

The trouble



-shooter

For the past 20 years Brian Wilson has criss-crossed the developing world advising and helping battery manufacturers and recyclers manage lead batteries in an environmentally sustainable way.

Mike Halls reports



Meet Brian Wilson and you'd be hard pushed to think that this genial, modest figure is the stuff of heroes. Even to say this would cause him to blush.

But there's a truth to it. The fact is that the number of lives Brian has saved — and that's not including those lives that would have been irretrievably damaged by lead poisoning — should probably not be counted in the hundreds, but the thousands. Or even more.

Brian is, in essence, a global fixer — if a diffident one — for the lead battery business.

His mission for the past 20 years has been a simple one: educate and reform the developing world and emerging economies to the hazards of manufacturing and recycling lead batteries.

And that's not an easy task as he has to show how battery recycling can be done in not only a cost-effective manner, but in an environmentally sound way.

To that Wilson brings the knowledge gained from a lifetime of experience in the secondary lead business — 18 years for UK smelting giant Britannia Refined Metals, then part of MIM Holdings, the Australian mining firm which in turn is now a Glencore company — before the next 20 as a freelance consultant working around the world.

Brian Wilson's main job is probably best described as a roving trouble-shooter (again a term he'd rather prefer not to be called) across the developing world for the lead battery business.

His remit is a simple one. To ensure that lead battery manufacture and

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2002: Wilson on his first day in the turmoil of Thiaroye sur Mer, Dakar



A UNEP delegation at the Gravita plant in Senegal



One of the early environmentally sound management workshops in India

He quickly learned to understand the processes and procedures carried out by the operators he was working with, and by undertaking all the tasks gained their respect

recycling are conducted in a safe and proper manner by both the formal and informal sector. The buzz letters that surround his job are ESM (environmentally sound management).

In many developing nations — and in a more regulated way for advanced economies — the tendency is to ignore the existence of real problems in the drive to create profit. “Quite often this isn’t a deliberate policy but one of benign neglect or ignorance,” says Wilson. “Though of course, sometimes it might be deliberate.

“Part of my work is also to show that ESM can be cost effective and that good working practices and efficient smelting can lead to greater productivity, and that means improved profitability.”

Brian Wilson — who celebrated 70 years at Christmas and who has no intention of retiring any time soon — says that his first 18 years with Britannia Metals were the key to preparing his future career.

But to go back to the beginning.

His first work experience after finishing his chemistry course was in 1966 for the Castrol Oils customer service laboratory for what became Burmah Oil at Ellesmere Port in the north-west of England. He was eager to get on and switched to the training department, learning how to operate every piece of equipment in the refinery. He eventually halved the training schedule for operatives from three months to six weeks.

He then transferred to industrial relations and the very difficult task of negotiating with the trades unions. This experience was marred as Burmah Oil slowly slid into near bankruptcy as a result of huge losses in the shipping business.

In 1981 — two years before Burmah Oil finally collapsed — he joined Britannia as the industrial relations superintendent. But unlike most of the staff at the time, Wilson decided that he would spend the first few months

CASE STUDY: SENEGAL

Wilson reckons his most challenging project was in 2008 in Senegal, where an informal lead battery recycling operation in Thiaroye sur Mer, a suburb of the capital, Dakar, had led to fatalities among some of the babies and children living close to the recycling site or with parents involved in the recycling operations.

“One particularly heart-breaking story here was when I came across a mother who had lost three children with a high probability that this was through lead poisoning. She was part of a small lead smelting outfit that was trying to feed her family and eke a subsistence out of battery recycling.

“I particularly remember that they were a warm, upright family — but all earning less than a dollar a day. It was very sad.”

He said that four clear objectives were quickly identified in treating the problem.

The first was the need to identify any child or person that might be suffering from elevated lead exposure and either treat them with medical

intervention or remove them from any further exposure. This task was tackled by the University Hospital in Dakar in collaboration with the WHO.

The second was to remediate the contaminated site of the battery recycling and nearby residences, schools and shops.

The third was to find alternative safe employment for those displaced from the used lead battery recycling operations — there would be little purpose in closing the facility for the workers to restart it again through lack of work and money.

