

The Saint Lisa Story

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he Point Lisas industrial estate lies halfway down the sheltered west coast of Trinidad, surrounded by sugar. As you approach along Rivulet Road, past the Brechin Castle sugar factory and through fields of green cane crackling in the breeze that sweeps over these rolling central Trinidad hills, you hardly see the industrial estate with its port and heavy industries — steel and ammonia, methanol and urea — until you are almost on top of it.

When the Point Lisas Industrial Port Development Corporation Limited (PLIPDECO) was registered, on September 16, 1966, there was neither a port nor an industrial estate here for it to look after. Its task was to create them. These west-coast sugar fields, former coconut plantations, had been part of the Gordon estate in the 1930s and had passed to the sugar company Caroni, then a subsidiary of Tate & Lyle, in 1956. They were still growing cane, and were to do so for another ten years or more. This was well-established, if marginal, sugar land, except nearer the coast, where the cane gave way to scrub and then a band of mangrove swamp along the shoreline.

It was here that Trinidad and Tobago's most ambitious industrialisation was to take shape. Sugar, the commodity of the old economy, gave way to the high technology of the new: cane to wire rods. Point Lisas was Trinidad and Tobago's way of making a break with the past and turning its natural resources into steady revenue.

This was to be a project conceived in frustration, born in euphoria, and baptised by petrodollars.

INTRODUCTION

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he frustration belonged to the businessmen of San Fernando, the country's second city and the main urban centre of south Trinidad.

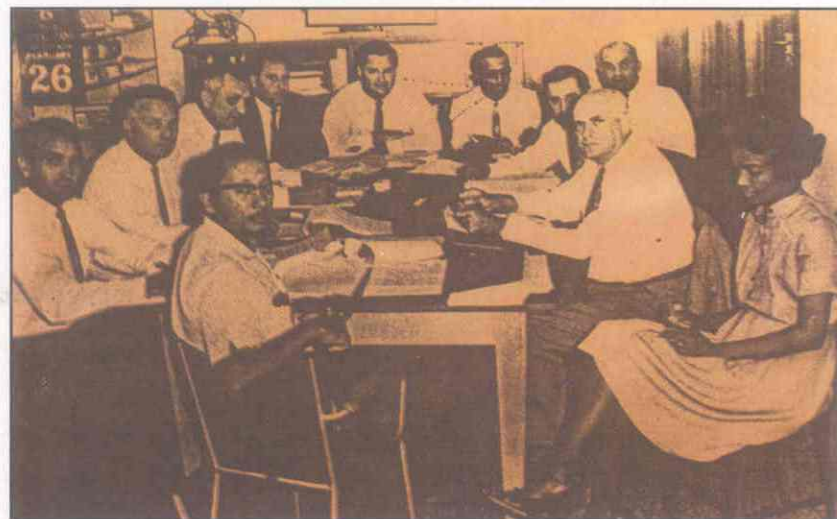
Until the late 1930s, general cargo vessels coming into Trinidad anchored offshore; their cargoes were divided and taken by lighter directly into Port of Spain and San Fernando. A few vessels anchored off San Fernando itself. This system meant that merchants in San Fernando enjoyed the same level of service as Port of Spain, and received their goods at the same time. San Fernando was an important and flourishing port, and the port dues helped keep the town alive.

But in the late 1930s the Port of Spain harbour was dredged to allow direct berthing, much to the indignation of the lighter business. When the deepwater harbour came into operation in 1939, vessels tied up in Port of Spain, and stopped servicing San Fernando. Cargo for the south now had to come from Port of Spain, 56 kilometres away, which took longer and cost more.

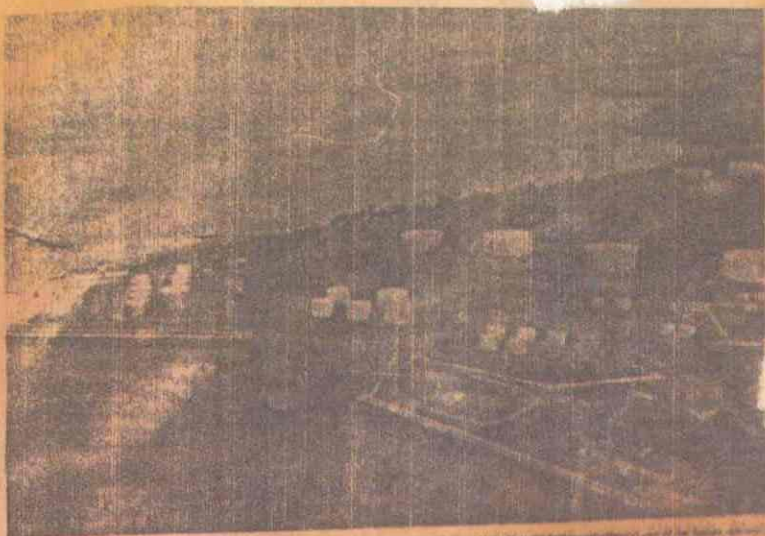
San Fernando merchants felt hard done by. Almost overnight, the San Fernando port withered. Inevitably, thoughts began turning to the construction of a deepwater harbour which would attract shipping in the same way that Port of Spain had done. For many years it remained simply a dream, frustrated by the war and its aftermath, and by the daunting financial challenge. And while Port of Spain had a commercial organisation to lobby for such schemes, San Fernando had none.

The project did not gather momentum until the mid 1950s. One of San Fernando's leading entrepreneurs was Robert Montano, who by then was back home "after the wars". His brother, who was the town's mayor, asked him to help organise the 1956 Carnival celebrations, which meant raising a little money to offer cash prizes, among other things. As he did the rounds of the business community, Montano recalls, "I saw how fractured it was. I didn't know two other businessmen on the High Street, I knew nothing of the officials in the fledgling oil companies. I saw that business was of no consequence because it was so split up."

BEGINNINGS: A SOUTH TRINIDAD DREAM



▲ Above A South Chamber meeting: Robert Montano is in the chair.



**On one site-
A complete industrial estate
with natural gas, industrial
fuels, naphthas...an Industrial
Port plus tremendous
industrial and investment
opportunity.**

This is the picture of the Point Lisas Industrial Estate, Trinidad, W.I. In creating it, the Point Lisas Development Corporation has distilled all the attractions of location in South Trinidad and put them into a single industrial estate. The site of the estate is next to the giant Texaco oil refinery, the largest in the Common-wealth. The advantages are obvious: a specialised industrial port, in service by 1970; a stable and

adept local labour force; variable and economically priced public utilities; availability of naphtha and important industrial fuels from the Texaco refinery next door, plus a host of other attractions... And all there on the Point Lisas Industrial Estate. Industrial sites are immediately available. Tender documents for the port construction are being prepared by Westcon Zuma and Partners, and the work is programmed to begin this year.



Montano saw the need for a South Trinidad Chamber of Commerce, and set about organising it. "But we needed something to make the members feel this was an organisation that was going somewhere. We needed a cause. And the cause was the idea that had been floating around since the Port of Spain harbour opened: a deepwater harbour for San Fernando."

So this became the new Chamber's first objective. A committee was formed to investigate the possibilities of a deep-water harbour that would allow direct unloading of cargoes in the town. But the report was discouraging: the cost would be high, and the main users and beneficiaries would be a small number of direct importers. The project would be very difficult to justify and to finance.

That was a blow. But in the following years it turned the Chamber's thoughts towards a more ambitious project, something that would be of obvious benefit to more than local importers. Not a general cargo port, but something which would stimulate economic activity through the south.

The south, after all, had a real advantage over Port of Spain: it had real industrial potential because of its oil. This was a time when unemployment was a major issue, and any major project that could generate significant numbers of new jobs would be welcomed. So the Chamber sketched out the concept of an industrial port which would be a magnet for new industry. It called on the government to investigate; there was a lukewarm response — in Port of Spain the impression was that the businessmen of San Fernando were still after a cargo port to rival the capital and make their own lives easier.

But the Chamber persisted, and assembled an impressive case. The government, it argued, was already investing in industry, it was offering incentives, it was making mention of low-cost fuel in the form of natural gas. But investors attracted by low-cost energy would surely be large energy consumers. And large energy consumers would not be interested in the small local market, but in larger international markets; they would be substantial exporters. They would produce commodity feedstocks for export, and build a feedstock base for downstream industries, which in turn would produce new jobs and new skills. With the sort of projects they had in mind, these

people would need an industrial port; the absence of port facilities would be a powerful deterrent to the investment the government was chasing.

This was already clear by the late 1950s. New industries establishing themselves in South Trinidad to take advantage of energy resources had to build their own port facilities. The cement plant at Claxton Bay and Federation Chemicals at Savonetta both built their own ports. The lack of port facilities was an obstacle to industrial investment. And creating them would not be easy. The site would need a large foreshore area and deep water, while the water off the west coast of Trinidad was generally shallow: off Port of Spain deep water was five miles out, and off San Fernando three miles.

The South Chamber examined the west coast from Chaguaramas southwards. Chaguaramas had deep water, but was in a corner of the country and the cost of piping energy that far would be huge. The Port of Spain area had little room for expansion, and was locked in by its surrounding hills. Neither would be of much direct benefit to the south. No: a new deepwater harbour needed to be in the middle of the country.

The government commissioned a study by a port specialist, Walter Hedden, who confirmed that the idea of an industrial port was feasible and worth pursuing, though he saw little future for general cargo activity in the south. Selling this idea was an uphill battle: Port of Spain was still deeply suspicious of the South Chamber, seeing its lobbying as an attempt to establish a second cargo port and to undermine Port of Spain. There were even suggestions that the turbulent businessmen in the south wanted to set up a separate state.

But by 1965 the government had accepted the Chamber's logic, at least in principle, and agreed to appoint consultants to do a more detailed study. The Chamber — now revitalised under Robert Montano, and renamed the South Trinidad Chamber of Industry and Commerce — proposed the Boston firm of Arthur D. Little Inc., and TT\$80,000 was allocated for the work by the Industrial Development Corporation (IDC). In return the IDC secured shares and a seat on the board when the Point Lisas Industrial Port Development Corporation was formally established; IDC representatives regularly joined the

PLIPDECO marketing missions that began a few years later.

The Little study, delivered in September 1967, gave the Chamber's proposal a realistic framework: a deepwater harbour and industrial estate was "economically viable and technically feasible, and would offer potential investors a return on investment wholly commensurate with the risks involved." The report recommended the inclusion of a free trade zone and a container terminal to service the southern Caribbean, and warned that "a great deal of promotion" would be required to persuade investors that Trinidad could be a profitable manufacturing location. It reported substantial interest in principle from potential investors in the United States.

The South Chamber had long before dropped the idea of using San Fernando as the site for the port — clearly a much larger site was called for now. Several possible sites were discussed: the San Fernando coast, Claxton Bay, Point Fortin. But Point Lisas had to be the first choice. It was a large flat area, entirely held by one landowner (Caroni Ltd.); it was free of housing and commercial properties, and the coast was suitable for dredging, the spoil from which could be used to reclaim land from the sea. The Little study looked at other locations, but also came out in favour of Point Lisas, concluding that there was no other feasible location.

The site lay beside the sheltered Goodrich Bay, between California and Couva, in a central position: 37 kilometres from Port of Spain, 19 from San Fernando (these days it is connected by a 6-kilometre link road to the Solomon Hochoy Highway that connects the two cities). The nearby Federation Chemicals ammonia plant was already fed by natural gas, though at this stage the real interest was in feedstock from the nearby Texaco refinery. The coastline was swampy, but had been used by Caroni to export sugar in barges to freighters anchored off the coast; there was even a little dock and warehouse. It was a low-lying site with soft soils and a shallow slope offshore: at 1,830 metres out the natural water depth was only 10.7 metres. But the currents were light and the waves small. If Trinidad was to have an industrial port, this was the place for it.

