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DATO' IR. DR. ABU BAKAR JAAFAR
Director/ Senior Consultant

Bachelor Degree (Hons)(Mechanical Engineering), MSc (Environmental Science), PhD (Marine Geography)

He has served the Government in various capacities including the Ministry of Labour, Ministry of Science, Technology and Environment in 1977 as Principal Assistant Director (Water Quality), as the Principal Assistant Director in the Economic Planning Unit and as the Deputy Director at DOE. In 1990, he was appointed as the Director General of the DOE and subsequently opted for retirement in 1995 to pursue a career in consulting.

He became the Managing Director of Alam Sekitar Malaysia Sdn. Bhd. Since 2003, he is the Director and Senior Principal Environmental Consultant of Enviro-LIFT Services Sdn Bhd and Novaviro Technology Sdn Bhd, where he is involved in providing environmental advisory and consultancy services on the management of waste, air quality and water quality.

At Novaviro Technology Sdn Bhd, he is involved in conducting feasibility studies on effluents discharged by oil palm mills and promoting the transfer of anaerobic digestion technology from a pioneer palm oil mill to other palm oil mills.

Currently, he is serving on a three (3)-year contract from 2013 to 2016 as Professor, UTM Perdana School of Science, Technology, Innovation and Policy and as Co-Chair of UTM Ocean Thermal Energy Centre (UTM OTEC).

He was admitted as a Fellow of the Institution of Engineers Malaysia, and Fellow of the Academy of Sciences Malaysia.

He has been qualified as a Professional Engineer by the Board of Engineers, Malaysia, is the chairman of the Association of Environmental Consultants and Companies of Malaysia (AECCOM) and a member of the Environmental Management and Research Association of Malaysia (ENSEARCH).



DR. VIJAYALAKSHMI SAMUEL
Director/ Principal Consultant

BSc (Hons), MSc, MBA, PhD (UM)

Dr. Vijayalakshmi Samuel has more than 20 years of experience in environmental, health and safety (EHS) consulting specializing in environmental impact assessments (EIAs), chemical health risk assessments (CHRA), environmental site assessment, social impact assessment, environmental management plan, environmental, environmental due diligence, environmental monitoring and compliance audits, site contamination assessment, and environmental suitability/feasibility studies.

She has carried out numerous corporate environmental, health and safety audits, and environmental site assessments including compliance, acquisition, divestiture and for a wide range of industrial facilities and green field sites in the Asia Pacific region including Malaysia, Indonesia, Thailand, Singapore, Vietnam, India, Taiwan and Korea and, in South Africa.

Registered EIA Consultant, Department of Environment, Ministry of Natural Resources and the Environment, Malaysia (Registration No: C0105). Registration categories include (i) Water Quality (ii) General Environmental Management (iii) Industrial Processes (iv) Scheduled Waste Management. Registered Environmental Auditor, Department of Environment, Ministry of Natural Resources and the Environment, Malaysia (Registration Number: EA0036). Chemical Health Risk Assessor, Industrial Hygiene Division, Department of Occupational Safety and Health, Ministry of Human Resources, Malaysia

*Member, EIA Technical Review Panel of the Department of Environment, Malaysia
Member, Environmental Management and Research Association of Malaysia, (ENSEARCH), Membership No.: IM0080)*



MS. TAN KIM FONG
Director / Senior Consultant

B. Science (US), Dip. Ed. (UM), Dip. Mktg (UK).

Ms. Tan has over 20 years of consulting experience in environmental impact assessments (EIA), environmental management plans, environmental due diligence and site assessment, environmental monitoring and compliance audits, pollution control studies and environmental feasibility studies. Prior to consultancy, she has 7 years experience in the field of laboratory analysis and monitoring, environmental research, and waste recovery and management.

To-date Kim Fong has completed more than 90 EIA studies including Detailed EIAs, giving her an indepth understanding of the EIA requirements in the country, from scoping of the studies, identification of key issues, evaluation of assessment results, to recommendations on measures required to minimize the impacts to acceptable/sustainable levels.

Kim Fong was involved in developing specific EIA guidelines for the development of industrial estates, hill resorts and marine parks and the review of air emission standards for the Department of Environment. She was also a team member in developing the National Strategic Plan for Solid Waste Management for Peninsular Malaysia. She has also worked on various Local and Structure plans and Regional economic development plans.

Registered EIA Consultant, Department of Environment, Ministry of Natural Resources and Environment, Malaysia (Registration No: C0103). Registration categories include (i) Scheduled Wastes Management, (ii) Solid Waste Management, (iii) Industrial Processes and (iv) General Environmental Management. Registered Environmental Auditor, Department of Environment, Ministry of Natural Resources and the Environment, Malaysia (Registration Number: EA0060). Member, Environmental Management and Research Association of Malaysia, (ENSEARCH)



DR. KAMARUZAMAN UJANG
Director/ Senior Consultant

B.Econ (Statistics) (Hons) (UM), MPA, Ph.D. (Wash.U)

Dr. Kamaruzaman is among the few professionally active socioeconomic consultants in Malaysia. He has an excellent understanding of socioeconomic structure both local and global. He graduated with a degree in economic specializing in statistics. His post graduates include public and business administration.

