responsible for tasks involving regulatory compliance of several sites subject to the New Source Performance Standards (NSPS) throughout the state of Washington and Alaska. Projects include wastewater treatment, sewer water sampling, air dispersion modeling, air pollution control methods, Solid Waste Management contract specifications, landfill facility design for scientific disposal of waste, Life Cycle Analysis Modeling.

Dr. Shah is experienced in life cycle assessment, environmental systems modeling, optimization, and solid waste management systems he has developed an interest in a comparative statistical analysis between developed and developing countries Solid waste decision-support and decision-making tools with optimization framework. He is skilled at statistical interpretation of large and complicated data sets, project design and implementation, and economic forecasting and analysis. Highly skilled at preparing and delivering presentations to a variety of audiences: executive, technical, and regulatory.

Dr. Shah is responsible for overseeing SCS's northwest region solid waste management practice, which includes landfill engineering, landfill gas management, solid waste studies, landfill environmental systems, operation and maintenance, and construction. Dr. Shah works closely with SCS's regional clients. He has completed solid waste, environmental assessment, facility design, compliance audit, and other environmental study projects for municipal and private clients. A few notable projects that Mr. Shah has been involved in are described below.

**Terrace Heights Landfill, Washington,** Landfill Gas Collection and Control System Design. Assisted in design of the landfill gas collection and control system utilizing components of the ongoing initial GCCS design, the EPA LandGEM model. Well design and analysis. Provided assistance to prepare bidding documents for construction contractors.

**Wasco County Landfill, Oregon,** Responsible for preparing, reviewing, and submitting bimonthly compliance reviews for LFG extraction wells that are exceeding New Source Performance Standards (NSPS) regulatory limits and providing recommendations to remediate the exceedances by reviewing wellhead monitoring data, liquid level measurements, and OM&M evaluations.

**Kirby Canyon Landfill, Morgan Hill, California:** Designed database review questions for the client Waste Management to estimate emissions from unpaved roads, LNG, RNG and transport vehicles. Tasks include evaluating landfill gas extraction well exceedances, monitoring excursions, and Environmental Protection Division (EPD) compliance submittals, landfill surface emissions monitoring (SEM) results, dust suppression plan recordkeeping, LFG flare data and other site-specific documentation to send to the state EPD.

**City of Vancouver landfill:** Condensate pump engineering calculation to find the pump head using the annual leachate and precipitation values. Using SDR 11 and 17 pipe types for T type joints and determining the elevation of water in the system side pipe.

**Meridian composting:** Operating plan specification review for compost facility of 175,000 TPA, Operating plan specification review to integrate process water, storm water and Roof water totaling 2 million gallons of water.

**State of Iowa;** Lifecycle Analysis of Single use Plastic Water Bottles: To evaluate all the life cycle stages of a single use plastics bottles for the state of Iowa with OpenLCA tool and using US Life cycle inventory (USLCI), hosted by the U.S. Federal LCA Commons Database selected: National Renewable Energy Laboratory/USLCI repository as JSON-LD. Comparative LCIA of scenarios, different permutations for single use water bottled parameter analysis.

**Hanes Inc;** Estimation of methane generation from biodegradation of polyester in the US landfills. This research project includes providing the methane estimates that discusses the data, assumptions, and calculation methods used to develop the estimates. Methane emissions estimates to help assess the potential impacts that producing new consumer products made with biodegradable polyester will have on greenhouse gas (GHG) emissions. Objective 1 – Develop Estimates of Methane Generation from Disposed Polyester. Objective 2 – Prepare Estimates of Methane Recovery Rates and Emissions Reduction from Utilization. Objective 3 – Estimate Annual Net Methane Emissions for 100 Years.

**Annual reporting for Wasco County and Alaska regional landfill:** Title V Compliance, Responsible for preparing, reviewing, and submitting semi-annual and annual compliance reviews for landfills and LFG extraction wells that are exceeding New Source Performance Standards (NSPS) regulatory limits and providing recommendations to remediate the exceedances.

## Publications and Presentations

**Shah, K V.** and Sattler, M., Solid Waste Management Challenges and Solutions in India, Air and Waste Management Association, EM, The Magazine for Environmental Managers. (Jan. 2020) <https://pubs.awma.org/flip/EM-Jan-2020/emjan20.pdf>

**Shah, K V.,** Effective ways, and sustainability of processing technologies along with strategies for solid waste management in India: 31st International Conference on Solid Waste Technology and

Management; The Journal of Solid Waste Technology and Management to be convened on April 3rd – 6th 2016, Warwick, Philadelphia, USA

**Shah, K V.,** Shanru, T., and Jose, V., The study of environmental impact on industrial methane dispersion in the atmosphere based on GIS technology, ArcGIS, Plume plotter and Gaussian Equations were used for Air Dispersion modelling: Dallas, Texas, (2019).

**Shah, K V.,** Kumar, S., Kumar G., Multivariate Statistical Modelling on Integrated Municipal Solid Waste Management for the City with population of 50,000 and generating 40,000 TPA, detailed analysis on response and various independent variables. Statistical Regression Analysis was done using SAS software, (2018).