B

y September 1966 the South Chamber, armed with the Little study's preliminary recommendations, felt there was enough momentum in the project to formalise it. This was the moment at which PLIPDECO, the Point Lisas Industrial Port Development Corporation, came into being. "We were ready," Robert Montano says, "and we needed a legal entity to move the project forward." The new company was registered on September 16.

All the first officers of the corporation were members of the South Chamber, men who had lobbied long and hard for the industrial port. Apart from Montano, they included W. Sidney Knox, a young vehicle salesman in San Fernando (soon to become joint managing director of Neal & Massy Industries and eventually Chairman and Chief Executive of the Neal & Massy Group), Max Marshall, a public relations official with Texaco (later a Texaco vice-president), Krishna Narinesingh, a leading company lawyer and entrepreneur, accountant David Hardy, and two bank managers — Royal Bank's 'Buster' Anderson (who had won the DFC in the war) and Barclays' John Bascom. Austin McShine was the company secretary. Robert Montano recalls: "Those fellows made a magnificent team. It was an exciting business to be working for it."

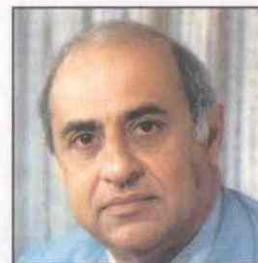
The government's funding of the Little study was duly acknowledged in shares, to the value of the cost of the study, and a seat on the Board. The South Chamber group envisaged a company in which the government had a say, but not a controlling interest. To make sure that the South Chamber retained effective control, the group devised a shrewd strategy: it created and held nine Subscriber shares, valued at TT\$1 each, but the holders of these nine Subscriber shares had the right to appoint 12 of the 15 Board members.

By now, the government in Port of Spain well understood the company's potential; the Prime Minister, Dr Eric Williams, publicly praised the South Chamber in 1967 as "a vigorous body dedicated to the economic development not only of the south but of the entire country." The Point Lisas scheme, he said, showed the Chamber's "vigour and boldness of vision."

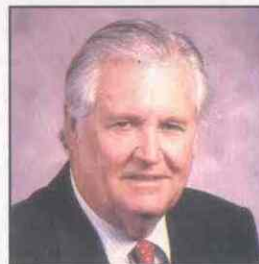
PLIPDECO: THE EARLY YEARS



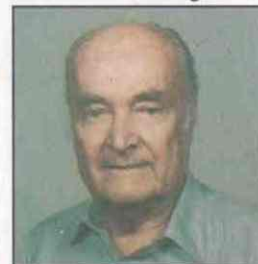
Robert Montano



Krishna Narinesingh



Sidney Knox



Maxwell Marshall

Four of the key figures in the South Chamber group.

PLIPDECO was one of the first companies in Trinidad and Tobago to offer shares. There were four classes. Apart from the nine Subscriber shares, reserved for representatives of the South Chamber, there were "A" shares for the public, "B" shares for the government, and "C" shares for Caroni Ltd., which owned the Point Lisas land. The "A", "B" and "C" classes had the right to appoint one director each. In this way the South Chamber retained effective control of the project, defending it against speculators attracted by the possibilities and the vital concessions the Board won from Caroni and the government. The understanding was that the South Chamber would hand over control once the project was in operation.

To launch the new company, the South Chamber subscribed TT\$30,000 in unsecured convertible loan stock. In 1968, TT\$250,000 "A" shares were offered to the public: the offer was over-subscribed, and 700 private individuals and institutions became shareholders in PLIPDECO, making it the largest public company in the country. The proceeds were used to fund the early promotion and planning work; a promotions office was opened in the Standard Life building in Port of Spain.

Investors were buying into an exciting vision: the estate, first costed at TT\$16 million, would accommodate steel and petrochemical plants and a vast range of other industries: cement and building materials, vehicle assembly, bauxite and container terminals, fertilizers and animal feeds, rice milling, bagasse board, electrical appliances and components, fabrics and carpets, auto parts, paper and plastics, leather, rubber and wood products, drinks and dairy prod-

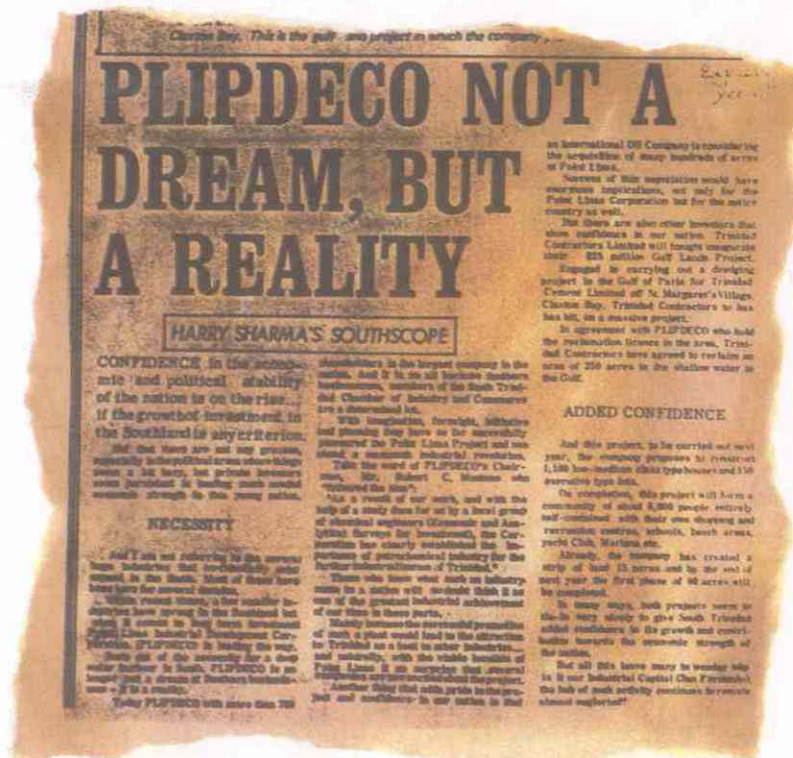
ucts, agro-processing plants, garments and footwear, and much else besides.

PLIPDECO had no funds of its own, but it negotiated a deal with the government, having to spend a cent. Sugar was losing money, Caroni was anxious to mechanise its operations: but that would mean redundancies. Surely, PLIPDECO argued, it was in Caroni's interest to support the

Point Lisas venture, which would absorb some of the redundant labour? The land was marginal cane land and not very productive anyway.

PLIPDECO proposed an option on 610 hectares, which it could take up as the project grew. The price would be TT\$5,000 an acre for the first five years, \$10,000 for the next five, and so on, up to a maximum of 25 years. Caroni agreed; payment was to be half in cash and half in shares, and the shareholding allowed Caroni to nominate one Board member.

PLIPDECO also negotiated with the government special tax concessions and a licence to reclaim up to 1,620 hectares from the Gulf, up to the two-fathom mark (3.7 metres), from the mouth of the Couva River to the northern boundary of Texaco, west of the Farrell House Hotel. Hard negotiations with the government were involved, during which the PLIPDECO directors came to know many of the figures who would be important in the development of Point Lisas, including William Demas (then a young government planner, now Governor of the Central Bank) and the economists Frank Rampersad and Eugenio Moore, all based in the Economic Planning Division of the Prime



▲ Above The Point Lisas dream takes shape.

Minister's Office, and Doddridge Alleyne at the Ministry of Petroleum and Mines.

The negotiations were lengthy. Frank Rampersad remembers the South Chamber group as tenacious negotiators; discussions often went late into the night. "At first they were talking about a deepwater port with some industrial development. But then they turned the concept on its head, and we were looking at a big industrial estate with access to deepwater port facilities. We liked the idea, and came around to the view that Point Lisas would be a useful development." The big problem was money: the necessary funding was way beyond anything the South Chamber could mobilise. Rampersad and Demas discussed the issue with the World Bank and Inter-American Development Bank, who were "sympathetic but not enthusiastic."

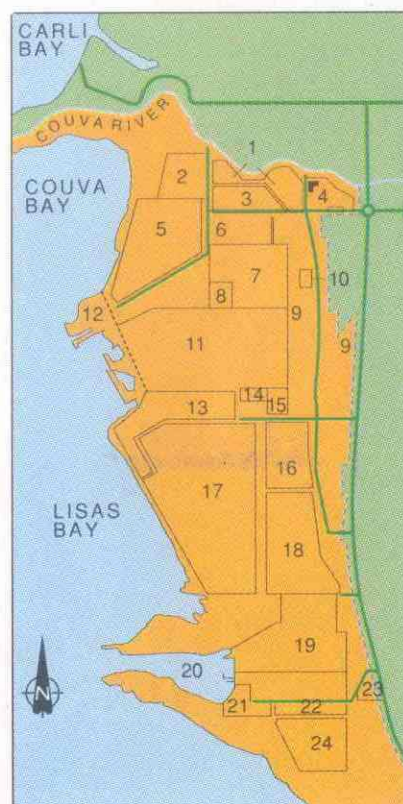
The South Chamber felt that some government officials were still sceptical. "They thought we were talking pie-in-the-sky," Krishna Narinesingh says, "and we had to work hard to convert them." And there was, understandably, a good deal of official caution. This was a private sector initiative; it could fail. If the concept was solid, there were substantial stakes. There was real interest in attracting investment in heavy industry, but there were also reservations about the loss of economic control. The South Chamber team had several meetings with the Prime Minister, Dr Eric Williams, who understood the possibilities, and the risks, perfectly well.

The PLIPDECO Board also had to negotiate a deal with the engineering firm Geo.Wimpey, whose local office, after undertaking engineering studies for the Arthur D. Little report, had purchased from Caroni six hectares of land which it was leasing for its marine operations in the area, and which now stood in the middle of the proposed industrial port. It took a good deal of pressure and a visit by a senior Wimpey director to sort the problem out; PLIPDECO would buy the land, Wimpey would gain a lease nearby on the estate.

The PLIPDECO Board embarked on a master plan for the site. It hired an executive officer to coordinate the physical planning for the estate and to begin the search for clients: Wendell Mottley, later to be a government minister. Mottley brought in a former chief engineer at the Port of Spain port, Selwyn Lee Young, and in 1968 Wallace Evans

and Partners were contracted to undertake detailed engineering studies, to identify likely industries and their requirements, and to assess construction needs and costs. The vision then was of oil and bauxite terminals, a steel mill, petrochemical industries, light industry and local industry such as fish processing. The cost estimate had risen to TT\$50 million.

The Board embarked on its own efforts to identify industries for the embryo estate. It was a time when there was much enthusiasm for energy-based industries: but so far there was only a cement plant and the Federation Chemicals plant in operation nearby. On a chance trip into Port of Spain, when some of the PLIPDECO directors were at Alcan Shipping, the talk turned to bauxite. A bauxite transfer station at Point Lisas had been discussed; but then, why not process bauxite? Why not an aluminium plant?



▲ Above The Point Lisas site in early 1977.

◀ Left The Point Lisas estate.

1-Caribbean Methanol Company; 2-T&TEC power station; 3-Trinidad and Tobago Methanol Company; 4-PLIPDECO House; 5-Industrial expansion; 6-Urea storage; 7-Fertrin ammonia complex; 8-Trinidad and Tobago Urea Company; 9-Light industry; 10-PLIPDECO warehouse; 11-Iron & steel plant; 12-Port Point Lisas; 13-Port expansion; 14-Trintoc oxygen/nitrogen plant; 15-Trintoc urea/formaldehyde plant; 16-Free Zone; 17-Industrial expansion; 18-Free Zone expansion; 19-Tringen/Hydro Agri complex; 20-Hydro Agri channel and basin; 21-Caroni; 22-Chemical industries; 23-Industrial Gases; 24-Phoenix Park Gas Processors.

