

Industrial Policies and Industrial Legislations in India:

Industrial policy can be defined as a statement stating the role of government in industrial development, the position of public and private sectors in industrialization of the country, the comparative role of large and small industries.

In short, it is a proclamation of objectives to be achieved in the fields of industrial development and the steps to be taken for achieving these objectives. So, the industrial policy formally represents the spheres of activity of the public and private sectors.

Objectives

It enlists the rules and procedures that will monitor the growth and pattern of industrial activity. The industrial policy is neither fixed nor flexible. It is constructed, modified and further modification is done according to the changing situations, requirements and perspectives of developments.

The major objectives of industrial policy are discussed below.

Rapid Industrial Development

The industrial policy of the Government of India focuses at increasing the level of industrial development. It explores ways to construct favorable investment environment for the private sector and also for mobilizing resources for the investment in public sector. In this way, the government roots to promote rapid industrial growth in the country.

Balanced industrial Structure

The industrial policy is crafted to correct the prevailing downgraded industrial structure. Say for example, India had some fairly developed consumer products industries before independence but the capital goods sector was not at all developed, also basic and heavy industries were by and large absent.

Thus, industrial policy had to be enclosed in such a way that imbalances in the industrial structure are corrected by laying stress on heavy industries and development

of capital goods sector. Industrial policy explores methods to maintain balance in industrial structure.

Prevention of Concentration of Economic Power

The industrial policy explores to facilitate a borderline of rules, regulations and reservation of spheres of activities for the public and private sectors. This is targeted at minimizing the dominating symptoms and preventing focus of economic power in the hands of a few big industrial houses.

Balanced Regional Growth

Industrial policy also targets at correcting differences of region in industrial development. It is a well-known fact that some regions in our country are quite developed industrially, like Maharashtra and Gujarat, while others are marked as industrially backward regions, like Bihar and Orissa. It is the job of industrial policy to amend some programs and policies, which will result in the development of industries or industrial growth.

The first industrial policy statement of the Government of India was formed in 1948 and was modified in 1956 in industrial development policy dominated by the public sector till 1991 with some minor modifications and amendments in 1977 and 1980. The year 1991 noticed far reaching changes that were made in the 1956 industrial policy. The new Industrial Policy of July 1991 witnessed the border outline for industrial development at present.

Industrial Policy Resolution 1956

In April 1956, the Indian Parliament adopted Industrial Policy Resolution of 1956 (IPR 1956). It is marked as the first comprehensive documented statement on industrial development of India. It systematizes three different groups of clearly defined industries.

The policy of 1956 regulated to design the basic economic policy for a very long time. The Five-Year Plans of India confirmed this fact. With respect to this Resolution, the establishment of a socialistic pattern of society was seen through the objective of the social and economic policy in India. It ensured more powers to the governmental authorities.

Companies were grouped into categories. These categories were –

- **Schedule A** – Those companies which were considered as an exclusive responsibility of the state or the society.
- **Schedule B** – Companies which were marked as progressively state-owned and in which the state would basically establish new companies, but in which private companies would be anticipated only to supplement the effort of the state.
- **Schedule C** – The left companies and their future development would, in general, be neglected and would be entirely dependent to the initiative and enterprise of the private sector.

Even though there was a category of companies left to the private sector that is those companies that are above Schedule C. The sector was monitored by the state by a system of licenses. So to set up a new company or to widen production, obtaining a license from the government was a prerequisite to be fulfilled. Launching of new companies in economically backward areas was incentivized through easy licensing and subsidization of important inputs, like electricity and water. This step was taken to encounter regional differences that existed in the country. In fact, the license to boost the production was issued by convincing the government that the economy required more of the products and services.

Some other salient behavior of the IPR 1956 was fair and non-biased treatment for the private sector, motivating the village and small-scale companies, eradicating regional differences, and the requirement for the provision of amenities for labor, and attitude to foreign capital. This Industrial Policy of 1956 is also referred to as the Economic Constitution of the country.

Policy Measures

Some of the essential policy measures were declared and procedural simplifications were undertaken to opt for the above stated objectives. Following are some of the policy measures –

Liberalization of Industrial Licensing Policy

A list of goods demanding compulsory licensing is reviewed on an ongoing regular basis. Currently, only six industries are monitored under compulsory licensing mainly on account of environmental, safety and strategic considerations that need to be taken care of. In the same way, there are only three industries reserved specifically for the

public sector. The lists of goods under compulsory licensing and industries reserved for the public sector are included in Appendix III and IV respectively.