With more than 30 years of working experiences, Dr Kamaruzaman has been a full-time consultant for over 16 years. He has accumulated vast post graduate experiences having served both the public and private sector prior to venturing into consultancy services. He is a registered subject specialist with the Department of Environment and a member and also the auditor of the Malaysian Social Impact Assessment Association.

Although his subject specialisation in consultancy is economics and socioeconomics, Dr. Kamaruzaman is equally competent in management and marketing. He has more than 60 studies under his list of experiences; regional plan, structure plan, local plan, market and product development, feasibility studies, transportation, roads and highways, river management plan, offshore management plan and flood mitigation plan.



DATO' ALFRED ADAIKALARA
Managing Director

Dato' Alfred has broad and extensive working experience of more than 20 years in the Malaysian and South East Asian business arena. Working for clients that range from Government agencies to public listed conglomerates in the private sector and multinational corporations, and in the diplomatic circles with foreign trade missions and embassies, he has established himself as a well known consultant.

His notable accomplishments include establishing International Business Review, the leading business magazine in Malaysia which showcases amongst others innovative technologies that continues to revolutionise the business environment and are vital for sustainable development; providing consulting services for government approvals involving the Department of Environment, Royal Malaysian Customs, National Solid Waste Management Department & the Malaysian Industrial Development Authority and assisting clients on advisory services pertaining to corporate social reporting.

Key clients that he has worked with in the past include Ministry of Energy, Green Technology and Water, Ministry of Science and Technology, Prime Minister's Department, Ministry of International Trade and Industry, MIDA, SMECorp, Energy Commission Malaysia, University Technology Malaysia, Board of Engineers Malaysia and Malaysian corporations such as PNB, Felda Global Ventures, Genting Berhad, Malaysia Airports, Maybank, Public Bank, Tenaga Nasional, TM, KPJ Healthcare Group, I&P Group, and many more, and MNCs such as BASF, VISA, SAP, Siemens, Alstom, Titan Chemicals, Lafarge Cement and ResourceCo Asia among others. He has also worked closely with many trade and diplomatic missions in Malaysia and Singapore to promote trade and goodwill with local business communities, these trade/diplomatic missions include Germany, France, Sweden, UK, Ireland, the European Union, Mexico, Cuba, India, China, Egypt and Kenya.

Dato Alfred is very well-versed with the business environment in Malaysia and Singapore, around the South East Asian region. The business activities in his capacity encompassed companies and trade organizations that spanned this region, and thus his wealth of knowledge and experience in South East Asian markets.

AGV Environment is managed by a team of very experienced professionals from the industry and the public sector. Our consultants have each more than 20 years of experience in the environmental consultancy and environmental engineering fields. The strength of the firm rests on the reputation of our consultants which is built on solid experience, deep knowledge in every aspect of the environmental, health and safety sector, and impeccable track record in their respective areas of specialization in these sectors. Our business philosophy is guided by the commitment of our directors in providing clients with uncompromised consultancy and guidance that best benefits client's organization and the community in the most sustainable way.

International Collaborations

AGV Environment works in collaboration with leading environmental consultancies and engineering firms from North America and Europe. This enables us to undertake the most challenging environmental and environmental engineering projects. Our collaborative partners have more than 60 years of experience in various sectors that includes environment, climate resilience, oil & gas, mining, energy, urban infrastructure and land development, waste management, water resources management and project management & consultancy.

Tapping into the pool of expert resources from our partners' offices around the world, AGV Environment delivers vast experience and award winning track record in every major industry from across the globe.

Customised Service

This brochure provides an overview of our service areas and expertise in various aspects of the environmental practice which we have categorized under four main sections. The services described here serves to provide you an outline of what we can do for you in these areas. We understand that each project is unique on its own and each one of our customers will have very specific objectives that needs to be met. We will be working very closely with your team to develop the projects deliverables as per the needs and objectives of your organisation.

Our team comprising of consultants within the organization and our foreign partners will be glad to look into your projects and offer you the best in environmental consultancy to ensure that you get the best solution be it for a specific project, an environmental issue of concern or for your organisation's long term strategic advantage.

We look forward to serving you.



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Climate Change and Resilience

We provide the service of understanding the risks of a changing climate. We offer multidisciplinary skills to help you with Climate Change Adaptation and Mitigation on proposed projects for Environmental and Social Impact Assessments (ESIAs), under government legislation (such as ESIA frameworks, project closure plans,) funding requirements, Corporate Social Responsibilities commitments and others.

Our approach to providing adaptation services starts by analyzing observed historic climate variability and project climate change in order to identify climate change risks to existing or planning infrastructure or operations.

We have developed visualisation tools to analyse climate change data by collecting and graphically displaying all of the information as scatter plots, cloud graphs and histograms and to explain in simple and easy to understand concepts how the effects of weather variability and long term climate change can affect clients.





Contaminated Site Clean Up Services

We offer comprehensive environmental site assessments, remediation system designs and decommissioning projects for the manufacturing, power, mining, oil & gas, and, urban development and infrastructure sector.