Investigations showed up exciting possibilities. Bauxite dust is transformed into alumina by steam and caustic soda, and then into aluminium, using large amounts of electrical energy. Point Lisas would have all the ingredients: steam, caustic soda (a petrochemical by-product), energy. Both Jamaica and Guyana had the raw material, if they could be talked into a joint venture. The Prime Minister, Dr Eric Williams, gave his blessing, and there were exploratory talks with the Jamaicans; but they collapsed in the midst of unrealistic Jamaican counter-proposals.

In March 1968 PLIPDECO mounted a sales mission to the United States and visited leading aluminium companies (Reynolds, Alcoa, Alcan) with the support of General Electric, who were interested in the electrical aspect of the idea. The idea of a Point Lisas plant to process bauxite into aluminium aroused international interest, and the mission gathered a lot of useful information; but it came back with no firm commitments, and the regional smelter plan was shelved for the time being.

There was another PLIPDECO mission to the United States in early 1969, this time to petrochemical manufacturers. The Board had commissioned a plan for the estate from a locally-based group of technicians, EASI (Economic and Analytical Surveys for a Petrochemical Industry). The idea was to use naphtha from the nearby Texaco refinery as the starting point. Again, large American companies were sounded out by the Board: Texaco, Allied Chemicals, Continental Oil, Union Carbide. Again, responses were encouraging, and there were useful suggestions about how to reconfigure the estate plan, but there were still no firm commitments.

One problem was that the proposed plant was seen as too small to be truly competitive; the Americans wanted a much larger plant for competitive pricing; PLIPDECO had to back off. "The projects had to be world-scale to be feasible," recalls Wendell Mottley, "implying very large capital and very large feedstock resources. The feedstock was still under Texaco control, and they were looking for the best commercial prices while potential investors were looking for concessions. We also got into a chicken-and-egg situation as regards the port. And PLIPDECO was still a private company, with few resources of its own."



▲ Above PLIPDECO prepares for its 1969 investment mission to the United States.

The PLIPDECO team had heard about the substantial natural gas discoveries by Amoco off the east coast before embarking on this second trip. They met with the Prime Minister, wondering whether he would admit to the finds, which were still top secret. As expected, Dr Williams retorted: "I don't know what you're talking about." But they persisted: just assuming that substantial natural gas reserves were to be identified, would the Prime Minister have any objection to marketing plans for exploiting them in the United States? Williams let them go.

But despite these vigorous marketing efforts, there was no firm investment. There was interest from Liquid Carbonic (West Indies) Ltd. and from Siesta Products, a local group planning to manufacture mattresses and home furnishings. And then the first major client to make a commitment slipped through PLIPDECO's fingers.

In 1968 PLIPDECO had been approached by a potential investor named Lowenstein, who wanted a square mile to build a steel plant. He turned out to be a New York scrap merchant, and managed to persuade plenty of people that he was a serious large-scale investor. But the following year there was an approach from a Pittsburgh steel consultant, Tom Schott, who had been commissioned by Lowenstein to do a feasibility study for his Trinidad project; he had done the work, billed Lowenstein, and had never been paid.

Schott offered the data instead to a Pittsburgh corporation, Levinson Steel, which made steel structures, cabinets and shells for cannons. Schott persuaded Levinson to go for the idea of a modest plant at Point Lisas, a small smelter and a rolling mill using scrap as feedstock. By 1970 investment decisions had been made, and a share issue was being proposed. The plant was to be half locally owned and would produce about 50,000 tons of steel products a year.

Levinson was granted industrial incentives and gained the impression that it would be the only steel mill in Trinidad for an agreed time; this was announced in the prospectus. The IDC had reservations about that and about the nature of the Levinson plant. Then it transpired that the minister had issued a licence for another steel mill, to a local investor. The Levinson share issue was withdrawn, and the project collapsed. So the country's first steel mill was not constructed at Point Lisas.

This bitter disappointment nurtured a growing sense of frustration at PLIPDECO. There was a slackening in the drive and energy from the South Chamber in the face of what it saw as bureaucratic delay, lack of government commitment, and the continuing failure to attract clients and funding.

Robert Montano tells the story of an American entrepreneur who had been chased out of Nigeria by the civil war, and wanted to manufac-

ture a new animal feed in Trinidad. He needed land to grow grass quickly, gas as energy to dry the grass and reduce its bulk, and space for a plant where the raw material would be combined with industrial by-products — citrus waste, molasses, urea, all of which were easily available — to manufacture animal feed pellets for export. He also wanted to export local fruit and vegetables. "He had good credentials," Montano recalls, "and we were very intrigued. Perhaps we could use the product for cattle rearing in Trinidad. He was passed on to the government agencies, and became disillusioned, indeed enraged, by his treatment." Instead of encouragement, he was faced with a ruling that both his projects would be reserved for Trinidadians, and both collapsed.

There was also some misunderstanding with Caroni. Amoco Trinidad, having identified new marine energy resources off the east coast, was looking at the possibility of a refinery at Point Lisas. PLIPDECO asked Caroni to extend its option to another 600 hectares north of the Couva River; when the reply came back, Caroni had approved an extra 200; it was never clear whether the smaller amount was a misunderstanding or a typographical error, but PLIPDECO was unable to secure the space Amoco needed.

So by the early 1970s, while PLIPDECO had done substantial work on engineering design, it was no further forward when it came to making the estate a reality; there were no clients, no funds, and there was still deadlock on the Texaco feedstock problem.

One of PLIPDECO's projects at this time helped prepare the way for the government takeover of the company and the project. Trinidad Contractors was commissioned to dredge the cement plant's nearby channel to a greater depth; PLIPDECO's reclamation licence covered that area, and it was agreed to use the spoil from the dredging to reclaim about 6.9 hectares for possible development by the client. But when PLIPDECO sought to transfer the title of this reclamation, to its dismay there appeared to be a flaw in the reclamation licence: no reclaimed land could be disposed of until all 1,620 hectares had been reclaimed; PLIPDECO could not even build a wharf. A simple Deed of Variation was drawn up to settle the problem, but the government refused to approve it. "We had to throw in the towel," Robert Montano says. "We were forced to relinquish control."

S

o PLIPDECO, until now a private sector company, became a state enterprise.

The government had been gradually acquiring a larger influence in the company for several years, as its own industrialisation plans took shape. In 1969, by agreement, the Board had been reduced to nine directors, six of whom were appointed by the government and three by the South Chamber. In 1971, the government acquired 105,000 "B" shares at \$1 each; the Port Authority bought another 105,000 at the same price three years later. The government acquired the nine Subscriber shares for \$9 in August 1974, and in late 1976 bought most of the "A" shares and the 8.8 million preference shares. The South Chamber continued to nominate three directors.

"It was not that the government wanted to take over the Point Lisas area," insisted the energy minister Errol Mahabir in 1979: "it was that the government had to provide the finances to get Point Lisas going, and, to protect the interests of the people of the country, the government took shares there for the money invested."

A leading government role at Point Lisas was inevitable. Only with government involvement could the capital be mobilised to get things on the road. Legally and politically it was not possible to provide substantial public capital to a privately controlled company, and any involvement by international institutions like the World Bank or the IDB would require government guarantees. The massive infrastructural inputs, the complex international negotiations and the long payback periods demanded government coordination. Government also had to make the crucial strategic decisions: to run the new cross-country pipeline that would feed the estate with offshore natural gas, to locate the country's third power station there, and to invest heavily as a shareholder.

As the majority shareholder, the government had a clear idea of what it wanted to do with Point Lisas. Its aim was to exploit Trinidad's large natural gas reserves, to take a lead in industrialisation in a way that would be a model for the developing world, and to reverse the colonial economic pattern which the Prime Minister of the time, Dr Eric Williams, saw as the enemy of economic development.

THE GOVERNMENT TAKES THE LEAD



▲ Above It was Trinidad and Tobago's oil and natural gas reserves that led to the Point Lisas dream.

Today, Trinidad and Tobago's estimated recoverable reserves of natural gas are over 15 trillion cubic feet, mainly in two areas: off Trinidad's east coast, in the continental shelf which extends for about 80 kilometres; and about 55 kilometres off the north coast. Consumption is 500–600 million cubic feet per day and rising, but the dry gas reserves have barely been touched: until 1983 most of the natural gas used was associated gas, which still accounts for much of today's consumption.

Trinidad and Tobago has long been familiar with natural gas. Its oil industry is one of the world's oldest: the first well was drilled in 1857, and regular production was under way by 1867. The first significant dry gas discoveries came in the 1940s. But until the 1950s, gas was still regarded as a cheap by-product of crude production, and had been used mainly inside the oil industry, as an energy source for production and refining. The oil refineries were the biggest gas consumer.

But from the early 1950s gas began to be used for industrial purposes too. The new Penal power station, opened in 1953, used gas for power generation. Later, a 400mm line was laid from Picton to the T&TEC power station in Port of Spain, which started using gas in November 1963. The Claxton Bay cement plant (now Trinidad Cement Ltd.) was established in 1954 and used gas to fire its kilns. Federation Chemicals, the pioneer fertilizer plant established by W.R. Grace in 1959 south of the Point Lisas site, was the first to use gas to manufacture chemicals. And once gas was piped to north Trinidad by T&TEC, usage among small and medium businesses spread quickly. By 1976 natural gas was being used in the manufacturing of rum, beers, glass, edible oils, fats, detergents, and clay/ceramics.

PLIPDECO had been convinced by the late 1960s that there was enough natural gas available to fuel a heavy industrial estate. Texaco was already producing petrochemical intermediaries. Amoco Trinidad's substantial new gas finds off Trinidad's south-east coast in 1968 were followed by discoveries in the L-Block, also off the south-east coast, by the operating consortium there (Trintoc, Texaco and Trinidad Tesoro). More discoveries followed off the north coast (by a consortium of Deminex, Agip, Tenneco and Occidental), and by Texaco in its Block 1 in the Gulf of Paria.

By 1976, Trinidad and Tobago's proven reserves of natural gas were assessed at 5 trillion cubic feet, on land and offshore. The estimate was that, taking in possible and probable reserves, 9 trillion cubic feet was a conservative estimate. It looked as if Trinidad and Tobago could think seriously of producing large amounts of natural gas for as much as 50 years.

But in the early seventies, as the government grasped the scale of the country's reserves, the urgent question was: how to use them? Should they be conserved, rationed, left in the ground to grow (perhaps) in value, or sold as fast as possible to take advantage of existing demand?

The government, especially through the Industrial Development Corporation (IDC) and the 1972–4 Energy Secretariat, thought long and hard. One option was to liquefy natural gas for export; Amoco proposed to develop a plant at Galeota, and planning reached an advanced stage. But this was shelved when Cabinet accepted the argument that an LNG plant was not the way to go, and that natural gas resources should be used instead to fuel a major industrialisation thrust. This was the Energy Secretariat's feeling, and it was put forcefully to the prime minister by the IDC's General Manager Eldon Warner and its Chairman Bernard Primus: long-term industrial expansion, heavy industries which could export to international markets, all fuelled by the country's own natural energy.

The oil shock of 1973–4 concentrated government minds powerfully on this vision and on the long-gestating Point Lisas project, which still had no solid investment commitments. Cheap energy looked more and more attractive. Oil revenues began to flow in from the vastly escalated oil prices, and put the capital costs of a large industrial estate within reach. There was tireless discussion of the comparative merits of ammonia, methanol, acetylene, liquefaction, steel, aluminium. The criteria for decision-making were debated at length: capital costs, jobs, linkages, import substitution, export potential, foreign exchange earnings and costs, diversification, returns on investment, new technology, environmental risks.