Introduction of Industrial Entrepreneurs' Memorandum (IEM)

Companies which don't require compulsory licensing are expected to file an Industrial Entrepreneurs' Memorandum (IEM) to the Secretariat for Industrial Assistance (SIA). Industrial approval is not needed for these types of exempted industries. Amendments are also permitted to IEM proposals filed after 1.7.1998.

Liberalization of the Locational Policy

A crucially reformed locational policy in tune with the liberalized licensing policy is in place. Approval from industries are not required from the Government for locations not within the range of 25 kms of the periphery of cities having a population of more than one million apart for those industries, where industrial licensing is compulsory. Non-polluting enterprises like electronics, computer software and printing can be located within 25 kms of the periphery of cities with more than one million population. Other industries are allowed in such locations only if they are located in an industrial area so designated prior to 25.7.91. Zoning and follow land use regulations as well as environmental legislations.

Policy for Small Scale Industries

Reservation of goods that are manufactured exclusively for small scale industries ensures effective measure for protecting this sector. Since 24th December 1999, entrepreneurial undertakings with a maximum investment up to rupees one crore are within the small scale and ancillary sector.

Non-Resident Indians Scheme

The general policy and provisions for Foreign Direct Investment as available to foreign investors or company are completely applicable for NRIs as well. With addition to this, the government has broadened some concessions mostly for NRIs and overseas corporate bodies having more than 60% stake by the NRIs. These include investment by NRI/OCB in the real estate and housing sectors, domestic airlines sector up to 100%. They are also permitted to invest up to 100% equity on non-repatriation basis in all activities except for a small negative list.

EHTP vs STP Scheme

For constructing strong electronics company along with a view to modify export, two schemes viz. Electronic Hardware Technology Park (EHTP) and Software Technology Park (STP) are in function. Under EHTP/STP scheme, the inputs are permitted to be procured free of duties.

Policy for Foreign Direct Investment (FDI)

Promotion of FDI forms a vital part of India's economic policies. The role of FDI in boosting economic growth is by way of infusion of capital, technology and modern management activities. The Department has put in place a liberal and transparent foreign investment regime where all the practices are opened to foreign investment on automatic route without any limit on the extent of foreign ownership.

Role of Public and Private Sectors:

Definition of Public Sector

The sector, which is engaged in the activities of providing government goods and services to the general public is Public Sector. The enterprises, agencies, and bodies are fully owned, controlled and run by the Government whether it is central government, state government or a local government.

Following are some of the important relative roles of the public sector in the economic development of a country like India:

Role of Public Sector in India:

- (a) Promoting economic development at a rapid pace by filling gaps in the industrial structure;
- (b) Promoting adequate infrastructural facilities for the growth of the economy;
- (c) Undertaking economic activity in those strategically significant development areas, where private sector may distort the spirit of national objective;
- (d) Checking monopolies and concentration of power in the hands of few;

- (e) Promoting balanced regional development and diversifying natural resources and other infrastructural facilities in those less developed areas of the country;
- (f) Reducing the disparities in the distribution of income and wealth by bridging the gap between the rich and the poor;
- (g) Creating and enhancing sufficient employment opportunities in different sectors by making heavy investments;
- (h) Attaining self-reliance in different technologies as per requirement;
- (i) Eliminating dependence on foreign aid and foreign technology;
- (f) Exercising social control and regulation through various public finance institutions;
- (k) Controlling the sensitive sectors such as distribution system, allocating the scarce imported goods rationally etc.; and
- (l) Reducing the pressure of balance of payments by promoting export and reducing imports.

Definition of Private Sector

The segment of a national economy that is owned, controlled and managed by private individuals or enterprises is known as Private Sector. The private sector companies are divided on the basis of sizes like small & medium enterprises and large enterprises which are either privately or publicly traded organizations. They can be created in two ways, i.e. either by the formation of a new enterprise or by the privatization of any Public Sector Enterprise.

Role of Private Sector in India:

India, being a mixed economy, has assigned a great importance on the private sector of the country for attaining rapid economic development. The Government has fixed a specific role to the private sector in the field of industries, trade and services sector.