The fourth was to secure a long-term solution that would lead to the environmentally sound recycling of lead batteries in Senegal.

Wilson says that working with the WHO and the Basel Secretariat, and in partnership with Pure Earth (then known as the Blacksmith Institute), Gravita and the Government of Senegal, all four objectives were achieved.

Since the end of the project, no more fatalities have been recorded.

Furthermore, Gravita now



operates an environmentally friendly lead recycling plant that offers a sustainable recycling solution for batteries in Senegal.

Gravita has since hosted a visit to the plant by international delegates at a UNEP workshop to demonstrate that lead batteries can be recycled in an environmentally sound manner in a developing African nation.

on the shop floor learning the processes from an operator’s perspective.

In one sense this was a rerun of his earlier days in Burmah. During this time, he worked in the primary refinery and the secondary lead smelter and performed every task undertaken by the operators, including truck driving.

Equally importantly he quickly learned to understand the processes and procedures carried out by the operators he was working with, and by undertaking all the tasks gained their respect.

During this time he noticed that there was clear discrimination going on between the blue collar workers and the rest of the firm. There were different canteens, no food available for night shift workers and even the plate sizes were smaller for the blue collar staff than those in use in the main staff canteen.

Wilson, with typical vigour, campaigned for equality among all staff and quite quickly portion sizes, larger plates and meals for the night shift were instituted.

But it was early in the first year that a situation developed that was to change Wilson’s life completely.

One Sunday afternoon he received a phone call at his home in north

“It was a hard night’s work, but at the end of the shift the production schedule had been restored, 600 tonnes of lead was refined and ready to cast at 6am as planned and the operator’s bonus was secured”

Wales — some 250 miles from the plant in Northfleet in the south-east of England — to be told by security that the shift foremen were going on strike and that he was the only management member they had been able to contact.

Industrial action at that time was widespread, mobile phones didn’t exist and something needed to be done.

Wilson rushed in — a difficult thing to do in a country with a train service that virtually seized up at the weekends — and got to the plant 10 minutes late for the night shift.

He was greeted with a smiling shift foreman who told Wilson that he was going to log him in as late and that Wilson was in charge of a shift that was running four hours behind schedule.

And to top that, management were expecting to cast 600 tonnes of refined lead at six in the morning.

Wilson recalls the situation. “I then met the shift operators, all of whom I had been working with just a week earlier. On this particular shift the senior shop steward told me that ahead of the walk-out by the shift foreman the operations had slipped behind schedule.

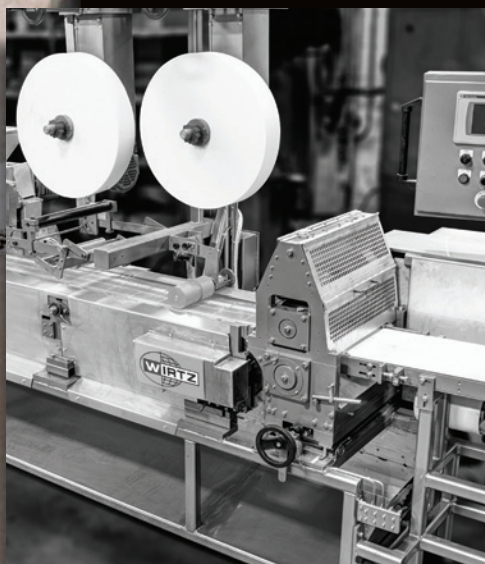
“Although the situation was of no concern to the shift foreman, if the lead casting planned for the morning was delayed the operators would lose their weekly bonus. The issue was important to them at the time because they were paid weekly in cash and the production bonus was a significant proportion of their income.

“I briefed the shift operators on how we would tackle the process for the night and informed them that as a chemist I was aware of alternative methods of lead refining and, provided the shift operators followed my precise instructions, we should be able





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“The opportunity to manage a lead smelter was a huge challenge, but it was a move that would ultimately change my life. The years spent managing the secondary lead plant set me up for all my future work”



EPA delegates at the Ghana BAT Workshop

HELPING THE 'INFORMAL' ECONOMY



Unlicensed, illegal and highly hazardous to the health of all concerned

Wilson reckons that the greatest challenge facing the lead battery business in the third world is eliminating ‘informal’ used lead acid battery recycling. “The worst recyclers operate informally. That is, the plants are not licensed, the operation is probably temporary, because if the authorities try to shut them down, they just move somewhere else,” he says.