A national conference on the best use of energy resources in early 1975 identified the target industries which would use natural gas. The chemical content of the gas more or less ruled out large-scale olefins

production. But the low sulphur and high methane content (94%, with 3% ethane and very little sulphur) pointed to ammonia, methanol and acetylene. This was "sweet gas", and later north coast finds had even higher methane content.

World demand for ammonia was growing steadily, and was expected to go on growing: Trinidad and Tobago was well placed geographically to sell to western hemisphere markets. Carbon dioxide, the by-product of ammonia production, could be used to manufacture urea, which enjoyed the largest slice of the world's nitrogenous fertilizer market and was in demand for plastics and adhesives. Methanol, used largely for formaldehyde, was also in demand, though there were more serious freight and tariff problems involved.

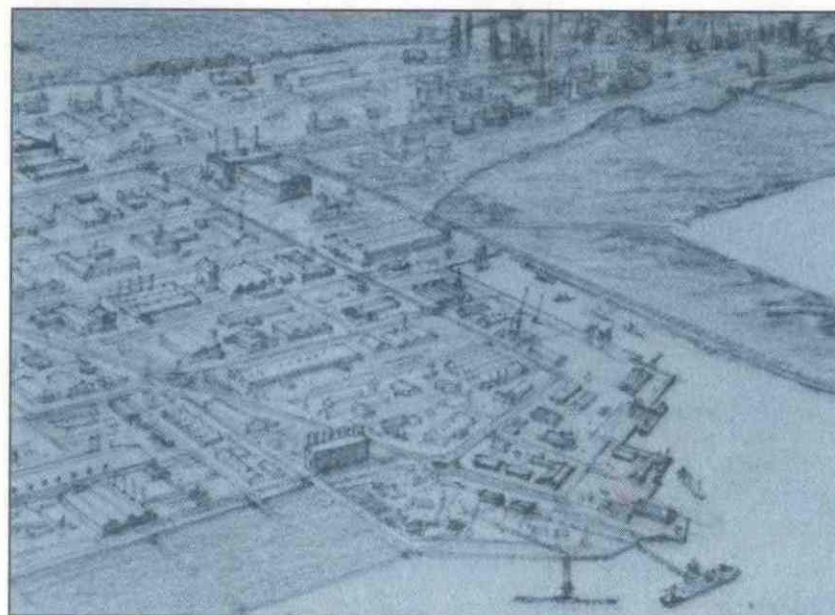
Thoughts returned regularly to a liquified natural gas plant, which could produce substantial long-term revenue; but it was an expensive option, calling for heavy investment in pipelines, shipping and liquefaction equipment, and it would use up reserves fast. Aluminium again came under review, and a range of petrochemicals. Steel too had very attractive downstream possibilities, though manufacturing depended on a secure supply of iron ore and steady markets. It looked as if a range of energy-based industries, mainly steel and petrochemicals, was the best option.

But where should these industries be located? Several sites were considered for the first ammonia plant, including Galeota and La Brea. Amoco was keen to develop a Galeota plant. But there was an inescapable logic in concentrating all the heavy infrastructural investment on a single estate which would accommodate a range of heavy industries and downstream activity, and would provide deepwater port facilities for export. Dr Eric Williams, the prime minister, was persuaded that Point Lisas was the way to go. And so the final link was made, between the new vision of gas-fuelled industries and the industrial estate which PLIPDECO had been trying to create at Point Lisas for ten years.

Point Lisas had captured the imagination of Prime Minister Williams, who saw it in symbolic as well as economic terms. When construction began on the iron and steel complex in October 1977, Dr Williams, who was a distinguished historian before moving into politics in the



◀ Left
Trinidad and Tobago Urea.



▼ Below
Part of the 1968 concept for Point Lisas by consulting engineers Wallace Evans and Partners.



▲ **Above**
Inside the iron and steel plant.

▶ **Right**
Professor Ken Julien (left) with the Prime Minister, Dr. Eric Williams, at the ISCOOT ground-breaking ceremony, 1977.



1950s, recalled how British colonies in the Americas were expected to supply the motherland with raw materials and commodities, and to buy finished goods in return; they were themselves "to manufacture not a nail, not a horseshoe".

For Williams, Point Lisas became a symbol of the overturning of that

old order; it was vitally important that countries like Trinidad and Tobago, especially when they had the resources, should start to make, not just nails and horseshoes, but the basic finished goods previously reserved for the industries of the developed world. He pointed out that the developed countries still produced more than 90% of world steel output, but that the tables were turning. "Our presence today at Point Lisas," he declared that heady day in 1977, "testifies to the fundamental change that has taken place in the world economy and in the economic balance of power ... Here at Point Lisas sugar cane gives way to wire rods."

Williams constantly stressed the state's ownership and control of the Point Lisas industries; he revelled in the fact that metropolitan companies were fighting hard for Point Lisas contracts. He had no time for anyone who thought that this was a futile exercise. "There have been attempts to persuade us that the simplest and easiest thing to do would be to export our oil, export our gas, do nothing else and just receive the revenues derived from such exports and (as it were) lead a life of luxury, at least for some limited period. This, the government has completely rejected, for it amounts to putting the entire nation on the dole. Instead we have taken what may be the more difficult road, and that is — accepting the challenge of entering the world of steel, aluminium, methanol, fertilizer, petrochemicals, in spite of our smallness and in spite of our existing level of technology."

Once the decision was made to develop Point Lisas on a grand scale, Professor Ken Julien, Dean of the Engineering School at the University of the West Indies and Professor of Electrical Engineering, was appointed chairman of PLIPDECO; Robert Montano remained as deputy chairman until 1982. Professor Julien, who had accompanied the South Chamber promotional mission to the United States in 1968 as an IDC representative, would play a key role in the development of Point Lisas in the next few years.

The expectation was that the entire estate would cost about TT\$8.9 billion, a figure at last within reach because of the oil boom, and would provide 10,000 primary jobs. Point Lisas was to be the largest project of its kind in the Caribbean, and one of the largest in South and Central America.



o the initial design work of the late sixties was dusted off, and a fresh phase of planning began, this time leading quickly to the first substantial work on the site. The focus was now firmly on petrochemicals and steel, with plenty of downstream manufacturing and service activity.

With reclamation, the land which PLIPDECO had secured from Caroni Ltd. had grown from 610 to 800 hectares. The company had permission to reclaim 1,620 hectares along the coast between Claxton Bay and the mouth of the Couva River. The new estate was bounded by the Couva River to the north, California village and settlements along the Southern Main Road to the east, the sea to the west and the Tringen site to the south.

PLIPDECO, as the landlord, took responsibility for the estate infrastructure, security, maintenance and services. There were elaborate plans for a list of centralised services (a radio station, a hospital, a shopping complex, day care and nursery centres); all this depended on joint support from the tenant companies. For them, PLIPDECO offered gas, water, electricity and port services.

When the government became the majority shareholder in 1976, the Point Lisas estate looked just as it had done 20 years before: there was nothing there except sugar cane, bush and swamp. When officials of the Trinidad and Tobago Electricity Commission first visited the area, they could not even find the site for their proposed power station. Wimpey had its operation at Savonetta; there was a low-grade road, Goodrich Bay Road, leading westwards from the Southern Main Road to the sea, but nothing more. PLIPDECO was based in Port of Spain, at Furness House, and its site office at Point Lisas was a wooden hut in the middle of the cane.

The government formed a Coordinating Task Force (CTF) in September 1975, as recommended by the national consultation earlier in the year. It was headed by Professor Ken Julien, who was about to become the new PLIPDECO chairman, making it easy for the two organisations to work closely together. The CTF's mandate was to undertake the planning and design that would make the estate a reality, get it ready to support new heavy industries, and start laying down the

THE TASK FORCE YEARS



▲ Above PLIPDECO's Chief Executive Officer Ken Snaggs (third from right) shares a joke with Korean ambassador Sang Yong Park (third from left) during a 1985 Korean trade mission. ISCOIT president Sam Martin is at left next to Elliott Bastien of the National Energy Corporation.

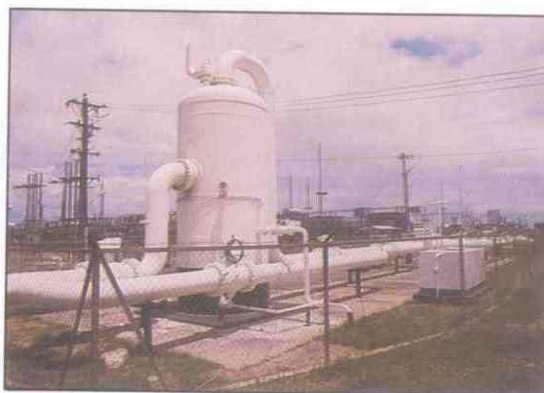
infrastructure. It would operate outside the government bureaucracy, with the flexibility to pull together all the inputs necessary to allow the project to take shape.

The Task Force had the earlier design and engineering studies to work with, and an update by Trintoplan Consultants. For just over three years, until it was superseded by the National Energy Corporation in 1979, it focused enormous energy and resources on Point Lisas; its progress reports during that time show a frantic level of activity.

The Task Force quickly set its priorities: two ammonia plants (one in collaboration with Amoco; the other, Tringen, was already under construction), a steel mill, cement expansion, and production of furfural (a liquid aldehyde which could be derived from sugar cane and used as a solvent in the refining and foundry industries), petrochemicals and polyester fibre and fabric. Other major projects were constantly under review: an aluminium smelter, a liquefied gas plant, an olefins/aromatics complex. Working closely with the Task Force, PLIPDECO concentrated on electricity and water plans, roads and drainage, port development and other estate infrastructure.

By late 1978, as the Task Force completed its work, the Point Lisas estate had changed out of all recognition. Construction had started on the steel mill and the Fertrin ammonia plant, the companies had been formed and the financing packages were in place. Tringen was in production. The methanol plant was at an advanced planning stage, and the aluminium smelter, the urea plant and the LNG plant were on the drawing board. The power station was generating 128MW. The furfural and polyester projects had been dropped.

This rapid progress was largely due to the tall, burly figure of Professor Ken Julien, who chaired not only PLIPDECO and the Coordinating Task Force (and from 1979 the National Energy Corporation) but several other key companies as well, including Iscott, Fertrin and T&TEC. Julien had been at the University since 1962, accepting the chair of electrical engineering in 1970, and maintained his teaching duties all through the frantic late seventies. He had also served for several years on the board of the Industrial Development Corporation (IDC), and by the mid seventies was its deputy chairman. Carlos Hee Houn, who worked with the Task



Left

The National Gas Company supplies natural gas through metering stations like this one at T&TEC to Point Lisas tenants.

Force until 1978 and is now General Manager of the Trinidad and Tobago Methanol Company, says: "Julien had a lot of energy. His output was tremendous. And there was a very high level of communication and co-operation among the people involved."

Installed at PLIPDECO's town office in Furness House, with its first fulltime staff (including for a while Robert Montano's son), Ken Julien faced the question of how to make this estate work; how to fulfil the expectations of the private sector group that had conceived it and of the government which, in these early days of the oil boom, was determined to put the windfall revenues into production and infrastructure.

The Task Force worked under the umbrella of the IDC, which provided support of all sorts. It was structured loosely and informally, with a core of only five members. But Julien assembled around it a team of people who he felt could break through all the obstacles and inertias and get the job done; they included top executives of the agencies and utilities which had to be involved. Several of the key figures—Julien, Basharat Ali, Ken Snaggs, Eldon Warner—knew each other well, in some cases having been at school together.