The most dominant sector of India, i.e., agriculture and other allied activities like dairying, animal husbandry, poultry etc. is totally under the control of the private sector. Thus private sector is playing an important role in managing the entire agricultural sector and thereby providing the entire food supply to the millions.

Moreover, the major portion of the industrial sector engaged in the non-strategic and light areas, producing various consumer goods both durables and non-durables, electronics and electrical goods, automobiles, textiles, chemicals, food products, light engineering goods etc., is also under the control of the private sector.

Private sector is playing a positive role in the development and expansion of aforesaid group of industries. Besides, the development of small scale and cottage industries is also the responsibility of the private sector.

Finally, the private sector is also having its role in the development of tertiary sector of the country. The private sector is managing the entire services sector providing various types of services to the people in general. The entire wholesale and retail trade in the country is also being managed by the private sector in a most rational manner.

Moreover, the major portion of the transportation, especially in the road transport is also managed by the private sector. With the growing liberalisation of Indian economy in recent years, the private sector is being assigned with much greater responsibility in various spheres of economic activities.

Recent Trends in MNC and LPG, FDI, and Joint ventures:

Recent Trends in MNC:

The profile of top multinationals that operate in India has changed over the last decade or so, highlighting three big trends. On top is MarutiNSE 0.44 %, India's largest carmaker, now mostly owned by Japan's Suzuki. That's followed by Finnish handset-maker Nokia, mobile services company Vodafone and South Korean carmaker Hyundai.

Two carmakers and two mobile phone companies hog the top four positions in a list of 10, showing how consumer preferences have changed dramatically over time. The typical Indian still uses detergents and shampoos made by Hindustan Unilever (HULNSE 0.98 %), now No. 6 on the list, but she can now buy or aspire for cars, talk boldly on India's super-cheap mobile networks on a new handset.

For consumer preferences to change, away from relatively cheap, daily-use stuff, towards cars and handsets needs money, and Indians now do have more to splurge. What else explains the presence of Samsung and Hyundai, two South Korean electronics giants, in the top-10 multinationals list? When we're not driving in our new compacts while chatting on new handsets, we're sitting in front of new TVs, watching movies and cricket.

Finally, the list makes apparent India's slow, but gradual, openness to foreign investment. Apart from HUL, which has been in India from pre-Independence days, each of the multinationals in the list is a relatively new entrant, or the offspring of an international takeover.

Maruti Suzuki exemplifies this best, starting out as a joint venture where the government held almost all equity, now majority-owned by its Japanese partner. Multinationals have thrived in manufacturing or IT products and services, which are lightly regulated, so it's no surprise to see 100%-owned arms of Nokia, Hyundai, HP, Samsung, LG and IBM flourishing.

Recent Trends in LPG:

The chain of reforms that took place with regards to business, manufacturing, and financial services industries targeted at lifting the economy of the country to a more proficient level. These economic reforms had influenced the overall economic growth of the country in a significant manner.

Liberalisation

Liberalisation refers to the slackening of government regulations. The economic liberalisation in India denotes the continuing financial reforms which began since July 24, 1991.

Privatisation and Globalisation

Privatisation refers to the participation of private entities in businesses and services and transfer of ownership from the public sector (or government) to the private sector as well. Globalisation stands for the consolidation of the various economies of the world.

LPG and the Economic Reform Policy of India

Following its freedom on August 15, 1947, the Republic of India stuck to socialistic economic strategies. In the 1980s, Rajiv Gandhi, the then Prime Minister of India, started a number of economic restructuring measures. In 1991, the country experienced a balance of payments dilemma following the Gulf War and the downfall of the erstwhile Soviet Union. The country had to make a deposit of 47 tons of gold to the Bank of

England and 20 tons to the Union Bank of Switzerland. This was necessary under a recovery pact with the IMF or International Monetary Fund. Furthermore, the International Monetary Fund necessitated India to assume a sequence of systematic economic reorganisations. Consequently, the then Prime Minister of the country, P V Narasimha Rao initiated groundbreaking economic reforms. However, the Committee formed by Narasimha Rao did not put into operation a number of reforms which the International Monetary Fund looked for.

Dr Manmohan Singh, the present Prime Minister of India, was then the Finance Minister of the Government of India. He assisted. Narasimha Rao and played a key role in implementing these reform policies.