We are able to assist our clients in brownfield redevelopment, site clean up and/or facility demolition. Our team of consultants with the expertise and global experience of our international partners will be able to manage remediation and demolition projects cost effectively.

Contaminated Site Investigation Services

Our complete range of services include:

- Phase I and Phase II Environmental Site Assessments (ESA) including groundwater and surface water monitoring and modelling
- Contaminant hydrogeology and fate/transport modelling
- Soil vapour/gas and air quality assessment and monitoring
- Waste classification and waste management
- Human health and toxicology assessment
- Risk assessment

We will bring to each new project new and innovative site screening technologies to identify value in the information collected.

Clean Up & Remediation Services

Drawing upon the experience and expertise of our international partners' contaminated site specialists worldwide, we offer expertise in a wide range of remediation technologies, enabling our team to select efficient and scientifically sound technology available for your project.

The types of remediation services that we can undertake include:

- Oil refineries and petrochemical facilities
- Landfills
- Historical coal gas works
- Explosives factories
- Dry cleaners
- Marine facilities and ports
- Vehicle manufacturing facilities
- Mine sites including ore processing plants

Decommissioning & Demolition Services

We can also manage the process of facility closure and demolition in a manner that identifies ways to balances cost and asset return, limits liability, and maintains regulatory compliance. We emphasise a strategic planning approach, based on property end use objectives and business drivers, and employ a process management approach to promote a program that is cost-effective, compliant, and meets stakeholder requirements.

Our facility decommissioning and demolition management services include:

- Development of best practices / guidance documents
- Identification and evaluation of liabilities
- Pre-demolition surveys and engineering
- Safety review, monitoring and management
- Waste management review and record-keeping
- Compliance inspections and completion documentation
- Strategic planning, assessing end use/exit plan options
- Estimating for decision analyses and ARO uses
- Tender preparation and management
- Compliance monitoring and management
- Nuisance and emission control and monitoring
- Turnkey project execution and contract management

EHS Regulatory Compliance Audits

Our highly trained and experienced consultants in our environment, health & safety work closely with clients and regulators to identify a full range of environmental issues and compliance requirements of industrial, commercial and governmental operations. New and ever-changing regulations make it difficult for even the largest of in-house environmental departments to keep up with the latest changes.

Some of the regulatory compliance services we provide are in the following areas:

- Environmental noise, control design and installation
- Environmental regulatory compliance and due diligence
- Environmental toxicology
- Environmental permitting (air, water and waste)
- Hazardous materials and waste management
- Spill Prevention Control and Countermeasure (SPCC) plans
- Storm water and wastewater plans
- Environmental impact assessments



Energy, Carbon & Climate Service

We offer multidisciplinary specialization in energy and environmental sciences to help solve most pressing energy, carbon and climate change challenges. From energy and carbon management to renewable energy supply solutions, we use the best available technologies for carbon management and impact minimisation, thereby identifying for our clients cost-effective, sustainable operational solutions.

We provide site inspection, project feasibility studies, conceptual designs, environmental assessments and permitting assistance, construction support, and operational compliance and optimisation. We develop carbon strategies for facilities and analyse risk associated with climate change on current and anticipated future operations.

Our capabilities and experience also span the entire lifecycle of power generation – from site selection and planning to construction and decommissioning. Our regulatory knowledge and stakeholder engagement experience enables us to help clients successfully navigate socially and environmentally sensitive projects in both rural and urban settings.

Renewable Energy Supply

Our specialization in the development of renewable energy sources including:

- Wind
- Landfill gas to energy
- Biomass
- Carbon geosequestration/compressed air energy storage
- Hydro/run of river/pumped storage
- Waste to energy
- Solar
- Geothermal

Traditional Energy Supply

- Solid and Liquid Fuels
- Natural gas

Energy Management

We understand the role of energy efficiency in sustainable and environmentally sound operations. We provide clients with a full range of energy management services including:

- Energy auditing and footprinting
- Detailed energy efficiency reviews and recommendations
- Greenhouse gas emission inventory and strategy development
- Renewable energy resource prospecting and evaluation
- Analysis of alternative energy options
- Renewable energy engineering design and review
- Project management, EPC oversight or contracting (construction)
- Operation/maintenance and/or monitoring support

Climate Change Adaptation

Our multidisciplinary team of engineers, scientists, meteorologists and technicians work closely with clients to address the uncertainties of climate change regarding energy operations. We offer a wide range of integrated services including:

- Environmental assessment and environmental impact statements
- Meteorological assessments, wind flow simulations and analyses, dispersion modelling data sets and site-specific meteorological forecasting
- Comprehensive review of historical climate change data and projections
- Planning and design support
- Water supply/water quality and treatment
- Adaptation planning to address corporate sustainability goals, disclosure requirements, insurance questions and others

Environment, Health & Safety & Industrial Hygiene Services

We provide comprehensive environment, health, safety (EHS) and industrial hygiene (IH) services through our highly experienced team of certified industrial hygienists, certified safety professionals, certified hazardous materials managers, professional engineers, scientists, specialists and other EHS support personnel.

Our EHS team delivers wide-ranging services in environmental compliance, risk management, process safety management, industrial hygiene, employee safety, ergonomics, radiation protection and more to multiple industries -- everything from pharmaceuticals, food and beverage, chemicals and other manufacturing to mining, oil and gas, and power facilities.