"We all worked well together," Julien recalls; "that was the key to getting things done. I had a secretary, for instance — several nights a week I was working on these projects till two or three in the morning, and she was always there, no extra pay or anything. I waved the flag and had the high profile, I received the kudos or the



▲ Above The ground-breaking ceremony for Fertrin, January 1979. From left: Ministers Overand Padmore and Errol Mahabir, Prime Minister Eric Williams, Professor Ken Julien, Leland C. Adams (President, Amoco International Oil Company) and Robert Norton (Managing Director, Fertrin).

flak, but the reality was that we had a group of people spread through all the relevant companies, working their tails off, all sharing the same enthusiasm and working smoothly with each other without fighting or bickering. There was a sort of missionary zeal about it all."

The Task Force met at least once a week, first at the IDC in Port of Spain, then at the former Ministry of West Indian Affairs in St Ann's (an office later passed over to the Ombudsman). It had no executive authority of its own, but it had all the supports it needed, from the IDC and—crucially—the prime minister. Eric Williams was determined to get things done, and Professor Julien had a rapport with him which many envied. The Minister of Energy and Energy-based Industries, Errol Mahabir, was also enthusiastic, and took issues to Cabinet for quick decisions; since he was also a minister in the Ministry of Finance, the Task Force had in effect two ready-made supportive votes in Cabinet.

Ken Julien, wearing different hats for different purposes, could exert influence or get decisions made in all the places where they mattered. "It had to do with the political mood and will of the time. There was a strong, almost obsessive desire to get the energy sector moving. You had to perform and do your studies and so on, make sure all the options had been properly examined, but once you had your act together and knocked on the door, you got decisions, and quickly."

It was an unorthodox way of proceeding: a secretariat working in parallel with the government bureaucracy and by-passing many of its routine procedures. Inevitably it caused some raised eyebrows. In the Ministry of Finance there were reservations about the pace of the work and the cost over-runs. Frank Barsotti, who was Permanent Secretary at the time, recalls: "I was never against the basic idea of economic diversification and monetising our natural gas. But these were big projects by any standard, the sort of thing we had never done before, and we did not have much expertise; we were infants in the field. I felt we could have slowed down and taken a little more time over it."

But it worked. Gradually, decisions on the specific industries and plants were reached. The process started with the basic question: how best to add value to natural gas? It then proceeded through exhaustive studies of feasibility, cost, market conditions and technology. Aluminium was eventually ruled out after more than two years because of poor market conditions (nobody foresaw the buoyant prices of 1991, three times the level of the mid seventies). Furfural and polyester were dropped too, and the LNG project was shelved because of high costs and discouraging price forecasts. At one point there were eight separate proposals for ammonia: the Amoco project alone went through.

But one by one the others were vetted and went ahead: the iron and steel plant, methanol, urea, ammonia (the Tringen plant was being developed separately, W.R. Grace dealing directly with the government). Frank Rampersad recalls: "The negotiations for some of the



▲ Left
Part of the Fertrin plant.

plants were extremely intricate, involving large numbers of people. It is to the credit of the Task Force and the negotiators that they were all successfully carried through." In 1979 Dr Williams allocated 40-year gas supplies to the major industries. The power station started generating in late 1977; Iscott and Fertrin began production in 1981, urea in 1983, methanol in 1984.

The petrochemical plants performed to expectation as they came on stream, though they ran into tough market conditions in the eighties. "There was no way of predicting that these industries would suffer such harsh situations," says Carlos Hee Houn. "The best consultants in the world could not have forecast the effects on the market of things like the war in Afghanistan and bad weather in the United States. Nor did we foresee the swift emergence of the Eastern countries as significant producers of the same products." But the fledgling industries came through intact, and began generating valuable export revenues; today they account for about 15% of national export earnings.

The iron and steel plant went through more prolonged teething problems — there was less local experience in the difficult and complex art of steelmaking, which depends much more heavily upon human inputs than the highly-automated chemical plants, and full training proved more complex than the Task Force anticipated. There was a longer delay in getting an operational team in place after the project management team had brought the plant to readiness, and then serious marketing difficulties developed in the United States (quota restrictions, an anti-dumping suit) which required political solutions.

The energy and drive which the Task Force mustered between 1975 and 1979 really created the Point Lisas industries as they exist today. It was the breakthrough which PLIPDECO had been searching for since its inception in 1966, indeed the San Fernando businessmen started dreaming dreams ten years earlier still. "Ken Julien was an amazing person, capable of handling so many things at the same time," recalls chemical engineer Basharat Ali, who had joined the petroleum ministry from Shell and found himself in the thick of the Task Force's project development work. "He took it on personally and got the work done. That deserves to be said."



▲ Above The 1,380 tonne-per-day plant of Trinidad and Tobago Methanol.

PLIPDECO itself played a vital role alongside the Task Force, developing the estate itself and its services. By 1979, the major infrastructural work was well advanced, and PLIPDECO's first Chief Executive Officer had been appointed: Ken Snaggs, a former Director of Town and Country Planning, who had worked with the Task Force's infrastructure advisory group. He took up the new PLIPDECO post in May 1978.

One major task was to create the port. By the time the Task Force was wound up, PLIPDECO had completed phase one of the harbour dredging, creating an approach channel 1,830 metres long, 107 metres wide and 11 metres deep, with a turning basin of the same depth 488 metres in diameter, to accommodate ships up to 50,000 dwt. This was completed in May 1979 at a cost of TT\$23.98 million.

The Point Lisas port manager, Capt. Rawle Baddaloo, remembers the early stages of port development vividly. "Those were mud days: mud in the wet season, dust in the dry season. You had to have a pile of

water to wash off your licence plates in case the police stopped you. It was very rough: there were no lights, the channel was unmarked, we had to do everything from scratch. We had to be very autocratic, and throw our weight around to persuade everyone that we were serious about creating a port here. Because there was nothing, only a small Caroni facility where they used to barge sugar out to the ships, and the small Wimpey dock. There were families on the beach, pots boiling, making fish broth and so on."

Phase two widened the approach channel to 152 metres and increased its depth to 12.8 metres, extending the approach to the 12.8 metre contour. Nine million cubic metres of spoil were used for reclamation. The dredging was handled by Japanese companies, Fujiko and Daito-Kogyo, using a large 2,500-ton dredger brought to Trinidad from the Pacific through the Panama Canal. Then came the ISCOTT dock, the Savonetta Pier #1, and other port facilities. Between 1979 and 1981 the mouth of the Couva River was diverted, to avoid draining into the port area (and to facilitate the discharge of the large amounts of sea water used for cooling). PLIPDECO has been lucky: the feared silting never developed into a problem, and no further dredging has had to be done on the channel since.

On the estate itself, PLIPDECO put down 10,000 metres of roadway, 6,000 metres of water pipeline, and 4,000 metres of drains. It laid out the estate's road structure, upgrading Goodrich Bay Road and building the North-South Road parallel to the Southern Main Road, together with the various access roads. It installed a 600mm water pipeline, feeding into smaller estate lines. It installed drainage systems capable of dealing with major storms, tidal influences and the growing urbanisation around the estate. Tenants installed their own sewage and waste systems.

The National Gas Company (NGC) installed a new 610mm natural gas pipeline to feed the estate; it ran for 39km underwater from the Teak and Poui gas fields to Galeota, then across country to Picton, and was completed in 1978. Six years later the NGC completed a second, 760mm line from the Cassia field to Phoenix Park.

PLIPDECO enforced strict environmental controls: each tenant on the estate had to complete a satisfactory environmental impact



◀ **Left**
Construction work under way.

survey to cover waste, discharge and other possible pollution hazards before being granted a lease.

PLIPDECO funded all this work without budgetary support from the government. The company earned its revenue from project management, and arranged a special overdraft facility with the National Commercial Bank to help cover the capital costs of developing the estate: TT\$62 million, guaranteed by the government. (This overdraft, long a serious burden, was converted into a long-term loan in 1988, funded by a consortium of 15 local lending agencies.)

"The first phase of development was a straightforward and specific task," Ken Snaggs recalls. "We had to get the estate moving as fast as possible. We developed the early stages of the port and managed the docking facilities. We built our own office. We even undertook housing construction." For by 1979 PLIPDECO had established itself as a competent project manager at a time when the oil boom was at its height and expertise was in desperately short supply. PLIPDECO managed the nearby Couva Housing Project of 1,000 units for the government, as well as upgrading the Penal market, building offices for the Caroni County Council in Chaguanas, an office building for the methanol company and factory shells for the IDC.

After the Task Force was wound up in 1979, the National Energy Corporation (NEC) took over its project development work. Conceived as a holding company for several state enterprises, it became instead a project development and management company; during the eighties it brought on stream the methanol and urea plants, and continued to run them until the methanol plant took over its own affairs in 1988 and the urea plant in 1990.

A

s the oil boom fizzled out in the early eighties, PLIPDECO was left in a difficult position. The first phase of development was virtually complete: the estate infrastructure was in place, and the first plants were coming into operation.

Now, PLIPDECO's work began to contract: it had evolved into a development agency, but there was little to develop. Estate rents were not enough to support the company; the financial situation deteriorated badly.

PLIPDECO's response was to start developing the Point Lisas port in a big way. Until then, general cargo had been handled only for estate construction; but by the end of the seventies congestion was a serious problem in Port of Spain and thoughts began to turn to Point Lisas, which was still regarded as a "port at sufferance", meaning that cargo had no general clearance and had to be authorised by the Comptroller of Customs and the Port Authority.

But cargo business was clearly a useful source of revenue. Point Lisas was gazetted as a full port in 1981. In 1982 Point Lisas Terminals Ltd., a cargo handling subsidiary, was formed; and in 1985, no longer a mere "port of sufferance", PLIPDECO decided to go all out to attract business of every sort. This marked a partial return to the original South Chamber idea of a general cargo port to serve the south, an alternative to Port of Spain.

Although the Seamen and Waterfront Workers' Trade Union had been against the development of a second port, on the grounds that it would be a threat to the Port of Spain docks and established procedures there, PLIPDECO by treading cautiously managed to institute its own procedures at Point Lisas. It had always used local longshoremen on a casual basis, while employing Port Authority stevedores to work on board vessels; but they had to be brought from their call-on centre at Beaumont Hill, Pointe à Pierre, and returned there by mid-afternoon; there were restrictions on the number of gangs.

PLIPDECO proposed to the Port Authority and the SWWTU an agreement which would bring stevedoring under its control. When this was rejected, it simply stopped using Port Authority labour, and

PORT DEVELOPMENT



*Above and left
Port construction, 1980.*

*Below
Port Point Lisas.*



trained its local longshoremen to do the stevedoring work. "The guys saw the chance of permanent work, and were a hundred percent with us," Ken Snaggs recalls. "So we introduced integrated port labour, with no distinctions between longshoremen and stevedores, and two-shift working, using smaller gangs and a more rational fee structure. The port never looked back."

The new emphasis on port development, reflecting a more aggressively commercial approach, was the basis for PLIPDECO's financial turnaround in 1986. "The company felt the need to go out and pursue business aggressively," says Hugh Howard, chairman from December 1984 until 1987. "PLIPDECO had had good business as a project manager, earning commission, but now we had to develop the full commercial approach. We needed new sources of revenue." Soon the company attracted one of the most profitable shipping lines in the hemisphere, Tropical Shipping (which even invested in upgrading warehouse facilities and training); others soon followed.

"When PLIPDECO returned to profitability in 1986, at the height of the national recession," Howard recalls, "it was a very pleasant surprise." PLIPDECO's revenues are now split fairly equally between estate rentals and port and cargo handling services.

▶ **Right**
Port Point Lisas tugs.

▶ **Far right**
Crane operations on
ISCOTT docks.