Narasimha Rao Committee's Recommendations

The recommendations of the Narasimha Rao Committee were as follows:

- Bringing in the Security Regulations (Modified) and the SEBI Act of 1992 which rendered the legitimate power to the Securities Exchange Board of India to record and control all the mediators in the capital market.
- Doing away with the Controller of Capital matters in 1992 that determined the rates and number of stocks that companies were supposed to issue in the market.
- Launching of the National Stock Exchange in 1994 in the form of a computerised share buying and selling system which acted as a tool to influence the restructuring of the other stock exchanges in the country. By the year 1996, the National Stock Exchange surfaced as the biggest stock exchange in India.
- In 1992, the equity markets of the country were made available for investment through overseas corporate investors. The companies were allowed to raise funds from overseas markets through issuance of GDRs or Global Depository Receipts.
- Promoting FDI (Foreign Direct Investment) by means of raising the highest cap on the contribution of international capital in business ventures or partnerships to 51 per cent from 40 per cent. In high priority industries, 100 per cent international equity was allowed.
- Cutting down duties from a mean level of 85 per cent to 25 per cent, and withdrawing quantitative regulations. The rupee or the official Indian currency was turned into an exchangeable currency on trading account.
- Reorganisation of the methods for sanction of FDI in 35 sectors. The boundaries for international investment and involvement were demarcated.

The outcome of these reorganisations can be estimated by the fact that the overall amount of overseas investment (comprising portfolio investment, FDI, and investment

collected from overseas equity capital markets) rose to \$5.3 billion in 1995-1996 in the country) from a microscopic US \$132 million in 1991-1992. Narasimha Rao started industrial guideline changes with the production zones. He did away with the License Raj, leaving just 18 sectors which required licensing. Control on industries was moderated.

Highlights of the LPG Policy

Given below are the salient highlights of the Liberalisation, Privatisation and Globalisation Policy in India:

- Foreign Technology Agreements
- Foreign Investment
- MRTP Act, 1969 (Amended)
- Industrial Licensing
- Deregulation
- Beginning of privatisation
- Opportunities for overseas trade
- Steps to regulate inflation
- Tax reforms
- Abolition of License -Permit Raj.

Recent Trends in FDI:

The commerce and industry ministry says India has now become the topmost attractive destination for foreign investment. India's FDI inflows were reported at a record \$60.1 billion in 2016-17 in May 2017 (The Hindustan Times, dated May 19, 2017). Foreign Direct Investment in India increased by \$3.409 billion in July of 2017. Foreign Direct Investment in India averaged \$ 1.253 billion on monthly basis from 1995 until 2017, reaching an all time high of \$ 5.670 billion in February of 2008 and a record low of – \$ 60 million in February of 2014.

According to the commerce and industry ministry foreign direct investment inflows hit an all-time high of \$60.1 billion in 2016-17. Another study by the Financial Times, entitles as "FDI in 2017", India retained its top rank of being the world's premier greenfield FDI investment destination for the second consecutive year, attracting \$62.3 billion in 2016. India has remained ahead of China and the US as far as FDI inflows were concerned in the last year. The global investment landscape, the report said, has changed

considerably in 2016 as FDI gravitated to locations experiencing the strongest economic growth, while locations in recession or facing high levels of uncertainty saw major declines. In 2016, greenfield FDI continued to rise worldwide, with capital investment increasing by more than 6% to \$776.2 billion, its highest since 2011, alongside an increase in job creation by 5% to 2.02 million. However, the number of FDI projects declined 3% to 12,644. China has overtaken the US to become the second-biggest country for FDI by capital investment, recording \$59 billion of announced FDI, compared with \$48 billion-worth in the US. Globally, the real estate sector has claimed the top spot for capital investment, with \$157.5 billion of announced FDI recorded in 2016, following an increase of 58%. In value terms, coal and natural gas witnessed an inflow of \$121 billion, followed by alternate and renewable energy at \$77 billion.

Sectoral trends and sources of FDI in India

According to Department of Industrial Policy and Promotion (DIPP), the total FDI investments India received during April-June 2017 stood at US\$ 14.55 billion, indicating that government's effort to improve ease of doing business and relaxation in FDI norms is yielding results.

Data for April-June 2017 indicates that the services sector attracted the highest FDI equity inflow of US\$ 1.88 billion, followed by computer software and hardware – US\$ 1.32 billion and trading – US\$ 769 million. Most recently, the total FDI equity inflows for the month of June 2017 touched US\$ 3.12 billion.