“And of course, they avoid the authorities not for environmental reasons, but because they don’t pay any taxes on profits. Persuading operators and owners in the informal sector to upgrade their operations and formalize remains the biggest challenge today.

“I’m not always welcome at

informal recycling operations but I’ve never shut down a smelter in my life. I prefer to inform and persuade owners to change, rather than threaten.

“One key component of the drive to move the informal operations into the licensed formal recycling sector is to provide support and training to the regulators. One of the major issues for regulators in developing countries is that they often lack the necessary funds to buy the appropriate monitoring equipment.

“And in addition, even in countries that do provide the monitoring equipment, the regulators are not trained to apply the monitoring and sampling in an effective way that leads them to the emission or discharge source.”

to make up the lost time.

“In disbelief the operators agreed but were wary because deviating from normal operating procedures could land them in trouble, but after assuring them that I would document everything in the log book, which would exonerate them from any disciplinary action, they agreed.

“It was a hard night’s work, but at the end of the shift the production schedule had been restored, 600 tonnes of lead was refined and ready to cast at 6am as planned, and the operator’s bonus was secured.”

The huge surge in production that had been created ended the industrial action the next day — and none of the shift foremen wanted Brian Wilson supervising operations again!

Wilson was now in the spotlight as the top management realised he was someone with great potential.

He was assigned to work with the production manager to study operations in the secondary lead plant, which in 1982 was running at a loss.

His tasks in the study were to look at manpower requirements, operators and staff competencies and costs. En route, he learned a tremendous amount about the management of the plant and the metallurgical and engineering aspects required to move the operation into profit.

The study took some months, but shortly after its publication in 1983, he was invited by the general manager to manage the secondary lead plant. “The opportunity to manage a lead smelter was a huge challenge for me because I didn’t have a production background,” he says.

“But it was a move that would ultimately change my life. The years spent managing the secondary lead plant set me up for all my future work.”

It also gave him valuable experience in managing the ingenuity and enthusiasm, albeit sometimes misguided, of the employees.

The 1980s were difficult days for Britannia and the management of lead smelting. Bonuses to increase performance would be matched by workers taking risks to achieve the bonuses — ignoring the multitude of risks that, even then, were well known. Most of this was to do with exposure to lead in the air or ingestion or exposure to the skin.

“There’s an interesting psychology behind all this,” says Wilson. “It’s a kind of thinking that the damage from lead to, say the brain, wouldn’t happen to them. A kind of immunity

syndrome which meant that workers ignored the health and safety risks in pursuit of greater pay packets.”

Even in those days blood testing for lead levels was compulsory, but this would be something that workers would seek to evade in an effort to qualify for overtime pay and bonuses.

“One of the most absurd was that workers would give blood to multiple Blood Transfusion Services and then drink a lot of water, so that when tested they might have diluted their lead in blood level and would be eligible for the overtime bonuses and the like,” he says.

“The fact that they were in danger because of this suggested to me that our entire managerial approach to remuneration was biased in the wrong direction. Employees should be rewarded for looking after their health and safety as well as their productivity.

Bonuses to increase performance would be matched by workers taking risks to achieve the bonuses — ignoring the multitude of risks that, even then, were well known

“Creating a safer work environment is not about slapping penalties on people who break the rules — though there is a place for that too — rather it’s about generating an understanding and enthusiasm for creating a better workplace.”

In this instance the workers couldn’t get one across Wilson. Once he’d worked out the trickery he instituted haemoglobin testing, sometimes without warning, to eliminate any cheating.

One of the many engaging aspects to Wilson is his absolute passion for leading by example. His blood lead

level is under 2µg/dl — so low that regular testing methods wouldn’t even show it. “I still do everything that I did in my smelting days,” he says. “I wash my hands thoroughly, I don’t touch my hair, I drink plenty of fluids and much more.”