We help clients improve their EHS management systems for both single facilities and for operations spanning multiple locations and jurisdictions. We can support all aspects of your industrial hygiene processes, including program development, exposure assessment, and design of controls (ventilation, noise, radiation), and training.

We maintain a keen focus on regulatory requirements and provide full EHS compliance review and auditing services. In addition, we conduct thorough business-critical risk assessments and analysis of environmental, labor and community issues regarding your operations to identify potential material EHS risks -- risks that could directly influence your business continuity, brand reputation and public license to operate.

Environmental Services

Environmental permitting (air, water and waste); hazardous waste management; spill prevention control and countermeasure (SPCC) plans; storm water and wastewater plans; environmental and health impact assessment

Services that we provide for our clients' environmental EHS needs include:

- Environmental noise, control design and installation
- Environmental regulatory compliance and due diligence
- Environmental toxicology
- Environmental permitting (air, water and waste)
- Hazardous materials and waste management
- Spill Prevention Control and Countermeasure (SPCC) plans
- Storm water and wastewater plans
- Environmental impact assessments

Health & Safety Services

We offer health and safety services required for any business ranging from corporate offices to operating mines to industrial facilities. Keeping employees safe, providing proper training, and establishing the processes and programs needed to maintain safety are essential.

Ergonomics Programs

When a workplace applies ergonomic principles, the incidence of musculoskeletal disorders (MSDs) can be reduced by 50 to 90%. We help clients with the prevention of MSDs through the development and implementation of an ergonomics program customised to their workplace.

We provide:

- Ergonomic training and assessments
- Job hazard analyses and safe work procedures
- Office, mining and industrial ergonomics
- Physical demands analysis

Facility Employee Safety Programs

We work to meet each client's cultural, corporate, and internal health and safety requirements to reduce injury and illness and maintain regulatory compliance.

Some of these services include:

- Accident prevention and investigation
- Confined space entry programs
- Emergency response planning
- Fall prevention program
- Hazardous energy control and lock-out and tag-out program
- Occupational safety management systems development, review and auditing
- Regulatory compliance
- Risk assessment and risk management plans
- Personal protective equipment programs
- Fire safety
- Electrical safety programs
- Construction safety
- Machine guarding
- On site safety oversight

We also provide comprehensive Process Safety Management (PSM) and Risk Management Plan (RMP) services including:

- Process Hazards Analysis facilitation
- Offsite Consequence Analysis services
- Written process safety program development
- Process safety related training
- Combustible dust assessments
- PSM/RMP 3-year internal compliance audits and RMP submittals to EPA for US Facilities.



Radiation Protection Services

In collaboration with our international partners, we offer services from highly trained professionals in health and radiation physics to protect workers and the environment from the potential hazards of ionizing and non-ionizing radiation.

Our services include:

- Environmental impact assessments for new mines
- Assistance with regulatory licensing processes
- Remediation of radioactive contaminated land
- Development of radiation protection programs
- Radiological surveys and contamination assessments
- Characterisation and remediation of elevated radon levels
- Naturally Occurring Radioactive Material (NORM) management and waste disposal
- Development radiation protection training

Industrial Hygiene

The scope of our industrial hygiene team's services include:

- Asbestos programs –inspection, management, compliance
- Biological hazards – anthrax, legionella, mold, microbial
- Engineering control assessment and design
- Expert testimony skills
- Hazard communication – MSDs, labelling, training
- Hazardous waste operations and emergency response
- Heat stress/cold stress
- Indoor Environmental Quality (“IEQ”)
- Industrial hygiene program development
- Risk assessment/ airborne monitoring
- Noise monitoring and control
- Personal protective equipment programs
- Training for technicians and workers
- Ventilation design and assessment



Performance & Assurance Services

Environmental, health & safety (EHS) management systems and compliance specialists offer strategic and tactical consulting services to help identify and manage your full range of environmental, labour and community EHS risks. Our team works with you to put the policies, procedures, and data management systems in place to help ensure your compliance with local, state, national and international regulations -- both now and going forward.

EHS Performance & Assurance Services include:

- Environmental, social, labour, health and safety reviews and compliance monitoring
- EHS compliance monitoring
- EHS aspect and impact assessments
- Development of EHS Audit protocols/checklists
- Policy and procedure development and review
- Assessment, development, implementation and auditing of EHS management systems (ISO 14001, OHSAS 18001, EMAS)
- Regulatory liaison and performance reporting (REACH, TRI)
- Preparation of EHS work instructions/operating procedures
- Technical support for ISO certification and surveillance audits
- EHS data and information management system development
- Compliance monitoring
- Internal auditor, management and staff awareness training programs



Environmental & Social Impact Assessment Services

Environmental and Social Impact Assessment (ESIA) has become a critical tool to identify project risks that can lead to costly project delays. ESIA is a comprehensive, concept-to-completion approach that involves all stakeholders from the start, relies upon sound science at every stage and works to achieve sustainable development throughout a project's lifecycle.