Recent Trends in JOINT VENTURES:

1992 was the year of the Single European Market. By 31 December 1992, agreement should have been reached on some 286 directives, which aimed to dismantle physical, technical and fiscal barriers to trade. In so doing, it was expected that community businesses would become more integrated, allowing them to compete on more equal terms as Eurobusinesses with the global players of the US and Japan. It was predicted that greater intra-Community competition would be a necessary precursor of this outcome, and that this will lead to industries restructuring through mergers and joint ventures to increase market share and

economies of scale by reaching a “minimum efficient size”. Examines the trends in cross-border mergers/acquisitions and joint ventures for the period 1986 to 1989 and concludes that, for both small and large firms, such activity has increased. Further, an analysis of EC material on the subject reveals that firms’ reasons for such developments appear to have become more market-oriented over time.

Pollution Control Policies:

Over the course of the twentieth century, growing recognition of the environmental and public health impacts associated with anthropogenic activities (discussed in the chapter Environmental Health Hazards) has prompted the development and application of methods and technologies to reduce the effects of pollution. In this context, governments have adopted regulatory and other policy measures (discussed in the chapter Environmental Policy) to minimize negative effects and ensure that environmental quality standards are achieved.

The objective of this chapter is to provide an orientation to the methods that are applied to control and prevent environmental pollution. The basic principles followed for eliminating negative impacts on the quality of water, air or land will be introduced; the shifting emphasis from control to prevention will be considered; and the limitations of building solutions for individual environmental media will be examined. It is not enough, for example, to protect air by removing trace metals from a flue gas only to transfer these contaminants to land through improper solid waste management practices. Integrated multimedia solutions are required.

The Pollution Control Approach

The environmental consequences of rapid industrialization have resulted in countless incidents of land, air and water resources sites being contaminated with toxic materials and other pollutants, threatening humans and ecosystems with serious health risks. More extensive and intensive use of materials and energy has created cumulative pressures on the quality of local, regional and global ecosystems.

Before there was a concerted effort to restrict the impact of pollution, environmental management extended little beyond laissez-faire tolerance, tempered by disposal of wastes to avoid disruptive local nuisance conceived of in a short-term perspective. The need for remediation was recognized, by exception, in instances where damage was determined to be unacceptable. As the pace of industrial activity intensified and the understanding of cumulative effects grew, a pollution control paradigm became the dominant approach to environmental management.

Two specific concepts served as the basis for the control approach:

- the assimilative capacity concept, which asserts the existence of a specified level of emissions into the environment which does not lead to unacceptable environmental or human health effects
- the principle of control concept, which assumes that environmental damage can be avoided by controlling the manner, time and rate at which pollutants enter the environment

Under the pollution control approach, attempts to protect the environment have especially relied on isolating contaminants from the environment and using end-of-pipe filters and scrubbers. These solutions have tended to focus on media-specific environmental quality objectives or emission limits, and have been primarily directed at point source discharges into specific environmental media (air, water, soil).

Applying Pollution Control Technologies

Application of pollution control methods has demonstrated considerable effectiveness in controlling pollution problems - particularly those of a local character. Application of appropriate technologies is based on a systematic analysis of the source and nature of the emission or discharge in question, of its interaction with the ecosystem and the ambient pollution problem to be addressed, and the development of appropriate technologies to mitigate and monitor pollution impacts.

In their article on air pollution control, Dietrich Schwela and Berenice Goelzer explain the importance and implications of taking a comprehensive approach to assessment and control of point sources and non-point sources of air pollution. They also highlight the challenges - and opportunities - that are being addressed in countries that are undergoing rapid industrialization without having had a strong pollution control component accompanying earlier development.

Marion Wichman-Fiebig explains the methods that are applied to model air pollutant dispersion to determine and characterize the nature of pollution problems. This forms the basis for understanding the controls that are to be put into effect and for evaluating their effectiveness. As the understanding of potential impacts has deepened, appreciation of effects has expanded from the local to the regional to the global scale.

Hans-Ulrich Pfeffer and Peter Bruckmann provide an introduction to the equipment and methods that are used to monitor air quality so that potential pollution problems can be assessed and the effectiveness of control and prevention interventions can be evaluated.

John Elias provides an overview of the types of air pollution controls that can be applied and the issues that must be addressed in selecting appropriate pollution control management options.

The challenge of water pollution control is addressed by Herbert Preul in an article which explains the basis whereby the earth's natural waters may become polluted from point, non-point and intermittent sources; the basis for regulating water pollution; and the different criteria that can be applied in determining control programmes. Preul explains the manner in which discharges are received in water bodies, and may be analysed and evaluated to assess and manage risks. Finally, an overview is provided of the techniques that are applied for large-scale wastewater treatment and water pollution control.

A case study provides a vivid example of how wastewater can be reused - a topic of considerable significance in the search for ways that environmental resources can be used effectively, especially in circumstances of scarcity. Alexander Donagi provides a summary of the approach that has been pursued for the treatment and groundwater recharge of municipal wastewater for a population of 1.5 million in Israel.

Comprehensive Waste Management

Under the pollution control perspective, waste is regarded as an undesirable by-product of the production process which is to be contained so as to ensure that soil, water and air resources are not contaminated beyond levels deemed to be acceptable. Lucien Maystre provides an overview of the issues that must be addressed in managing waste, providing a conceptual link to the increasingly important roles of recycling and pollution prevention.

In response to extensive evidence of the serious contamination associated with unrestricted management of waste, governments have established standards for acceptable practices for collection, handling and disposal to ensure environmental protection. Particular attention has been paid to the criteria for environmentally safe disposal through sanitary landfills, incineration and hazardous-waste treatment.

To avoid the potential environmental burden and costs associated with the disposal of waste and promote a more thorough stewardship of scarce resources, waste minimization and recycling have received growing attention. Niels Hahn and Poul Lauridsen provide a summary of the issues that are addressed in pursuing recycling as a preferred waste management strategy, and consider the potential worker exposure implications of this.

Shifting Emphasis to Pollution Prevention

End-of-pipe abatement risks transferring pollution from one medium to another, where it may either cause equally serious environmental problems, or even end up as an indirect source of pollution to the same medium. While not as expensive as remediation, end-of-pipe abatement can contribute significantly to the costs of production processes without contributing any value. It also typically is associated with regulatory regimes which add other sets of costs associated with enforcing compliance.

While the pollution control approach has achieved considerable success in producing short-term improvements for local pollution problems, it has been less effective in addressing cumulative problems that are increasingly recognized on regional (e.g., acid rain) or global (e.g., ozone depletion) levels.

The aim of a health-oriented environmental pollution control programme is to promote a better quality of life by reducing pollution to the lowest level possible. Environmental pollution control programmes and policies, whose implications and priorities vary from country to country, cover all aspects of pollution (air, water, land and so on) and involve coordination among areas such as industrial development, city planning, water resources development and transportation policies.

Thomas Tseng, Victor Shantora and Ian Smith provide a case study example of the multimedia impact that pollution has had on a vulnerable ecosystem subjected to many stresses - the North American Great Lakes. The limited effectiveness of the pollution control model in dealing with persistent toxins that dissipate through the environment is particularly examined. By focusing on the approach being pursued in one country and the implications that this has for international action, the implications for actions that address prevention as well as control are illustrated.

As environmental pollution control technologies have become more sophisticated and more expensive, there has been a growing interest in ways to incorporate prevention in the design of industrial processes - with the objective of eliminating harmful environmental effects while promoting the competitiveness of industries. Among the benefits of pollution prevention approaches, clean technologies and toxic use reduction is the potential for eliminating worker exposure to health risks.

David Bennett provides an overview of why pollution prevention is emerging as a preferred strategy and how it relates to other environmental management methods. This approach is central to implementing the shift to sustainable development which has been widely endorsed since the release of the United Nations Commission on Trade and Development in 1987 and reiterated at the Rio United Nations Conference on Environment and Development (UNCED) Conference in 1992.

The pollution prevention approach focuses directly on the use of processes, practices, materials and energy that avoid or minimize the creation of pollutants and wastes at source, and not on "add-on" abatement measures. While corporate commitment plays a critical role in the decision to pursue pollution prevention (see Bringer and Zoesel in Environmental policy), Bennett draws attention to the societal benefits in reducing risks to ecosystem and human health—and the health of workers in particular. He identifies principles that can be usefully applied in assessing opportunities for pursuing this approach.