Controversy swirled around PLIPDECO in the early and mid eighties, as the Public Accounts (Enterprises) Committee of Parliament probed some of the contracts and companies that had been used in the frantic days of 1980–81 when the pressure to move fast was at its peak. The row developed into a *cause célèbre*: a stand-off between the two organisations, a public fast by one opposition member of the PA(E)C, a court challenge from PLIPDECO, an investigation by a commission of enquiry set up to probe several areas of national concern.

Ken Snaggs, who remained Chief Executive Officer until March 1991, says: "The real issue was the legitimate authority of the PA(E)C. Did they really have the right to demand copies of all the minutes of a corporation over two and a half years, including material that seemed to have no bearing on the subject of their enquiry? In any event, the Committee was given all the material it requested, including the minutes, which were released by the Corporation on the advice of the minister. I am completely satisfied in my own mind that there was no corruption. I am not saying we made no mistakes. Perhaps the main fault was that we were just anxious to get things done."



In its 25th anniversary year, PLIPDECO has come through those difficult years intact. Its financial situation, as Ken Snaggs says, is "quite sound. Although we have never paid a dividend, we are servicing our \$45 million long-term loan, we have a healthy cash flow, we are making profits every year, there's money in the bank." Later in 1991 PLIPDECO plans to go to the market with a new share issue. Government remains the major shareholder, with Caroni holding 16% and private individuals about 2%. Caroni and the South Chamber still appoint directors to the Board, which was enlarged in 1989 to twelve, including the CEO and a workers' representative.

The port is flourishing. A vigorous development programme, funded from PLIPDECO revenues, has continued since 1986, and has created an efficient marshalling yard. Port Point Lisas is used regularly by nine non-national lines: Caribtainers from Europe; Bernuth, TMT, Seaboard Marine, Antilles Lloyd and TEC Marine from North America; and Ventrinza, VenCaribe and CAVN from Venezuela and South America. It handles a substantial amount of general and container cargo; in 1990, in addition to 34,445 tonnes of general cargo, 212,595 tonnes of container cargo and 52,797 tonnes of grain and sugar, the port handled 3.15 million tonnes for the petrochemical and steel plants.

The southern business community makes good use of the port, even though the facilities are not in San Fernando itself. San Fernando businessman Carlton Mack, who came to Trinidad from China in 1932 and was for many years a PLIPDECO director (one of the port tugs was named after him, an honour shared with Robert Montano and the energy minister of the seventies, Errol Mahabir), says the Point Lisas port is efficient, user-friendly, cheaper, and provides a fast turnaround.

And there is significant expansion ahead. Point Lisas already handles about a third of Trinidad and Tobago's general and container cargo, and its market share is likely to increase steadily in the next few years. A 1990 report on port rationalisation by the Canadian consultants Novaport proposed that Port of Spain should diversify some of its valuable waterfront real estate into office and residential property, foregoing further expansion and allowing Point Lisas to

PLIPDECO TODAY AND TOMORROW



▲ Above Container cargo offloading at Port Point Lisas.

build up its cargo traffic. The study pointed to the space constraints and traffic congestion which limit Port of Spain as an effective gateway for the entire country, compared with the available space and the easy highway access at Point Lisas.

Accordingly, Point Lisas is preparing itself for a greater market share, and is working to attract new business. It sees itself as a trans-shipment port for the southern Caribbean, as the original studies 25 years ago recommended. This will mean extensive development: at present the berths can handle only vessels 120 metres long with a seven-metre draft. More space and bigger berths will be needed to handle shipments for the new petrochemical plants and free zone companies. The port will also need a channel big enough to handle two-way traffic. Its container-handling capacity is already at full stretch.

Work is already in progress to develop a larger container/general cargo berth, Berth 4, at the northern end of the harbour area, and an extension of the Savonetta pier, to make it a 3-berth facility with extra capacity for handling liquid product. These schemes will involve some new dredging. Later, at the southern end of the harbour, PLIPDECO plans to establish a new container terminal on reclaimed land.

Anthony Lazare, PLIPDECO's Manager, Corporate Services, is also its company secretary, and acted as CEO after Ken Snaggs retired in 1991. He sees port development as crucial. "We were originally landlords and developers, but now the estate is substantially devel-



Left
Anthony Lazare,
Manager, Corporate
Services and Company
Secretary.



Below
The 310-metre Savonetta
pier services the ammo-
nia, urea and methanol
shipments of the three
petrochemical plants.



Ken Snaggs,
Chief Executive Officer
1978-91.

oped we have to concentrate on port activity and look towards further diversification in the future." Former chairman Hugh Howard sees Point Lisas developing as a major general cargo and trans-shipment port to serve the southern Caribbean.

There are legal and administrative issues to resolve, however. The National Energy Corporation owns the maritime assets at Point Lisas, including the ISCOTT dock and Savonetta pier, the channel and turning basin, the tugs and workboats, the communication and navigation facilities. PLIPDECO manages these on behalf of the NEC, and this could be a constraint to port development.

The future for PLIPDECO and Point Lisas, says Ken Snaggs, is positive. "The port will grow: there's no escaping that logic. PLIPDECO is already at the point where it will have to find extra land for future expansion of the estate, and to continue as an industrial property



◀ Left
Free Zone construction,
May 1991.

◀ Left Launching the Free Zone, March 1990. From left to right: Ken Snaggs (standing); Arthur Lok-Jack, chairman of the Trinidad and Tobago Free Zones Company; Dr. Bhoe Tewarie, Minister of Industry, Enterprise and Tourism; Prime Minister A. N. R. Robinson; William Austin, PLIPDECO chairman; Tyrone Samlalsingh, PLIPDECO board member.

developer. For that is what PLIPDECO is. Point Lisas itself is the obvious base for further industrial expansion, and PLIPDECO has amassed such a wealth of experience and expertise in this area that it can only continue to use it and build on it. PLIPDECO knows how to carry out large-scale physical development, and that is a very valuable skill."

Of the available land at Point Lisas, 90% has already been allocated or requested, and PLIPDECO is actively looking for new land for expansion. There are between 40 and 50 tenants on the estate already, providing about 5,000 permanent jobs.

A major change in ownership is on the cards, not only for PLIPDECO but for four of the major tenants on the estate: the urea and methanol companies, both government-owned, and Fertrin and Tringen, both of which are 51% government-owned. In mid 1991 the government was proposing to divest equity in these companies to a new National Investment Company, which would provide units to the country's public servants as part of an overall settlement of payment arrears.

A major concern in the early 1990s will be the free zone. Launched in early 1990, its development has been slowed by difficulties over the specific responsibilities of PLIPDECO and the Trinidad and

Tobago Free Zones Company, and by the need for regulations to grant local entrepreneurs the same facilities as overseas investors. But the first six units, suitable for warehousing or light industry, were due for completion in the summer of 1991, and PLIPDECO has been handling a steady stream of enquiries from companies interested in locating there. The teleport is already in place, opening the way for informatics industries.

Anthony Lazare concedes that Trinidad cannot seriously compete with free zone centres like the Dominican Republic when it comes to labour costs and closeness to the United States market, but is concentrating instead on its real advantages. "We are going to find our own niche. We have cheap energy in the form of natural gas, we have large industrial plants next door to service downstream industry; we have a steady electrical supply, something the Dominican Republic free zones do not have; and we have plenty of other natural resources, such as high quality wood and by-products of the sugar industry. The trick is really to identify the exact industries and products that can use this combination of inputs at a saving compared with other locations. That is what we are working on now. Informatics is certainly on the cards: Jamaica and Barbados are already involved in this area, but it may well be that we can offer better skills and equipment than either."

P

LIPDECO has been the midwife for Point Lisas. It has invested something like TT\$100 million in infrastructural work since activity began in earnest in the mid 1970s. It has created a port and an estate to service large industrial tenants, using its own revenues and share capital backed up by the National Commercial Bank overdraft, without government budgetary support or taxpayers' money. Thanks to Point Lisas, Trinidad and Tobago is the world's third largest exporter of ammonia (after the USSR and Canada). Point Lisas is a successful export-oriented estate, with Western Europe and North America as its major markets, and sales also in South America (especially Brazil) and the Caribbean. It has turned the early dreams into a going concern.

About 7,000 visitors are handled by PLIPDECO's Information and Public Relations Department every year; they range from heads of state and government (including President Carlos Andrés Pérez of Venezuela and former Prime Minister Edward Seaga of Jamaica), through potential investors, government ministers and parliamentarians, to school and university students in search of information.

Information Officer Angela Gouveia, who coordinates this programme, recalls: "At one time, one of the questions I was usually asked was *Oh, Iscott, are you really losing a million dollars a day? or All that money spent on a white elephant!* But today the comments are very different. A group of British parliamentarians expressed surprise that such a small country had done so much with its previously flared gas. Officials from an American steel mill said of the iron and steel plant *This is a cadillac of a steel mill.* We regularly get comments like *Good foresight, a valuable experience, or I want to work here.*"

Today, the managers and operators of all the Point Lisas plants, except the iron and steel mill, are nationals. And the successful growth of the Point Lisas estate has clearly been due not just to its managers but to the quality of people at all levels who have been attracted to the estate and now operate it, whether on the plant floor or in the engineering centres or the administrative offices. Carlos Hee Hiong of the Trinidad and Tobago Methanol Company points out: "Our plant, worth perhaps US\$200 million in value, is run by eight people in one control room, not one of whom went to university: back

THE POINT LISAS EXPERIENCE



▲ Above PLIPDECO Information Officer Angela Gouveia (fourth from left) shows media representatives around the port and estate, May 1991.

in 1975 that was inconceivable. That is part of the Point Lisas experience."

Anthony Lazare recalls how staff at all levels rallied to attract scheduled users to the port in the late 1980s. "We all worked together, including the board and the entire management team, to persuade customers and tenants to come to Point Lisas. I remember seeing the operations manager Kurt Allahar down in the hold helping to load shipments and ensure fast turnaround. We saw a very high level of staff commitment, and it spread throughout the organisation. Everyone responded, from terminal workers to managers who never knew when they would be called out at weekends to do urgent evaluations or feasibility studies."

The estate is still expanding. A second methanol plant is being developed by Caribbean Methanol, a subsidiary of Colonial Life Insurance. LNG, shelved in the mid and late seventies, is still a possibility in spite of the huge capital cost, if and when the gas situation in the United States stabilises. An aluminium smelter is still a long-term possibility. The free zone is an exciting new departure, which will help to generate substantial new employment in the nineties.

Apart from possible new heavy industries at Point Lisas, there is real scope for expanding medium and smaller industry, opening up other new employment opportunities in line with the original Point Lisas vision. There are 30-40 light and medium industries on the estate already, producing everything from steel and aluminium products to breakfast cereals, detergents to cosmetics, sanitary and



▲ Above
Bernuth Lines named this container vessel after Point Lisas.



▲ Left
Fertrin's cooling tower is the largest in the western hemisphere.

hair products to butter and cheese.

The original vision was of more companies taking advantage of the heavy industrial products on the estate to create downstream industry. That could be another big growth area in the next few years, as entrepreneurial confidence grows in the Point Lisas vision, and the concepts of a quarter of a century ago move towards complete realisation. "There is sufficient industry at Point Lisas now to begin to generate a spin-off," says economist Frank Rampersad. "We should be thinking of the five and ten million dollar investment related to the existing industries, so as to maximise the employment impact, small and medium sized ventures within the capability of the local investor."

PLIPDECO will be the catalyst for this activity. The Corporation is working on a five-year Strategic Plan to set its direction for the next few years; it is eager to branch out in new directions, perhaps into joint ventures or into new services like bunkering. "PLIPDECO is in an exploratory phase," says Anthony Lazare, "we are developing, open to new ideas."