This holistic approach builds positive stakeholder relationships, identifies and solves problems early on, effectively manages risks, avoids costly scheduling delays and, ultimately, identifies those social license items that require change in order to operate.

Our ESIA practice brings together specialist the following disciplines:

- **Physical disciplines** such as hydrology, water quality, noise and air quality
- **Biological disciplines** including terrestrial and aquatic ecology, biodiversity and ecosystem services
- **Social disciplines** including health, cultural sciences/archaeology and socio-economics
- **Stakeholder engagement** and social management strategies, policies and practices

Each project typically requires a multidisciplinary team of environmental and social scientists along with information technologists and project management professionals. New services include indigenous people development planning, human rights assessment, health impact assessment, critical habitat evaluation and biodiversity offset planning, ecosystem services and climate change adaptations.

Specialised ESIA Practice Areas:

EQUATOR PRINCIPLE AUDITS

Independent reviews of ESIA's are required by most lenders. AGV's auditing expertise can identify recommendations to help projects meet local and international standards, minimise project related risks and show organisational commitment to environmental and social responsibility.

CLIMATE CHANGE ADAPTATIONS

We have the expertise to assess projected climate scenarios to determine a project's potential effects on the environment and on how climate change could affect the project.

HEALTH IMPACT ASSESSMENT

Assessing the effects of development projects on human and community health is an essential activity towards understanding their social impacts. By understanding this, development projects can take steps to prevent disease and injury and to actively promote improvements to community health.

HUMAN RIGHTS ASSESSMENT

Operating companies and development projects must demonstrate that they do not infringe on human rights through their activities and business relationships. Human Rights Impact Assessments (HRIAs) help ensure that existing and planned projects meet their responsibility to respect human rights.

INDIGENOUS PEOPLES DEVELOPMENT PLAN (IPP) SERVICES

Seeking to understand capacity and resources limitations to maximize local development opportunities that are in line with the vision that indigenous peoples have for their communities and territories.



Environmental Impact Assessment

We offer our services in conducting Environmental Impact Assessments (EIA) that contributes to our customers' better managing their their plans and projects in accordance to environmental requirements.

Our emphasis is on close collaboration among our environmental specialists, the customer and the project designers during an environmental impact assessment (EIA study). In this way it is possible to adjust the design when undesirable environmental impacts are identified, thereby avoiding or minimising the impacts and the need for mitigation or compensation measures.



Participatory approach to EIAs

In accordance with international guidelines and Malaysian regulatory requirements, we emphasise on a participatory approach in carrying out EIAs. Contributions from stakeholders and the public are often mandatory and are likely to result in a smooth EIA process favourable to all parties.

We also carry out specialised out EIAs in collaboration with our international partners in the following areas

- Major bridges, tunnels, causeways, roads, railways, light rail and metros
- Ports and airports
- Urban and waterfront developments
- Onshore and offshore oil field development and operation
- Oil and gas pipelines, high voltage power lines
- Refineries and manufacturing industries
- Onshore and offshore wind farms

Our expertise

We have experts in biology, environmental monitoring, air, noise, water and soil contamination, chemicals, numerical modelling, environmental law, graphical presentation, communication and public participation, and we are therefore able to advise through the entire EIA process.

Environmental Monitoring & Modeling

We offer atmospheric management in transportation, power, mining, manufacturing, oil and gas, metals, waste management, architects, interior designers and others.

From conceptual simulations of proposed projects to mitigation engineering of existing situations, our team of engineers, scientists and technical specialists assist industry and government in addressing today's full range of atmospheric issues.

Air Quality

- Atmospheric dispersion modelling for regulatory applications
- Photochemical modelling for airshed assessments
- Accidental release and explosive modelling
- Nuisance risk assessments for odour, dust and bioaerosols
- Regional and local air emissions inventorying
- Design assistance including stack height calculations, location options
- Process air emissions control technology, mitigation and options appraisals
- Ambient air quality monitoring and data interpretation
- Air emissions management and monitoring plans
- Applied meteorology (monitoring and analysis) and tower erection
- Wind tunnel air flow experiments and assessments
- Expert advice and witness testimony
- Monitoring and management in support of Environmental Impact Assessments (EIAs) and Environmental Permitted (EP) developments

Meteorology and Climate Change

- Detailed site-specific weather forecasts for weather-sensitive operations
- Provide long-term weather forecasts
- State-of-the-art modelling using MM5 and WRF used for meteorology, air quality and climate change
- Forensic meteorology
- Wind analysis
- Probable maximum precipitation predictions
- Generating meteorological datasets used required for AERMOD and CALPUFF modelling
- Meteorological data verification
- MET tower installation
- Climate change analysis using IPCC data

Acoustics, Noise & Vibration

- Source measurements using sound pressure and/or sound intensity techniques
- Background noise monitoring
- Noise modelling for regulatory applications for industrial and manufacturing facilities
- Transportation modelling to address land use compatibility including road, rail and air
- Airport modelling using INM to assess potential noise effects from aircraft operations
- Acoustic modelling using Odeon Room Acoustics Software
- Architectural and room acoustics
- Open office design using STI, AI, SPC and other acoustical indices
- Aural aesthetic design
- Design of mitigation measures specific to noise impacts
- Vibration measurements using multi-channel data acquisition equipment
- Design of vibration isolation for equipment and structures
- Vibration modelling using finite element methods
- Measurement and prediction of blasting noise and vibration from mines and quarries
- Construction vibration monitoring
- Expert advice and witness testimony

Light

- Measurement of sky quality and light trespass
- Modelling of sky glow and light trespass used to support regulatory applications
- Nighttime photographs of the night sky used to show predicted changes in sky quality due to new projects
- Visual renderings using state-of-the-art light software
- Design of mitigation measures to minimise light effects



Facility Siting Services

Understanding the complex balance of engineering, environmental, economic and social concerns involved in facility siting decisions today, we offer our expert services in this field.