Many of these same procedures he insisted — where he could — should be rigorously applied. Many workers didn’t change their clothes properly when they went to work, leaving vests and underpants on which could accumulate lead dust. Wilson insisted that everyone, with no exceptions, should completely change their clothing be-

MAKING PROFITS AND ESM WORK-HAND-IN-HAND

Part of Wilson’s approach to dealing with the informal sector (and formal too) is to show how ESM can be paid for by investing in technology that will not only pay for itself, but in the longer term increase financial returns.

In one example he saved one Indian battery maker some \$600,000 a year. “In my presentation I showed how an inefficient baghouse — the filtration system that collects lead process dust from the smelting furnace and refinery — was losing this sum of money annually just by losing 2% of the lead available to recover due to inadequate dust capture and collection,” he says.

Slag, for example, can be a problem in that it will contain low levels of lead. It is possible to extract financial value from this — but in Indonesia one company is already producing paving slabs on a commercial scale using a formulation that includes approximately 15% of lead slag in the mix. The paving slabs comply with building regulations and are very stable.

In Colombia, one lead smelter is working on a project to produce high-end ceramic bricks designed to pass the construction industry’s standards for lead content and leaching.

He gives other examples of how environmental efficiency can be made profitable.

Scrubbing towers, for example, can use lime to remove sulfur dioxide from the furnace gases. The end product gypsum has a commercial value.

Another process, this time in the effluent treatment plant, mixes ammonium carbonate with the battery electrolyte so that it reacts to form ammonium sulfate, a fertilizer and a rich source of nitrogen. An ideal solution for many developing nations with an agricultural-based economy.

One alternative in the breaking of batteries is the battery saw, which removes the top section of the battery and allows the grids to be extracted and the polypropylene cases to be washed — it is then possible to separate the white and coloured plastic and obtain the higher price for the white polypropylene.

In Colombia one smelter is working on producing high-end ceramic bricks from slag that are designed to pass exacting building standards for lead and leaching



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Wilson at the Tianneng Power lead acid battery plant in China



Wilson in the Dominican Republic with the Basel Convention Regional Centre directors for Central America and the Caribbean: Miguel Araujo and Ahmad Khan

LOOKING FOR A LARGER PICTURE

You’ve worked with the ILA — which organizes the ILMC — for a long time now but in recent years you’ve been working directly with other organizations. How do they work together?

I’ve always worked with other agencies since I joined the ILMC some 20 years ago and the reason is that donors, countries and organizations such as the EU and the UN do not give funds to industry associations, but will give financial support to NGOs, government agencies and intergovernmental organizations.

Until three years ago I worked exclusively for the ILA, but I am now a freelance consultant although the

bulk of my work is still for the ILA.

This arrangement works very well for me and the ILA because I can now work with a wider range of organizations and provide technical support to governments that I had been unable to reach when I worked solely for the ILA.

I suppose I’ve built up a reputation for being objective and practical in my approach and that has enabled me to work not only with the ILA and its members, but also United Nations’ organizations such as the UNCTAD, UNEP, the Basel Convention and the International Lead Zinc Study Group, NGOs such as Pure Earth and the OeKO Institute, and in China with universities in Beijing and Hangzhou.

fore and after work.

One lead economist remembers how seriously Wilson took worker safety. “I’d actually gone for a job interview, dressed in a very smart suit and tie, and we’d spoken seriously in his office about work for about an hour before he invited me round to see the plant.

“The next thing I knew was my future boss is in the changing rooms and is stripped naked — and telling me to do the same — and getting into a protective suit for walking round the facility. He was right of course but at the time, it was disconcerting as part of the interview! Now I follow the same procedure every shift without a second thought.”

In 1996 Wilson was seconded to the ILMC from Britannia — an International Lead Association member — as its program manager. The ILMC was a key Lead Risk Reduction program of the association’s Lead Action 21 sustainability initiative (see boxed item).

A 2006 Blacksmith Institute report outlining what it regarded as the worst 10 polluted places on the planet — four of which are lead related — puts the work of the ILMC into context.