The Point Lisas advantage, which PLIPDECO is now working to exploit fully, was always its unusual combination of resources: abundant natural gas, plentiful electrical power, feedstock, water, a deepwater harbour, high-class communications and a high-calibre, highly-motivated work force, all within a few square miles. The 1990 Novaport study put it this way: "The PLIPDECO experiment is unique in the Caribbean and one of the few such facilities in the world. Point Lisas should not attempt to compete with free zones or industrial estates which rely upon cheap unskilled labour as the only drawing card. Point Lisas has many other assets and unique features which should be built upon for future growth."

Now that the first phase of development at Point Lisas is over, there is a sense that something truly important has happened, not just for Trinidad and Tobago but for industrialisation in the developing world. Carlos Hee Hiong puts it this way: "From about 1985, I started to feel more comfortable with the industrial estate here, with its scope and potential. I was seeing a higher calibre of industrialist operating here, because of our increased knowledge of the business and the

wealth of experience we all acquired over the years. I felt we were better able to predict and forecast, we were feeling more sure of ourselves and less reliant on outside sources for advice.

"We now have some of the best people in the world in their particular industries, operating on this estate. We have a tremendous concentration of the highest calibre of expertise. We were thrown in at the deep end, but we learned to swim; we are less dependent, we can hold our own now at the highest levels of international industry. That is perhaps the most important thing of all about Point Lisas."

That expertise is already being recognised. In PLIPDECO's 25th anniversary year, for example, the Trinidad and Tobago Methanol Company was working on a methanol plant in India, as start-up consultants to a Japanese company. "Back in 1975, we could not argue with anyone when they told us we could not sell methanol without a New York office and all sorts of other things," says Hee Hiong. "Now we sell methanol right here. We sell Russian methanol which we don't even see."

Hugh Howard draws the same conclusion. "Before Point Lisas, what did we have? Primary products sent abroad, under bilateral or multilateral agreements, commodities like sugar. Now we have people out there selling high-tech products and giving a good account of themselves in the international marketplace. We have gained experience in negotiating loans, financing projects, the cut and thrust of international business. And our young people have something they can identify with, an incentive to develop their capabilities in science and business."

Point Lisas, in other words, has fulfilled not only the vision of the South Chamber but the vision of Eric Williams too. It is a flourishing second port, it has been a catalyst for heavy industry, it has developed profitable uses for the country's natural gas. It has turned sugar cane into wire rods, as Williams demanded. And it has also taught a small country that it can stand on its own feet in the world of international industry and finance and make its own successful decisions. "Point Lisas will be the salvation of this country," says the economist Frank Rampersad, "and PLIPDECO must carry a lot of the credit for it."

PLIPDECO'S TENANTS

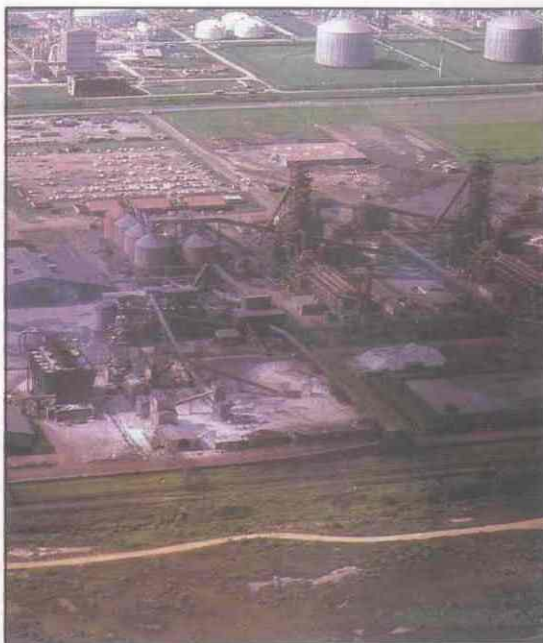
TRINIDAD AND TOBAGO ELECTRICITY COMMISSION (T&TEC)

T&TEC had wanted a central site for a new power station, and was the first to move into Point Lisas. The power plant came on stream in October 1977, with 88MW capacity; it can now generate 634MW. Four of its 10 gas turbines are 86MW Westinghouse units; four are 62.5MW Brown Boveri units, and two are 20MW John Brown units. It is the largest electrical facility in the Commonwealth Caribbean, generating more power than Barbados, Jamaica and Guyana combined.

CARIBBEAN ISPAT LTD.

Caribbean Ispat, a subsidiary of the Calcutta-based Ispat Group, which has extensive steel operations in India and Indonesia, leased the iron and steel plant from Iscott for ten years in 1989. Iscott, the Iron and Steel Company of Trinidad and Tobago, was incorporated in 1975. It was first structured as a joint venture between the government, Estel (a Dutch corporation) and Kawasaki (Japan), but was established as a wholly-owned government enterprise, scaled down in size but upgraded in quality. Site preparation began in February 1976: 26 hectares were raised from below sea level to six feet above. Construction on the full 57-hectare site began in 1977, and was completed in

three years at a cost of TT\$1.2 billion; production began in 1981. Suits by five American companies led to the imposition of both anti-dumping and countervailing duties which severely restricted marketing strategy.



The iron and steel plant is an integrated steel mill with three basic products: direct reduced ("sponge") iron, billets and wire rods. Each is sold separately, but each is also the raw material for the next. Iron ore is imported mainly from Venezuela and Brazil.

There are two Midrex direct reduction plants,

each with an annual capacity of 450,000 tonnes of direct reduced iron. The meltshop has two electric arc furnaces, each with a capacity of 90 tonnes, and two four-strand billet casting machines; its annual production of billets is 700,000 tonnes. The rolling mill is a two-strand, high-speed, no-twist rod mill capable of producing over 600,000 tonnes of wire rods a year. Finished products are exported to the United States, Canada, South America, Europe and South-east Asia. About 1,000 people are employed.

FERTILIZERS OF TRINIDAD AND TOBAGO LTD. (FERTRIN)

Construction started in 1979. A joint venture between the government (51%) and Amoco, and the second major industry to come into operation, Fertrin opened in September 1981 and uses natural gas both as an energy source and as a raw material for producing ammonia. The plant, designed and built by Pullman Kellogg, cost about TT\$750 million and produces anhydrous ammonia for export mainly to the United States and Europe.

Fertrin's two ammonia units, designed for use in North America but modified and installed in Trinidad, produce 2,300 tonnes a day, well above their rated capacity of 2,088 tonnes, with no major modification. Half the output is exported, and the other half is used as raw material by the nearby urea plant.

Carbon dioxide, a by-product of the ammonia manufacturing process, is also used by the urea plant at a rate of about 1,250 tonnes a day; another 450 tonnes are used by the methanol plant. There are about 400 employees.

Ammonia, normally a gas, is lighter than air, with a sharp irritating odour; it burns the eyes and skin, dissolves quickly in water and is sold as a cleansing agent. Cooled to minus 33.3° Celsius, it becomes a colourless liquid known as anhydrous ammonia. Ammonia is 82% nitrogen and 18% hydrogen: the high nitrogen content makes it such an effective fertilizer.

Ammonia is produced by the synthesis of nitrogen and hydrogen. In the production process, natural gas is desulphurised and reformed with steam to produce hydrogen and carbon dioxides. A controlled amount of air is added to provide the required nitrogen. After removal of the carbon dioxide, the mixture is synthesised and the product is cooled and stored in liquid form in two

30,000-tonne tanks at minus 33.3° Celsius.

TRINIDAD AND TOBAGO UREA COMPANY LTD.

Started in 1981 and commissioned in December 1983, the urea plant cost TT\$409 million and produces 1,620 tonnes per day. It is wholly government-owned. Much of the annual output of around half a million tonnes of granular urea is exported to North, South and Central America, Europe, the Far East and the Caribbean. The plant was managed by the National Energy Corporation until 1990. Day to day operations are contracted out to Fertrin, which supplies ammonia and carbon dioxide on a daily basis.

Granular urea is a white, non-toxic compound made from ammonia and carbon dioxide, derived from Trinidad and Tobago's natural gas. It has a slow-release additive which, coupled to its larger particle size, allows it to remain in the field longer. It is also blended with other fertilizers and

is used for downstream products such as paper and fabric treatment, cosmetic and detergent manufacture, and resins. It is a major ingredient in the production of adhesives used in plywood and particle board, plastics and laminates, and is also an ingredient in animal feed.

TRINIDAD AND TOBAGO METHANOL COMPANY LTD.

This is a government-owned plant producing 1,380 tonnes of chemical-grade methanol per day, or 455,000 tonnes a year. Construction by Toyo Engineering began in September 1981 and was completed in January 1984 at a cost of about TT\$450 million. The plant provides 200 jobs. Commercial production started in May 1984. Wholly government-owned, the plant was managed by the National Energy Corporation until 1988. 95% of production is exported to the United States, Brazil and Europe under long-term contracts, and some is sold on the spot market. Two 14,000 dwt methanol tankers, owned by the government, are used to export product.



Right

**The Fertrin complex, with
the ammonia plant at left
and urea at lower right.**



Far right

**The Trinidad and Tobago
Methanol Company plant.**



Methanol is the simplest alcohol, a colourless, volatile, flammable liquid used in the manufacture of plywood, adhesives and resins (in the form of formaldehyde, which consumes about half the world methanol production), and in a wide range of items including pens, toys, combs, razors, and components for machines and telephones, audio and video cassettes. Methanol is also used in the manufacture of polyester fibres and plastics, nylons and the octane booster MTBE, and as a solvent for paints, dyes and glues. It is also in demand as an alternative energy source, since it can be used as a motor fuel, mixed with gasoline to augment supplies, or converted into gasoline.

In the production process, natural gas from the National Gas Company is desulphurised, mixed with steam and passed through a furnace where the chemical composition of the gas changes to yield a synthesis gas. This is cooled (incidentally generating most of the plant's steam requirements), mixed with carbon dioxide and passed through the reactor. The resulting crude methanol is purified by distillation, cooled and stored.

Methanol prices are high and are expected to remain high in the first half of the 1990s. So successful has the operation been that a second methanol plant is under construction at Point Lisas, and a third is planned for Point Fortin.

CARIBBEAN METHANOL CO. LTD.

The second methanol plant at Point Lisas, now under construction, is a private sector joint venture between Colonial Life Insurance Ltd. (CLICO), which holds 64.9%, and two German companies: Ferrostaal AG (25.1%) and Metallgesellschaft (MG) (10%). Site preparation was complete by mid 1991,

and the TT\$850 million plant should be complete by 1993, with a capacity of 500,000 tonnes.

POINT LISAS FREE ZONE

Infrastructure work on the Point Lisas Free Zone, developed and operated by PLIPDECO, began in March 1990 on a first-phase area of 13 hectares. Export companies enjoy a wide range of facilities, including natural gas, port services and a teleport operated by TSTT (Telecommunications Services of Trinidad and Tobago). When complete, the zone will cover 25 hectares. Approved companies receive duty-free concessions, tax holidays, freedom to operate foreign currency accounts, and reduced customs bureaucracy. Through a variety of programmes, companies can manufacture, assemble, repair, modify or store products and materials in a tax-free and duty-free environment. PLIPDECO fenced the site, built the roads and constructed six warehouses: by mid-1991 \$10 million had been spent on infrastructure with another \$15 million to come.

PORT POINT LISAS

Port Point Lisas services the industries on the estate and handles general import and export cargo as well. It can accommodate all types of vessels up to 75,000 dwt or vessels drawing 11.59 metres at low water (allowing 10% clearance). The harbour and the 3-kilometre approach channel (152 metres wide) are dredged to a depth of 12.8 metres. There are specialised terminals for liquid and dry bulk handling.

The 407-metre ISCOTT dock handles the import and export of raw materials and finished products for the iron and steel mill. The Savonetta Pier No 1 is a 310-metre finger pier servicing the ammonia, urea and methanol shipments of the three petrochemical plants. PLIPDECO has three berths for container and general cargo traffic. The port has its own tugs and work-boats, launch and towage services, navigational aids and fire-fighting capacity. Round the clock support services include pilotage, customs, immigration and port health.

NATIONAL GAS COMPANY LTD. (NGC)

The NGC was incorporated in 1975, and is the sole supplier and distributor of natural gas for electricity generation and industrial use in Trinidad and Tobago. It supplies over 4 billion cubic feet of gas annually to nearly 70 clients, including those at Point Lisas. The NGC's \$7 million head office building opened at Point Lisas in 1990; its warehouse and field maintenance complex were established there in 1984. The company has a staff of over 250.

NATIONAL ENERGY CORPORATION (NEC)

The NEC was established in 1979 as a wholly-owned state corporation to promote national hydrocarbon resources and develop a gas-based petrochemical industry. The Corporation was closely involved with the development of Point Lisas, including the construction of the methanol and urea plants (which it commissioned and managed until 1988 and 1990) and of the 760mm cross-country

pipeline bringing natural gas to the estate. The NEC owns the marine infrastructure at Point Lisas (the harbour and turning basin, the tugs and workboats, and the piers). It now functions as a project research and development company for the government.

**CENTRAL TRINIDAD
STEEL LTD. (CENTRIN)**

Centrin, the first major downstream plant at Point Lisas, was established in 1981 to produce 100,000 tonnes of steel annually; it uses local commodity feedstock (billets) from the iron and steel plant. With 177 employees, Centrin is the country's largest private sector foreign exchange earner. Its sister company, Trinrico Steel and Wire Products Ltd., uses wire rods from the iron and steel plant to produce finished products for export.

**TRINIDAD AND TOBAGO OIL
COMPANY LTD. (TRINTOC)**

Trintoc produces oxygen and nitrogen at Point Lisas, and since 1986 has also produced urea/formaldehyde concentrate (UFC), in the first downstream operation from methanol and urea. UFC is supplied to the urea plant, and oxygen/acetylene to the iron and steel plant and other users.

**NATIONAL COMMERCIAL BANK LTD.
INDUSTRIAL DEVELOPMENT
CORPORATION**

(factory shells)

KAKTUS SECURITY SERVICES LTD.

SHELL CHEMICALS LTD.

(lube oil blending)

SUPERMIX FEEDS TRINIDAD LTD.

(feed storage)

GEMINI READYMIX CONCRETE LTD.

(batching plant)

ADT MANUFACTURERS

(steel rebars)

SHORUVI INDUSTRIES LTD.

(hydrated lime)

CARIBBEAN STEEL MILLS LTD.

(aluminium products)

CARIBBEAN DAIRY LTD.

(dairy products)

JOHN WILLIAMS

CONSTRUCTION LTD.

(contracting)

UNIVERSAL FOODS LTD.

(cereals)

CERAMIC DESIGNS LTD.

(sanitary ware)

GORMANDY PROPERTIES LTD.

(mufflers)

**UNITED ENGINEERING
SERVICES LTD.**

(machining)

TRINIDAD TISSUES LTD.

(paper products)

OGA CONTRACTORS LTD.

(contracting)

POINT LISAS STEEL PRODUCTS LTD.

(manufacturing and warehouse)

RIDGEWOOD

(bathroom units)

CARIBBEAN SAFETY PRODUCTS LTD.

(safety products)

H. MOHAMMED

SUPER-CHEM PRODUCTS LTD.

(plastic containers)

QUESNEL SCOTT LTD.

(chlorine)

NATIONAL AGRO CHEMICALS LTD.

(dry fertilizer)

INDUSTRIAL GASES LTD.

(industrial gases)

LIQUID CARBONIC LTD.

ALLIED PETROLEUM MARKETING

(petroleum products)

TRUSPEC PLASTICS CO. LTD.

(plastic bottles)

POINT LISAS NEIGHBOURS



PHOENIX PARK GAS PROCESSORS LTD.

Phoenix Park Gas Processors is a joint venture between the National Gas Company and two American companies, Conoco and Pan West, and started operations in 1991. The company receives the natural gas inflow to the estate. The gasoline, butane and propane are extracted and sold: gasoline to Trintoc, butane and propane as LPG. Point Lisas customers then receive the methane-rich gas.

TRINIDAD NITROGEN CO. LTD. (TRINGEN)

A joint venture between the government (51%) and W.R. Grace, Tringen opened in October 1977 at a cost of \$281 million, the first Point Lisas plant to come into operation. It had been incorporated in 1974, and construction began in 1975. It has a capacity of 363,000 tonnes a year and provides 150 jobs. A second ammonia plant, TRINGEN 2, was added in 1986, and boosted annual capacity by 454,000 tonnes.

HYDRO AGRI (TRINIDAD) LTD.

Hydro Agri (Trinidad) is a subsidiary of Norsk Hydro, Norway's largest industrial company, and in 1991 acquired the interests of W. R. Grace in the former Federation Chemicals plant and in Trinidad Nitrogen (Tringen). Norsk Hydro produces millions of tonnes of fertilizer and ammonia at plants across the globe, in addition to extensive operations in energy, chemicals and aluminium. Hydro Agri (Trinidad) is part of Hydro Agri International, which manages Norsk Hydro's non-European fertilizer operations and is active in over 110 countries. The former Federation Chemicals plant has an output of 225,000 tonnes a year of anhydrous ammonia, and the Tringen plants, now operated and managed by Hydro Agri, produce 820,000 tonnes.

PLIPDECO'S OFFICIALS

CHAIRMEN

1966-75	Robert Montano
1975-82	Ken Julien
1982-84	Ganace Ramdial
1984-87	Hugh Howard
1987-	William Austin

CHIEF EXECUTIVE OFFICERS

1978-91	Kenneth B Snaggs
1991	Anthony Lazare (ag.), Joseph Pierre (interim ag.)

DIRECTORS

1966-82	Robert Montano
1966-72	Krishna Narinesingh
1966-69	Charles Anderson
1966	John Bascom
1966-73	Bernard Herrera
1966-74	Ivan Herrera
1966-69	Walter Marshall
1966-82	W. Sidney Knox
1966	David Hardy
1968-70	Wendell Mottley
1968-69	Francis Blackburn
1969-83	Carlton Mack
1969-74	Hugh Gransaul
1969-70	Arthur Mitchell
1970-73	Frank Thompson

1970-73	Gordon Maingot
1972-77	Eugenio Moore
1972-74	Carl Mohip
1973-87	Eldon Warner
1973-74,	
1975-80	Harold Fraser
1974-82	Kenneth Julien
1974-80	Samuel Martin
1974-77	Ainsley Borel
1974-87	Byron Gopaul
1979-83	Hercules Adams
1980-83	Clive Spencer
1980-84	Ganace Ramdial
1981-87	George Dieffenthaller
1983-87	Hugh Howard
1983-84	Worrell John
1983-87	Ramlal Bajnath
1983-87	Theophilus Harris
1983-87	John Latour
1984	Dayanand Maharaj
1985-86	Phaedra Ram
1986-87	Peter Quentrall-Thomas
1987-	William Austin
1987-88	Grenfell Kissoon
1987-89	Maurice Moniquette
1987-88	Florabelle Nurse
1987-	Salic Reesal
1987-	Tyrone Samlalsingh
1987-	Sandra Welch-Farrell
1988-	J. R. Wotherspoon
1989-	Adrian Franklin
1989-	Joseph Pierre

1989-	Carl Glasgow
1989-	Michael Singh
1989-91	Kenneth Snaggs
1990-	Vernon Glean

PLIPDECO'S FINANCES

Consolidated profit/(loss) before tax

1982	(\$3.1 million)
1983*	\$2.8 million
1984	(\$0.5 million)
1985	\$0.5 million
1986	\$8.3 million
1987	\$8.6 million
1988	\$3.7 million
1989	\$4.1 million
1990	\$6.3 million

**The 1983 results reflect a decision to treat outstanding unamortised payments on 99-year leases as current revenue for the year. They also cover 18 months, from July 1982 to December 1983, following a change in the PLIPDECO financial year.*

PLIPDECO LANDMARKS

- 1966 PLIPDECO incorporated, September 16.
- 1968 \$250,000 public share issue; US promotional tour.
- 1969 Second US promotional tour; Levinson Steel proposal.
- 1974 First oil shock.
- 1975 National Consultation on energy use; Coordinating Task Force established.
- 1976 Government becomes majority shareholder; start of land development; T&TEC construction begins.
- 1977 Master plan complete; harbour dredging and Iscott construction begin; opening of T&TEC power station; Tringen starts production; Fertrin incorporated; LNG and methanol projects approved.
- 1978 Construction of Iscott marine facilities begins; NGC pipeline complete; estate infrastructure well advanced; PLIPDECO has 10 professionals and 20 support staff, and paid-up share capital of \$12.3 million (the government holds 81%).
- 1979 Fertrin construction begins; National Energy Corporation formed.
- 1980 Construction of infrastructure for light industry zone; first production of DRI and billets; PLIPDECO House opened (April).
- 1981 PLIPDECO's 15th anniversary; construction of methanol plant begins; Iscott commissioned, first production of wire rods; port dredging and reclamation complete; first local sale of wire rods; Fertrin commissioned, first ammonia production and export; construction of urea plant begins; Point Lisas Terminals incorporated.
- 1982 First Caribbean sale of wire rods; first export of billets; T&TEC reaches full capacity; Point Lisas Terminals starts operations; concrete batching plant opened.
- 1983 First sale of wire rods to Europe; urea production starts; 24 factory shells complete, with infrastructure for 16 light industrial sites; concrete batching plant closed; PLIPDECO staff cut from 196 at the end of 1982 to 141; the port handles 1.53 million tonnes of cargo, of which 350,000 tonnes is general cargo (including 120,000 tonnes of containerised cargo and 115,000 tonnes of export cargo).
- 1984 First urea exports; light industry shells complete; first production and export of methanol; PLIPDECO faces reduced port traffic as the economic downturn bites; port rates under review.
- 1985 Record urea shipment of 20,000 tonnes; PLIPDECO returns to profitability; port traffic recovering; more harbour dredging, berths 3 and 1A are restored; steel shipments increase; container warehouse opened.
- 1986 PLIPDECO's 20th anniversary; scheduled container service starts; Tringen 2 begins operations; profitability increases sharply; four new scheduled port users.

- 1987 Cargo traffic being vigorously promoted; \$1.4 million capital improvements on the port; Bernuth Lines start service from Miami and Caribbean; PLIPDECO Corporate Mission defined.
- 1988 Gross revenues down by 12% and profit by 54%; free zone site identified; further port upgrading in three phases, including space for shipping agents, repairs to Berth 3, expansion of LCL warehouse; Information Centre on the estate now operated by PLIPDECO; Caribtainers start service from Europe/UK and Ven Carabe from Venezuela and South America.
- 1989 Infrastructural work on the free zone site (\$2.3 million); paving work, new administration building, perimeter lighting at the port; Ventricia starts service from Venezuela and CAVN from South America and Puerto Rico; Venezuelan

president Carlos Andres Perez visits Point Lisas; PLIPDECO's special overdraft facility re-financed through a consortium arranged by the International Industrial Merchant Bank.

- 1990 Free zone launched (March); Novaport study on Point Lisas's future needs completed; marshalling yard commissioned at the port; Seaboard Marine starts service from Miami and Caribbean; centralised port administration office established; Telecommunications Services of Trinidad and Tobago the first free zone tenant; National Gas Company headquarters opened; construction of six warehouse/factory units for the free zone.
- 1991 First phase of free zone infrastructure complete on 13 hectares, with sites ready for tenancing; six warehouse/factory units complete; PLIPDECO's 25th anniversary.

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