Our experience and expertise across multiple industries spans urban and suburban settings as well as vegetation communities and wildlife habitat resources in rural and natural environments.

This field of expertise combines environmental science, engineering and social science disciplines with modeling and GIS analysis skills to develop sustainable siting solutions.

Solid Waste Management Facility Siting

There is vast experience in our team of consultants and our international partners in the aspects of waste collection, transportation, transfer, recycling, composting, disposal and waste-to-energy production facilities. This gives our siting team greater insight and appreciation for your siting requirements, be it landfills or waste-to-energy technologies. In addition to environmental, social and economic considerations, key technical considerations often include:

- Fatal Flaw Analysis, Zoning and Permitting Requirements
- Market Analysis and Commercial Issues
- The ability of highway capacity to accommodate solid waste deliveries to the landfill or WTE plant
- The site's natural ability and design layout considerations to protect surface and ground water quality
- Stakeholder Engagement

Power Generation and Transmission Facilities Siting

Our environmental and social specialists work alongside with power and transmission line engineers to strategically assess the air, water, land and energy resources critical to your project as well as technology options. Accurate assessment of options and impacts is paramount and drives the project strategy.

Some key considerations often include:

- The ability to secure land and water rights, land use approvals, and environmental permits
- The ability to secure a cost effective and reliable fuel supply
- The ability to cost effectively connect and deliver to the grid and end users
- The ability to secure a competitive position relative to low-cost energy delivery
- The ability to secure a "social license to operate"

Transportation Infrastructure Siting Solutions

Development of rail, transit, highway and airport infrastructure presents ongoing siting challenges as communities, countries and nations continue to urbanise. Our international partners have assisted with some of the world's largest infrastructure development projects and command unparalleled experience and expertise in this field.

Effective design and implementation of transportation-related projects often call for active community participation and stakeholder engagement to help develop the optimal solution. Our consultants help to guide such community engagement with strategic scoping sessions, open houses, community relations, and regulatory agency and public communications.

Integrating schedule and cost variables and related mitigation, in conjunction with regulatory requirements and stakeholder considerations, results in identifying areas where clients can better deliver their project on time and within budget.

Multidisciplinary Approach to Facility Siting

Our strength in facility siting comes from its multidisciplinary approach, enabling the team to synthesise all of the engineering, environmental, economic and social criteria along with the site selection modelling algorithms to generate sustainable siting options.

Human Health & Toxicology Services

The range of services we offer cover human health and ecological risk assessment for Environmental Impact Assessments (EIA) and contaminated site management; human health and environmental toxicology, including REACH analysis related to product development; public health considerations; chemical risk management; and technical support for regulatory authorisations, approvals and compliance.

Our consultants in human toxicology, aquatic and terrestrial toxicology, biochemistry, chemistry and geochemistry, fate and transport, including air, water and food chain modelling, can provide assistance at any stage of your project -- from project planning and anticipating regulatory and public health concerns to assessing the potential human health and ecological risks associated with proposed sites or existing site contamination. We also perform complete inventories of chemical substances and provide exposure and risk assessments and compliance consulting.

The full range of our Human Health & Toxicology service capabilities in these four key areas:

- Human Health & Ecological Risk Assessment
- Toxicology Services
- REACH & Chemical Management Regulatory Services
- Public Health Assessment
- Aquatic Effects Assessments

Human Health & Ecological Risk Assessment Services

Our services in Human Health and Ecological Risk Assessment and Risk Management address contaminated sites and regulatory approvals for proposed private or public sector projects.

We use a cost-effective implementation of exposure and effects (toxicity) assessments to support the development of risk estimates and risk characterisation for site management planning and other purposes.

The services we offer are:

- Human health and ecological risk assessment guidance documents for regulatory agencies
- Environmental sampling to meet QA/QC guidelines
- Risk assessment of contaminants in terrestrial, water and sediment for both human health and ecological receptors
- Risk communication
- Risk management and prioritisation of issues for fiscal expenditures
- Dose-response evaluation
- Expert witness services
- Design and implementation of risk-based remedial plans
- Site monitoring and information management
- Development of guidance documents and policy white papers

REACH & Chemical Management Regulatory Services

REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals) is the European Union's regulatory system for chemical substances.

The legislation aims to improve the protection of human health and the environment from the risks of chemical substances, and the safe use of substances throughout their lifecycle. REACH applies to the manufacture, import, marketing and use of chemical substances, substances in preparations, as well as for substances in articles.