“Living in a town with serious pollution is like living under a death sentence. If the damage does not come from immediate poisoning, then cancers, lung infections and mental retardation are likely outcomes,” it says.

“Often insidious and unseen, and usually in places with deficient and exhausted health systems, pollution

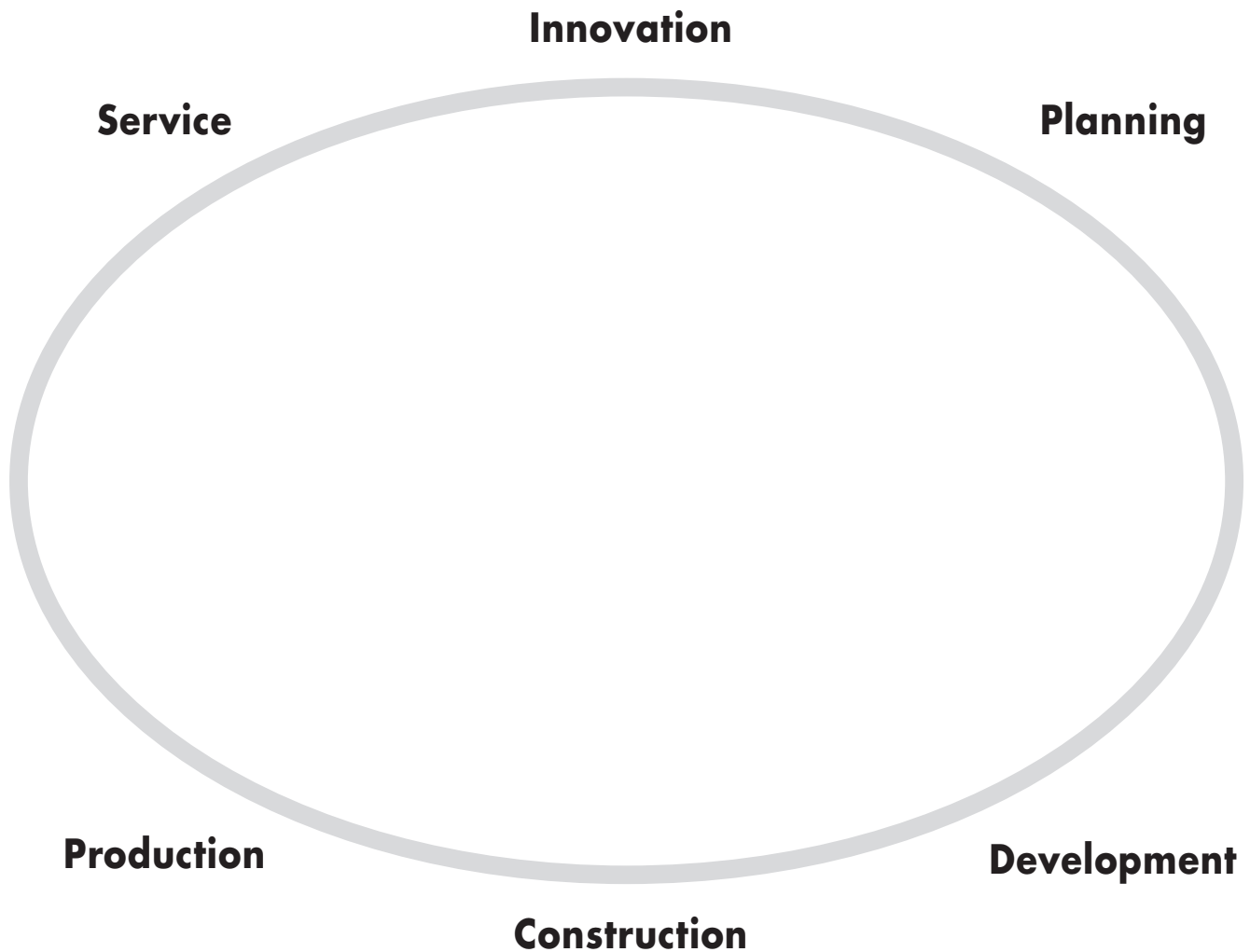
I’ve also been engaged directly by governments such as the Philippines and Colombia for advice and support.

What kind of budget constraints do you face?

Budget issues are not normally an issue for me, because recycling used lead batteries is a self-supporting industry. It is profitable, given the right level of throughput and smelter design choice.

Therefore, setting up a lead battery recycling operation does not require any subsidy or grant. Recycling is an investment opportunity and as such, the private sector will find the funds to develop recycling facilities.

Machines for the production of lead acid batteries



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Development of the Benchmarking Assessment Tool

Trying to create an international assessment protocol across the entire developing world is difficult — so how easy is it to compare best practice in say a tiny smelting firm in Bangladesh with a much larger recycling plant in say Africa?

The answer to this imponderable question was the creation of the Benchmarking Assessment Tool or BAT — essentially a questionnaire that enables the user to make an informed assessment of any company involved in lead batteries at any point in the supply chain.

Field trials in recent years have confirmed that the BAT is consistent with the ILA good practice guidelines, the Basel Convention, the supporting Technical Guidelines and prevailing domestic and international norms for safety, hygiene and environmental sustainability.

One of the key features of the tool — and almost the opposite of conventional thinking — is the fact that it is observation based and does not rely on data collection, making it ideal for on-the-spot pro-active interaction between the inspectorate and operating personnel.

The BAT is designed to be used in such a manner that, after a short training course, regulators can make informed judgements about the credibility of an operation's health, safety and environmental (HSE) performance without necessarily being an expert in battery recycling or manufacture.

So far the BAT has been applied and field tested in India, Costa Rica, Kenya, Ghana and most recently, China. Based on the initial success of the process, it is more than likely that the BAT will become the template for international work in Wilson's field.

The BAT was first used by Wilson during the risk reduction phase of the ILMC project with the India Lead Zinc Development Association and the Blacksmith Institute, in a pilot exercise to resolve a local lead exposure issue in Tamil Nadu involving the Tamil Nadu State Pollution Control Board and a used lead acid battery re-

cycling plant.

To test the ease of use of the assessment tool, a minimum amount of instruction about completing the form was given to the assessors.

The plant inspection began with each member of the inspection team observing the recycling operation and circling the appropriate boxes in each section of the BAT form. Every aspect of the operation was inspected and when completed participants returned to Chennai to review the finding of the assessment.

In Chennai the participants from the company, the State Pollution Control Board and the Blacksmith Institute analyzed the assessment forms in two separate groups to compare outcomes and further test the application process.

The outcomes in the form of recommendations fall into three categories:

- Short term improvements – no cost and can be implemented immediately
- Short term — low cost of up to \$2,000
- Long term — where major capital investment up to \$1 million is required.

The results were positive. In total, taking the composite of all the participants in the study, there were:

- 12 short term recommendations at no cost that could be implemented immediately
- Nine short term recommendations for improvements at a cost of up to \$2,000
- Four long term recommendations, where major capital investment of up to \$1 million is required

The outcomes of this pilot assessment exercise formed the basis for a dialogue between the Tamil Nadu State Pollution Control Board and the company.

Similar exercises were carried out in Costa Rica, Kenya and Ghana and all resulting in improved HSE performance.

The participants in each case remarked how constructive the process was with the BAT form facilitating non-confrontational discussions resulting in a list of agreed improvements.

In China, the tool was initially developed in a pilot scheme at the request of the China Non-ferrous Metals Industry Association (CNIA) at one of the Chunxing Group smelters.

The objective was to see whether it could be used to encourage the government to focus more on sound lead battery recovery and recycling procedures and processes rather than simply smelter capacity and location or rather the proximity of lead smelters to populations.

The results of the assessments were consistent with those in India and Costa Rica and the BAT scheme for recyclers was further developed in conjunction with Zhejiang University in Hangzhou to include battery manufacturing.

“There is every reason to believe that the Benchmarking Assessment Tool for battery recycling and manufacturing is going to prove to be a cost-effective useful indicator of environmentally sound management, safe working and good occupational health,” says Wilson.

He says the benchmarking form is easy to use and is in the form of a questionnaire. It was designed this way to ensure the questions provide a consistent approach to each assessment, irrespective of the location or the assessor.

It also means that the benchmarking assessment can be made without being an expert in the Basel Technical Guidelines or best practice for lead battery manufacture, recovery and recycling.

The questions are also designed so that conformance with good practice or nonconformance can be identified easily depending on whether the observations made during the plant inspection place a tick in a green zone box or not.

“It's also suitable for the assessment of environmental performance of any phase in the life cycle of the lead battery from the mining of lead bearing ore, through to smelting, lead refining, battery manufacture, retailing, used lead battery recovery and recycling,” says Wilson. ■

is an unacknowledged burden of the poor and unvoiced in the developing world. It is a major factor impairing economic growth, and a significant strain on the lives of already impoverished people.”

For Wilson it was then that the travelling began — a relentless crossing and re-crossing of Asia, Africa and the Americas — and an eventual string of successes where lead manufacturing, recycling and smelting, if not transformed, have been radically improved.

Wilson remembers his first project with the ILMC vividly: it was to the Philippines in early 1997, providing technical support to an UNCTAD lead battery recycling project at a plant close to the capital Manila.

“When I arrived at the plant, there was lead oxide dust outside the plant and the operations were located directly opposite a field of rice,” he says. “I was taken aback for two reasons. First, I was used to European standards of environmental management and second, rice is a food crop that readily absorbs lead.”

“When I entered the plant, the operators were wearing wet towels around their faces to supposedly protect them from the lead dust. All the operating areas were awash with oxide paste and there was a mountain of furnace residues open to the elements.

“I thought to myself, ‘This project is not going to be easy’, but four years later and after many plant upgrades and changes to operational procedures, the plant was certified to ISO 14001 for its environmental management system, in fact, it was the first secondary lead plant in Asia to achieve ISO certification.”

In all Wilson says he has visited some 42 countries but so far, Antarctica is the only continent he has yet to visit.

The range of his work continues to be astonishing. It encompasses everything from assisting in the specifications and design of smelting facilities, changing rooms and ventilation equipment to training regulators, employers and employees, to designing programs that can be used after he has left the country.

Perhaps the most useful is his creation of the Benchmarking Assessment Tool. This provides the means of undertaking an initial qualitative assessment of environmental performance of used lead acid battery recovery and recycling (see boxed item).

Some of the assistance has been highly technical. For example, a re-

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cent three-year battery manufacturing and recycling project in China funded by the EU delegation to China and managed by Zhenjiang University enabled him to assist the Chinese battery manufacturing industry to improve its environmental performance.

This was done by providing the necessary expertise to upgrade the dust extraction and ventilation systems, thereby improving collection rates by 25%-40% and with that a corresponding reduction in occupational exposure.

In a world used to talking about

leadership from the top, Wilson has always adopted a collegiate approach. “Put simply, we don’t enter a country and impose our own ideas of how to remedy any problems they might have with lead exposure,” he says.

“Although, of course, we have solutions in mind. Rather we try to get everyone to find, through our guidance, their own answers to dealing with the challenges that face them so that they own the solution.”

This has required liaisons at all levels of the industry. David Wilson, the former head of the ILA says: “Brian

‘SOUND HSE MANAGEMENT OF LEAD PRODUCTS, IT’S JUST EDUCATION REALLY ...’



Recycling the lead in a used battery is not actually that difficult, which is one of the main reasons why lead acid batteries are the most recycled commodity in the world.

Lead batteries should be an environmental success story, but the problem with recycling them is that in so many developing countries and nations in transition the recycling operations are not environmentally sound and cause unnecessary adverse occupational and population lead exposure.

“The basic problem is a lack of knowledge with regard to the adverse impacts of certain smelting

operations and any understanding of how to manage environmental control systems in an effective manner so as to mitigate exposure and pollution risks,” says Wilson.

“So, if it’s just about education, then training sessions and workshops would appear to be the solution, but in so many instances, the worst recyclers operate informally and are unlikely to sit in the same room as a government regulator. This means that we have to take a different approach to informal operations and conduct educational visits in a spirit of cooperation rather than coercion.”

has developed a huge body of risk management literature, and worked with industry, governments and inter-governmental organizations to set up practical risk management programs in a wide range of countries.

“And overall he has helped create a better image of the lead and lead acid battery industries by demonstrating that lead can be produced, used and recycled safely and provides enormous benefits to society.”

In 2001 Wilson was awarded the

The greatest challenge facing the lead battery business in the third world is eliminating ‘informal’ used lead acid battery recycling

MRSC for Services to Chemistry and in 2013 he was presented with the International Lead Award in recognition of his humanitarian contribution to the lead industry.

Andy Bush, head of the ILA, says:

“Brian’s passion and dedication to the work of the ILMC is extraordinary and a great example of the lead industry’s commitment to taking responsibility for its products throughout the world.” ■

HOW WAS THE ILMC FORMED?

ILMC was established in 1996 by the ILA in response to an OECD proposal to introduce a Council Act which could have imposed restrictions on certain lead products.

The lead industry successfully argued that before any Act should be considered, the industry should have the opportunity to demonstrate that lead products, particularly used lead-acid batteries and lead bearing waste, could not only be managed in an environmentally sound manner in OECD member countries, but also in the developing world and countries in economic transition.

As a result the first countries that asked for ILMC assistance were Mexico and the Philippines.

I would guess the broad remit for your work comes from the LA21 Charter but how does this work in practice?

In part due to the success of the ILMC lead risk reduction projects the OECD did not pursue the introduction of a Council Act to restrict lead products.

However, the industry realised that it had to introduce a much broader programme to encourage and embed the principles of sustainable development throughout the lead industry worldwide.

The Lead Action 21 programme (LA21), developed and managed by the International Lead Association, has three main objectives, to inform, improve and support.

This means sharing knowledge about safe production, using and recycling lead products, putting measures in place for continuous improvement in the industry and through an ILMC model providing practical help and guidance to

developing countries.

The ILMC model has now been incorporated into the ILA’s sustainability program and as such the link between Wilson’s work and the ILA has been strengthened.

Do you have a checklist of tasks/questions that you work through? Could you tell us more about this and how it was developed?

Although the ILMC and not the ILA provides expertise in a manner similar to a consultancy, it works on a not-for-profit basis and builds capacity in those countries where the ILA works, so that the domestic lead industry and respective government agencies can monitor and manage their own projects. This is in pursuit of the goal of environmentally sound management of used lead-acid batteries and any other lead products or waste material. Any plant assessments or inspections must therefore follow a consistent approach.

In recent years this has been formalized and modified so that it is consistent with the ILA Good Practice Notes, the Basel Convention Technical Guidelines and the prevailing domestic and international legislation, including safety, hygiene and sustainability. It is now known as the Benchmarking Assessment Tool.

The benchmarking tool has proved successful as a means of undertaking an initial qualitative assessment of environmental performance of any used lead acid battery recovery and recycling facility or manufacturing plant.

In a world of literally a hundred developing economies, you

must find it difficult to assess priorities. How are these set?

Over the past few years the focus of ILMC/ILA has shifted from single nation projects to regional needs and strategies and those countries in transition or nations, such as Indonesia, that have such large populations that they require a regional approach to ESM.

ILMC undertook a lot of work in Central America as this was seen as a priority by the major donor organizations.

Considerable progress has been made to improve used lead acid battery recycling in this region with environmentally smelting operations established in Costa Rica, Guatemala and Mexico.

Now the focus is on South America, Africa, Indonesia and countries in transition, such as India.

Are they mostly reliant on the funding available from international associations and local NGOs or are they set in a different fashion?

Regional and specific country projects that involve the ILA are all funded externally from donor organizations such as the European Union, US AID, UNEP and the UN Common Fund for Commodities (CFC).

However, it is important to emphasize that the lead industry does not raise funds directly itself, but is always in partnership with either intergovernmental organizations such as the UN International Lead Zinc Study Group, UN Conference on Trade and Development or NGOs such as Pure Earth and the Oeko Institute.