Chemical Management Services

Our consultants identify areas to manage your risk and maintain compliance with an ever-changing regulatory environment with the following services:

- Registration and authorisation of chemicals according to REACH services (European Union's Regulation (EC) 1907/2006, Registration, Evaluation, Authorisation and Restriction of Chemicals).
- Technical support for chemical management regulations such as REACH-EU, CLP-EU (Classification, Labelling & Packaging), GHS (Globally Harmonized System), NICNAS-Australia (National Industrial Chemicals Notification and Assessment Scheme), TSCA-USA (Toxic Substance Control Act) and similar regulations in Turkey, Korea, China, Japan, Brazil and others
- Management of Material Safety Data Sheets (MSDS)
- Strategic REACH planning
 - Determination of company roles, obligations and deadlines
 - Chemical inventories
 - Communication in the supply chain
- Assistance (management and expertise) in SIEFs and Consortia
- Third Party Representative (TPR) services
- Services associated with testing and measurements:
 - Management of laboratories carrying out REACH-related tests (physico-chemical, toxicological, ecotoxicological tests)
 - Workplace quality monitoring
 - Environmental quality monitoring
- REACH registration
 - Hazard assessment: assessment of quality of existing test data (including Klimisch scoring/rating), data gap analysis, generation of non-testing data by "read-across" and quantitative structure-activity relationships (QSAR), literature search, preparation of testing proposals and cost estimates, classification and labelling
 - Exposure assessment and risk assessment: modelling of occupational exposure and exposure for consumers and the environment (by means of software such as ECETOC TRA, RISKOFDERM, ART, STOFFENMANAGER, EUSES, CHESAR)
 - Preparation of technical dossiers: elaboration of Chemical Safety Assessments (CSA), Chemical Safety Reports (CSR) and Exposure Scenarios (ES), filling in of data in IUCLID 5
- Notification of substances of very high concern (SVHC) added to the Candidate List
- Classification and labelling for preparations
- Notification/registration of chemical substances in non-EU jurisdictions (e.g. Turkey, China, Korea, Japan, Canada, Australia, USA).

Toxicology Services

Together with our international partners, we have experienced and qualified specialists with scientific expertise in human toxicology, aquatic and terrestrial toxicology, and biochemistry.

Our services in this area include the following:

- Laboratory toxicology testing
- Development of environmental standards, including site-specific standards and guidelines
- Toxicological assessments (including evaluation of pharmacokinetic data)
- Peer review of toxicological basis of environmental standards
- Hazard identification (involves determination and identification of chemicals' health effects)
- Expert witness and legal support)



Public Health Assessment Services

Our services in public health and human health impact assessment address community health profiles, key determinants of health, community based health risk assessments and human health impact assessments to support developments around the world. Our multi-disciplinary team includes human health risk assessors, toxicologists, socio-economists and land use planners. Services offered include:

- Public Health Assessments
- Community Health Profiles including development of key determinant of health frameworks
- Community-based Health Risk Assessments to determine effects associated with large scale environmental contamination issues
- Human Health Impact Studies to support various types of industrial development
- Third-party peer review and Expert Witness

Aquatic Effects Assessment Services

Our aquatic effects monitoring team regularly conducts assessments associated with current or potential future effluents, sediment dredging and disturbance of aquatic habitats from physical work to assist clients with developments involving waterways.

Our consultants have extensive experience in effects assessment and ecotoxicology testing and monitoring to assist clients with navigating environmental laws and providing the right data to professionally address environmental concerns.

Our services in this area include:

- Aquatic effects monitoring
- Construction monitoring and site inspections
- Reference condition sampling
- Water quality monitoring
- Aquatic health assessment

Permitting Services

We provide environmental permitting services to the following major sectors

- manufacturing
- oil & gas
- urban development & infrastructure
- mining
- power

Our consultants have the capabilities and experience needed to assist in permitting, compliance and community partnerships.

We assist in document preparation for permit applications and create the data collection, monitoring and reporting systems required to ensure consistent compliance practices year after year.

Specialised Environmental Permitting Studies

Our consultants and environmental engineers perform the wide array of specialised studies to address local, state, federal, and international standards, regulations and protocols:

- Atmospheric dispersion modelling
- Hydrological dispersion modelling
- Site investigation
- Habitats assessment
- Noise assessment
- Odour impact assessment
- Waste, water and energy audits
- Geotechnical design services
- Dust risk assessment
- Hydrogeological risk assessment
- Flood risk assessment
- Other baseline studies and assessments

Our Permitting Services team works in a variety of technical data intensive industries including mining, oil and gas, pipelines, land development, waste management, and water resources. Our clients benefit from the close collaboration of our teams across industries and disciplines.



REGULATION

Social Management & Compliance Services

Our Social Management & Compliance team delivers the full integration of engineering, environmental and social management services as part of the process for "social license" to operate. We facilitate the interactions between the client, regulators, stakeholders and technical specialists to develop long-term sustainable solutions to the development project under consideration.

Our stakeholder engagement and social management practitioners can guide your business through the growing complexity of socioeconomic challenges.

Public Participation and Stakeholder Engagement Services

Our social management services span the complete project cycle: exploration, pre-feasibility, feasibility, pre-construction, construction, operation, pre-closure and closure. Highlights of these services include:

- Stakeholder sensitivity analyses
- Grievance management
- Risk communication
- Conflict management and resolution
- Engagement for permitting and closure
- Auditing engagement programs
- Establishment of stakeholder committees
- Community consultation
- Certified training in stakeholder engagement
- Compilation of Stakeholder Engagement Plans according to IFC specifications.

Managing Social Impacts

Our social and economic consultants offer expertise in integrating socio-economic information into project planning. Combining thorough scientific assessments with best practice social management planning assists our clients in developing projects that identify negative impacts to create a positive legacy and a social license to operate, through successful partnership with their communities.

Some of our socio-economic assessment services include:

- Social baseline services
- Livelihoods assessments
- Institutional capacity evaluation
- Legislative baselines
- Traditional knowledge studies
- Indigenous people studies
- Socio-economic impact assessments
- Cultural heritage assessment
- Ecosystem goods and services
- Resettlement and Relocation Action Plans
- Social monitoring

Compliance Services

Our work is guided by the principles of sustainable development along with recognised world standards and guidelines as set forth by the Equator Principles, the International Finance Corporation (IFC), World Bank, United Nation's Global Compact and others. Final plans, reports and other key project documentation is provided in multiple languages as needed to best serve your audiences.

Our knowledge of governing requirements in developing nations helps to identify opportunities for successful transition from exploration of a new facility site to feasibility and eventually construction.

We provide you with proficiency in: in-country laws and regulations; project standards; IFC performance standards; IFC environmental, health and safety (EHS) guidelines; policies and procedures for implementing Equator Principles; and more.

Sustainability Services

Sustainable development is a complex issue that requires a “systems” view – consideration of various labour, community, environmental and economic factors that shape and influence the project.

Our Sustainability Services are delivered by our team of specialist to develop practical solutions to one of the world’s most pressing challenges – responsible development for sustainable communities.

Our services cover a range of technical and tactical services from energy and water efficiency studies for industry to climate change adaptation planning for municipal government.

Project Impact Assessment

Our experienced consultants on Environmental and Social Impacts Assessment (ESIA) practice offer our sustainability services in the fields of:

- Energy and water efficiency
- Climate change impact assessment and adaptation
- Greenhouse gas /carbon management
- Lifecycle assessment and green supply chain

We help organizations meet regulatory demands that new, large infrastructure projects conform with the principles of sustainable development, through the comprehensive identification and mitigation of negative impacts on the natural environment and local communities. Our services go beyond impact minimization to ensure that projects meet society’s expectation of net zero or net positive impacts on the environment and community

Stakeholder Engagement & Reporting

Our social management practitioners are involved in:

- Public opinion research,
- Community development needs assessment,
- Meeting and workshop facilitation,
- Conflict identification and resolution, and
- Public communications.

We offer our services in developing sustainability reports meeting the GRI standard and help our clients monitor, evaluate and report on their sustainability performance.

Sustainability Audit and Assessment

We can develop, assist in the implementation and audit sustainability-based management systems, environmental and social management plans that comply with international standards for environmental, social and labour health and safety performance (World Bank EHS Guidelines, IFC Performance Standards, Equator Principles, etc.)

Our consultants have wide experience in various sustainability assessments and appraisals including life-cycle assessment, sustainability risk and opportunity assessment and strategy development, project performance verification, etc.

AGV’s environmental and social management specialists are positioned for recent revisions to international standards for environmental management (ISO14001), which place much more emphasis on environmental sustainability, supply chain performance, and going “beyond compliance”.

Sustainable Decision Making

To effectively address sustainability issues in highly technical and complex projects, AGV works with some of its international partners to employ proprietary customised software. The sustainability decision making web-based engineering software provides a systematic process for evaluating multiple project alternatives, supports the full integration of social, economic, environmental and technical considerations, and fosters proactive engagement with stakeholders. Thereby providing a cost effective method to facilitate risk analysis and decision making to assist with your project planning and design.

Solid Waste Management

We provide design, engineering and environmental services to industry and public agencies seeking to meet the growing need for sustainable waste management systems and infrastructure.

Our international partners have extensive experience in developing waste management systems worldwide. We offer fresh thinking and proven experience in cost-effective, environmentally sound solutions to waste challenges.

We service our clients from concept to construction and recognize that design and technology are just part of a sustainable waste management solution. We also offer stakeholder strategy and public engagement services to effectively address public and regulatory concerns regarding new waste facilities.



Landfill Engineering

We offer proven track record in landfill design, permitting, construction monitoring, operations support, environmental monitoring, closure and post-closure engineering services. Landfill engineering continues to be the most accessible waste solution to countries with the majority of the world's population.

Together with our international partners, we offer the best in landfill engineering in the world that make sure the design, procurement, construction and management of landfills are the best they can be. At the same time, we also work with owners and operators on suitable alternative technologies and diversion options.

Sustainable Waste Management Services

To help you achieve the optimal balance of social, economic and environmental performance with your waste management infrastructure, we offer a complete range of services including environmental monitoring, compliance, construction inspection and project management. Our services also include: