

Index*

- Aburdene, Patricia, 130, 183
ADAB or Australian Development Assistance Bureau, 47
Adam Malik, 45
Adhi Satriya, 80
Agus River hydroelectric power project, 156
AIC or average incremental cost, 43, 127, 133
AIT or Asian Institute of Technology, 47, 66, 80
Akrasanee, Narongchai, 133, 179
Ancillary energy enterprises, 118, 150
Anders, Löf, 4, 33, 36, 37, 179
Andersen, R., 183
Ang Beng Wah, 31, 179
Angola, 35
Aquino, Corazon, 49, 74, 88, 98, 101, 112, 131, 184, 193
Arismunandar, A., 22, 80, 126, 179
Arnold Jr., John H., 129, 191
Arriola, Fe, 190
Arthur D. Little Inc., 84
Asahan, 51, 52, 54, 61, 63, 74, 141, 145, 151, 155, 156
ASCOPE, 42, 45, 46, 48, 50, 54, 142
aims of, 45
ASEA Brown Boveri (merger of ASEAN and Brown Boveri), 39, 40
"ASEAN civil servant", 149
ASEAN Coal Information Centre, 44
ASEAN Economic Ministers on Energy Co-operation, 42, 44, 47, 48

* Italicized page numbers locate definitions of terms in the Glossary. All letters in acronyms are capitalized.

- ASEAN Energy Co-operation,
Agreement on, 48
- ASEAN grid
feasibility, 94
national grids, 69-73
power utilities, 69, 70, 72, 73
symbolic value, 158
- ASEAN Petroleum Security Agreement,
48
- ASEAN
agreement on energy cooperation, 48
bilateral relations
Brunei-Malaysia, 113
Indonesia-Brunei, 113
Indonesia-Malaysia, 113
Indonesia-Thailand, 113
Philippines-Malaysia, 112, 113
Singapore-Malaysia, 111, 112
Thailand-Malaysia, 111
centralized decision-making, 128
electricity consumption, 24
emergency oil sharing, 48, 49
energy bodies, 44
energy demand centres, 95
energy forecast, 68, 69, 78, 84
energy locations, 95
environmental laws, 103
existing interconnections, 62
first interconnection, 51
future interconnections, 61, 62
generating mix, 67
history of energy co-operation
50-56, 50
hydro power, 91, 92
interconnections, 144
joint venture proposals, 146-49
non-renewable energy resources, 65,
66, 67, 68, 69
oil reserves, 66
renewable energy resources, 66, 69
symbolism in, 149, 158
- ASEAN-EEC Energy Management,
Training, and Research Centre,
44, 47
- ASEAN-US, 47
- Asian Institute of Technology or AIT,
47, 66, 80
- Aswan High Dam, 99
- Atmosphere, effects on, 45, 89, 90, 174
- Australia, 47, 100
- Australian Development Assistance
Bureau or ADAB, 47
- Average incremental cost or AIC, 43,
127, 133
- Azahari, A.M., 113
- Azzam, Henry, 83
- B-loan, 122
- Bach, Paul-Frederik, 34, 40, 132, 189
- Badan Pengkajian dan Penerapan
Teknologi or BPPT, 88, 132
- Baker, M.H., 183
- Bakoren or National Energy
Co-ordinating Board, 77
- Bakun hydroelectric power project, 52,
54, 61, 63, 72, 82, 85, 103, 108, 119,
129, 130, 141, 145, 151, 153-56, 158
- Bali, 1, 2, 41, 42, 45, 50, 54, 57, 88, 146
- Balui, 5
- Balweg, Conrado, 101
- Bangladesh, 6
- Base load, 16, 17, 136
- Basile, Paul S., 83, 180
- Batam Island, 61, 63, 141, 145, 146,
151, 152, 154
- Bathymetric, 148
- Belanak, 152
- Benefit
indirect, 29
- Benin, 34
- Biogas, 87, 88, 89
- Biomass, 47, 87, 166
- Bokopyin, 57
- Bolkiah, Prince Mohamed, 170
- Bondalem, 88
- BOT or "build, operate and transfer",
91, 98
- Botswana, 35
- BPPT or Badan Pengkajian dan
Penerapan Teknologi, 88, 132

- Brazil, 34, 140
 Brown, Harrison, 98, 184, 185
 Brunei
 energy resources, 65, 66, 67
 grid, 70
 lifetime of oil reserves, 79
 power utility, 77
 Btu, 172, see: Energy
 "Build, operate and transfer" or BOT, 91, 98
 Bukit Asam coal field, 51, 83, 119, 154, 155
 Bukit Ketri, 144
 Buleleng, 88
 Bung Kan, 56
 Burdge, Rabel J., 28, 185
 Burma, 56, 57, 92, 111, 114, 140
 Cabora-Bassa hydroelectric project, 110
 Cabrido Jr., Candido, 190
 Calorie, 172, see: Energy
 Canada, 34, 47, 109, 127
 Canadian International Development Agency or CIDA, 47
 Capacity, 172
 firm, 14
 total available, 14
 Carbon dioxide in the atmosphere, 89, 90, 174
 Carlson, Sevinc, 133, 179
 Castillo, Gelia, 107, 180
 CAVET or closed-cycle advanced vapour electro-turbo generator, 86
 Celsius, 173
 Centralization of power production, 24, 31, 86, 87, 89
 Ceyhan River (Turkey), 164
 Chappell, Philip, 130, 185
 Chia Lin Sien, 4, 46, 180
 Chia Siow Yue, 180
 Chico River Dam, 101-3
 Choy Hon Tim, 80
 CIDA or Canadian International Development Agency, 47
 CMEA or Council for Mutual Economic Assistance, 33
 Co-financing, 122, 123, 132, 192
 Co-generation, 31, 92
 Co-ownership, 106
 Coal, 9, 17, 34, 43, 44, 47, 51, 64, 65, 67-69, 72, 73, 76, 78-84, 89, 90, 93, 118, 119, 146, 152, 154, 155
 Coal briquetting project, 119
 COEC or Committee on Energy Co-operation, 44
 COIME, 42, 43, 44, 57, 173, 188
 Committee on Energy Co-operation or COEC, 44
 Committee on Science and Technology or COST, 42-44, 47, 48, 173
 Communist Party of Malaya, 111
 Cooper, Charles F., 186
 Copeland, Edwin Bingham, 32, 180
 Cost
 indirect, 29
 operating, 17
 power generation, 17
 power plant, 17
 COST, see: Committee on Science and Technology
 Cost-benefit analysis, 29, 177, see:
 Social benefit-cost analysis
 Costa Rica, 35
 Coward Jr., E. Walter, 27, 32, 180, 186
 D-Alpha gas field, 63, 152, 153
 Dalem, M.A. Warga, 67, 79, 180
 Dam, 18, 23, 29, 30, 34, 93, 99, 100, 106, 118, 120, 129, 130, 140
 Danish Power Consult, 40, 132, 189
 De Bono, Edward, 8, 181
 De Castro, Isagani, 88, 186
 Debt ceilings, 121
 Decentralization of power production, 31, 85-89
 Declaration of ASEAN Concord, 41, 42, 165
 Delgado, Francisco T., 182
 Demand charge, 174
 Demand estimation, 121
 Democratization of power production, 31, 87, 96

- Dendrothermal power plant, 81, 146, 156, 157, 159
Deng Xiaoping, 106
Denmark, 4, 18, 35, 36, 39
Depletion allowance, 127
DES or Directorate of Electricity Services, 61, 80, 173
Desai, V. V., 57, 158, 181
"Design idiom", 8, 163
Dhanabalan, S., 171
Digester, 87, 88, 89
Direct benefit, 173
Direct cost, 173
Directorate of Electricity Services or DES, 61, 77, 80, 173
Dispatch problem, optimal, 16
Distributed storage and generation system or DSG, 31, 85, 86, 87, 88, 96
Distribution line, see: Transmission line
Dixon, John A., 181
Dorn, H.K., 11, 31, 143, 181
Dowlatabadi, Hadi, 10, 31, 33, 143, 186
DSG or distributed storage and generation system, 31, 85, 86, 87, 88, 96
Duri oil fields, 151, 152

ECLA or U.N. Economic Commission for Latin America, 35
Ecological aspects, 26, 28, 30, 32, 46, 118, 129
Economic reserve, 177
Economically mineable reserve, 177
EGAT, 10, 22, 31, 51, 52, 53, 57, 61, 64, 76, 77, 80, 89, 144, 173, 189
EGAT-LLN, 57, 125, 141, 189
Egypt, 99
EHV, 11, 51, 96, 106, 173
EIA or environmental impact assessment, 103, 104, 130, 173, 193
EIS or environmental impact statement, 173
El Salvador, 35
Electricity, 173
benefits from production, 100, 129, 131
Electricity trade, 25, 55, 131
advantages, 25
pricing, 123
stages, 134-40
types, 20, 134-40
Employee, 23, 37, 105-7, 119, 130
Employees, 23, 37, 106, 119
Enclave, 91, 118, 130
Energy 173-74
Energy forecasts, 156
Energy prices, 81, 82, 83, 84
forecasts, 82, 83, 84
Energy security, 107, 131
Energy problems, 2
England, 31, 33, 34, 97, 163
Environment impact assessment, 103, 104, 130, 173
Environmental laws, 103
ESCAP, 4, 6, 7, 10, 11, 17, 18, 24, 30, 31, 35, 51, 57, 61, 80, 82, 83, 92, 94, 96, 98, 113, 125, 142, 143, 159, 174
Espiritu, Edgardo B., 67, 121, 181
Evans, Nigel, 10, 31, 33, 143, 186
Exchange rate volatilities, 123
Expansion problem, optimal, 16
Extended benefit-cost analysis, 29, 30, 177
External diseconomies, 29
External economies, 29
Externalities, 29, 87, 100, 118

Faboumy, C., 189
Feasibility
definition, 27
economic, 28
environmental, 30
social, 28, 29
stages of, 28
technical, 28
Federalization of resources, 130
Fesharaki, Fereidun, 96, 98, 181, 184
Files, K.D., 115, 181
Financing of energy projects, 115-23

- Finland, 18, 34, 36, 39, 109, 190
 Firm capacity, 13
 Flavin, Christopher, 186, 197
 Forecasts, 90, 91, 92, 96, 150, 156, 191
 Forecasts of energy prices, 82–84
 Forsyth, E.B., 97, 180, 181
 Forum of Heads of ASEAN Power Utilities/Authorities, 5, 9, 35, 43, 44, 52, 128, 129, 141, 142, 144, 149, 158
 France, 34, 57, 141, 163
 Frisch, J.R., 185
 Fusion, thermonuclear, 90, 156

 Gambia, 35
 Generation costs, 17
 Geographic constraints, 93, 94
 Geothermal, 43, 46, 65–67, 69, 72–75, 78, 81, 103, 119, 122, 130, 146, 156, 158
 Germany, 33, 39, 88, 141
 Ghana, 34, 100
 Glankwahmdee, Siridat, 58, 80, 132
 Goldemberg, Jose, 90, 91, 186
 Gönen, Turan, 30, 181
 Gorbachev, Mikhail, 106
 Greenhouse effect, 89, 90, 96, 174
 Grid vs. interconnection, 10, 59, 60
 Grid, definition of, 10, 12
 Griffiths, Ieuan Ll., 110, 181
 Growth rate
 electricity consumption, 24
 energy consumption, 24
 Guatemala, 35
 Guinea Bissau, 35
 GW, 175
 GWh, 173

 Hafele, Wolf, 81, 186
 Hamakawa, Yoshihiro, 87, 186
 Hamzah Bakar, 79
 Hansson, Bernt, 18, 189
 Hayes, David, 32, 73, 151, 152, 186
 HEPP, see: hydroelectric power plant
 Hertz or Hz, 70, 174
 Herzog, Chaim, 111

 Hodel, Donald, 84
 Hoelscher, H.E., 26, 187
 Hofschmidt, Maynard M., 29, 181
 Honduras, 35
 Hong, Evelyn, 129, 187
 Hong Hai, 143
 Hoover Dam, 99
 Hough, G. Vernon, 69, 82, 83, 130, 187
 Hubbert, M. King, 68, 96, 97, 182, 187
 Humon, N.P., 26, 187
 Hussein Onn, 131
 HVAC or high voltage alternating current, 72, 116
 HVDC or high voltage direct current, 5, 34, 39, 52, 54, 61, 63, 72, 85, 108, 115, 116, 130, 145, 151, 153, 155, 157, 174
 Hydro, 5, 11, 17, 18, 29, 34, 35, 39, 43, 51, 52, 54, 56, 57, 61, 65–69, 72, 73, 78–84, 87–93, 96, 99–103, 106, 110, 111, 114, 116, 118, 121–24, 127, 140, 146, 150, 155–58, 166
 Hydroelectric power plant or HEPP, 54, 61, 63, 72, 82, 85, 108, 119, 130, 140, 145, 153, 156, 158, 174
 environmental impacts, 93, 99
 Hydrogen, 31, 187
 Hz or Hertz, 18, 70, 174

 Ibarra, Higino, 80
 Icamina, Paul, 129, 187
 Iceland, 33, 36
 IDC or International Development Centre, 51, 52, 189
 Iemoto, 106
 India, 6
 Indirect benefit, 100, 174
 Indirect cost, 174
 Indonesia
 energy resources, 65, 66
 environmental laws, 103
 generating mix, 67
 Java grid, 70
 lifetime of oil reserves, 79
 power utility, 74, 77
 small-scale energy technology, 88

- Insurgents, 131, 194
Interconnection vs. grid, 10, 59, 60
Interconnection
 AC or DC, 18
 advantages, 4, 5, 10, 25
 asynchronous, 51, 134, 184, 189
 Bali-Java, 146
 Central America, 35
 definition, 10
 Denmark-West Germany, 33
 England-France, 34
 Europe, 33
 Finland-USSR, 33, 109
 first world, 4, 35
 first Southeast Asian, 57
 Gotland, 39
 history of submarine, 39
 Langkawi-Peninsular Malaysia, 146
 Leyte-Mindanao, 145
 Madura-Java, 146
 Nepal-India-Bangladesh, 35
 North America, 34
 organizational issues, 127
 Panay-Negros, 146
 Penang-Peninsular Malaysia, 146
 political aspects, 25, 26, 55, 56, 109,
 114–15, 135, 137, 140
 problems, 53
 Pulau Seraya-Singapore, 146
 Samar-Luzon, 72, 145
 Sabaraw-Sabah, 61
 Sarawak-Pontianak, 61
 scale property, 109, 134–41, 143
 SEB/SESCO-Mindanao, 61
 Singapore-Batam, 61
 Singapore-Malaysia (Pasir Gudang),
 144
 southern Africa, 35
 Sumatra-Malaysia, 51, 61, 63, 145,
 146, 151, 153, 154, 155
 synchronous, 18, 61, 72, 134, 189
 Thailand-Burma, 56
 Thailand-Laos, 56
 Thailand (Sadao)-Malaysia (Bukit
 Ketreti), 52, 144
 trans-Malaysian, 5, 52, 61, 63, 108,
 115, 151, 153, 155, 157
 western Africa, 34
Internal rate of return or IRR, 174
Itaipu project, 34, 140
Itnin, Amirdin, 131, 187
Ivory Coast, 34

James, David E., 181
Japan, 39, 106
Java, 61, 63, 70, 72, 73, 146, 151–55
Jeffs, Eric, 34, 110, 187
Johansson, Thomas B., 186
Johansson, Torsten, 189
Johor Bahru, 25, 51, 57, 60, 63, 72,
 131, 151, 194
Joint venture, proposed, 146, 147
 ASEAN seabed survey, 148
 ASEAN submarine HV cable, 148
 ASEAN utilities R&D, 149
Jones, Lawrence W., 31, 187
Jordan, 164
Jurong power plant, 73

Kalimantan, 61, 63, 80, 145, 151, 153,
 154, 158
Kampuchea, 1, 114, 115
Karim, Gulrose, 80, 182
Kasetsart University, 89
Kaur, Mejindarpal, 88, 187
Kekreti project, 35
Kelvin, 174
Kendall, Sue, 57, 187
Kenya, 33, 185
Kenyir hydroelectric power plant, 72
Kheun-Pha-Mong, 140
Kilowatt, 173
Kilowatt-hour, 173
Kirke, John, 40
Klein, Katherine, 130
Knudsen, J. Ehlert, 33, 182, 189
Kong Ai Tieng, 4, 5, 52, 80, 184
Kraftwerk Union, 80, 158, 189
Kriangsak Chomanan, 131
Kuching, 145

- Kusumaatmadja, Mochtar, 113, 132, 170, 194
 Kuwahara, Susumu, 39, 182
 Kuwait, 164
 Kuznetsov, Stephen B., 86, 187
 KW, 173
 KWh, 173
- Lalander, S., 189
 Lamine, Serigne, 35, 187
 Laos, 34, 39, 56, 61, 92, 111, 114, 123, 124, 140, 141, 160
 Laos-Thailand, 56
 Laurel, Salvador, 112, 171
 Lecaros, Fernando, 31, 35, 143, 189
 Lee Kuan Yew, 32
 Lee Yee Cheong, 4, 5, 51, 53, 182
 Leibson, Irving, 84, 187
 Lembaga Letrik Negara or LLN, 22, 31, 51, 52, 53, 59, 61, 64, 70, 74, 76, 77, 80, 82, 94, 130, 144, 148, 175
 Leo Moggie, 159
 Lesotho, 35
 Leyte, 130
 Lignite, 68, 79, 83, 84, 90, 93, 106, 122, 146
 Lim, K.O., 66, 189
 Limbang, 113
 Limited-recourse financing, 123
 LIMPET or linear induction machine programmed electric turbine, 86
 LLN, see: Lembaga Letrik Negara
 LLN-EGAT, 61
 LLN-EGAT-PUB, 153
 LLN-PUB, 125, 141
 LLN-SESCO, 10, 57, 80, 189
 LNG or liquefied natural gas, 82, 94, 122, 153, 192
 Load curve, 13, 15, 22
 Load factor, 172
 Load shedding, 30
 LOLP or Loss-of-load probability, 13, 20, 30, 175
 Lovins, Amory, 31, 97, 182, 187
 Low-enthalpy geothermal heat, exploiting, 119
 Lucas, N.J.D., 6, 187
 Luhulima, C.P.E., 43, 45, 131, 182
 Lumpiness of investment, 17, 126
 Lumut co-generation plant, 92
 Luzon, 11, 61, 70, 72, 73, 101, 113, 129, 146
- Mabbett, Hugh, 131, 188
 Macapagal, Diosdado, 112
 MacGuire, Frances, 129, 188
 Mae Moh coal field, 83
 Mahakam (East Kalimantan), 153, 154
 Mahathir Mohamed, 159
 Mahaweli Ganga project, 102, 129, 191, 192
 Makiling-Banahaw (Mak-Ban) geothermal field, 72
 Malai Ali, 80
 Malawi, 35
 Malaysia
 energy resources, 65, 66
 environmental laws, 103, 104
 generating mix, 67
 grids, 70, 72, 73
 lifetime of oil reserves, 79
 power utilities, 74, 76, 77
 small-scale energy technology, 88
 Malaysia-Singapore, 26, 54, 61
 Malaysia-Sumatra, 151, 153, 154
 Malaysia-Sumatra-Java, 154
 Malaysia-Thailand, 54, 61, 124
 Mali, 35
 Maliwan, 57
 Manantali project, 35
 Marcos, Ferdinand, 101, 112
 Marginal cost pricing, 126
 Marginal production cost, 175
 Marginal reserve, 177
 Mariam Rajimah Hj Mukhtar, 80
 Mashayekhi, Afsaneh, 126, 127, 175, 190
 Matak, 153
 Mauritania, 35
 Maya Farms, 89
 McCarthy, Eugene, 182
 Medan, 154

- Megawatt or MW, 173
Meister, Anton D., 181
Mekong River, 56, 66, 92, 111, 114, 140
Meralco, 74, 89
Mergui, 57
Mexico, 34
Microhydropower, 17, 184
Miga, 122
MIGAS, 153, 154, 190
Mindanao, 61, 113, 130, 146, 156
Minihydropower, 43, 88
Mimboe, 175
Mmscf, 175
Mmtce, 175
Mohun, Janet, 98, 100, 130, 188
Moncrieff, Ian, 82, 84, 188
Monkut Institute of Technology, King, 89
Morgan, M. Ganger, 97, 182
Mozambique, 34, 35, 110
MTMC, 127, 133, 175
Muara Tiga coal field, 154
Mukdahan, 56
Multiplier effect, 175
MW or megawatt, 173
MW{e}, 176
MWh, 173

Nairobi, 185
Naisbitt, John, 130, 183
Nakhon Phanom, 56
Nam Choan hydroelectric project, 103,
 129, 188, 192
Nam Ngum hydroelectric power plant,
 56
NAPOCOR, see: NPC
Nathan, G.K., 69, 183
National Economic and Social
 Development Board or NESDB,
 75, 76
National Electricity Board or NEB, 10,
 59, 76, 80
National Electrification Administration
 or NEA, 74, 76, 89
National Energy Co-ordinating Board
 or Bakoren, 77
Natuna, 25, 32, 63, 108, 115, 151–55
Natuna-Bakun linkage, 63, 150–55
Natural frequency, 176
NEA or National Electrification
 Administration, 74, 76, 89
NEB or National Electricity Board, 10,
 59, 76, 80
Negros, 72, 146
Negros-Cebu-Leyte, 146
Nengah Sudja, 80, 182
Nepal, 6, 35
Nepal-India-Bangladesh
 interconnection, 35
NESDB or National Economic and
 Social Development Board, 75, 76
Net present value or NPV, 136
Network, 10, 12, 18, 27, 53, 59, 61, 73,
 147, 169
Ng, Victor F.A., 143
Ng Woon Kow, 80
Nicaragua, 35
Nigeria, 34
Nishimiya, Ryoichi, 129, 183
Nong Khai, 56
NORDEL, 18, 26, 33–40, 60, 114,
 125–28, 134, 137, 141
NORDEL
 effectiveness, 36
 grid, 19, 39
 organization and functions, 37, 38
 pricing of traded electricity, 38, 39
 statute, 36
Norway, 18, 36, 38
NPC or NAPOCOR or National Power
 Corporation, 10, 52, 57, 65, 74,
 76, 77, 80, 176
NPV or net present value, 136
NRSE or new and renewable sources
 of energy, 87, 88, 89, 96, 176
Nuclear, 16, 17, 29, 34, 43, 51, 74,
 78, 81, 82, 89–91, 96, 106, 120,
 152, 156, 166
Nuclear arms proliferation, 91
Nuclear power, 91
 breeder reactor, 81, 90, 156
 environmental impacts, 91
 wastes, 90, 91

- Oil prices, 2, 81–84
 Olsson, B., 18, 184
 Ombilin coal field, 83, 152
 OPEC or Organization of Petroleum Exporting Countries, 83, 84
 OTEC or ocean thermal energy conversion, 88
 Outage, 13, 17, 20, 30, 87, 151, 153, 172
 Ozal, Turgut, 164
- Paka power plant, 72
 Paksan, 56
 Palawan Island, 61
 Paloh, 153
 Panama, 35
 Panay Island, 72, 146
 Panumpong, Arun, 171
 Paraguay, 34, 140
 Perana, 34, 140
 Pareto, 28, 32, 102, 117, 118, 129, 150
 Pareto criterion, 32, 129
 Pareto transfer, 32, 102, 176
 Paribatra, Sukhumbhand, 131, 133, 179, 182
 Participation, local, 119
 Participatory, 105, 180
 management, 106
 ownership, 107
 planning, 40
 Pasir Panjang power station, 73
 Pasir Gudang, 51, 144
 Pathanaporn, Pratin, 182
 Peak load, 14, 38, 153
 Peak-power trading, 20–22, 51, 61, 72, 108, 134, 136
 Peaking units, 16, 17, 22
 Pedder HEPP controversy, Lake, 100, 102
 Pelagus River, 5, 151
 Penang, 154
 Perak, 72
 Peralta, Deogracias, 80
 Perusahaan Umum Listrik Negara or PLN, 10, 51, 52, 57, 61, 64, 73, 74, 77, 80, 148, 154, 155, 158, 176
 PETRONAS, 76, 79, 80, 130
- PGU or Peninsular Gas Utilization Project, 151
 Phaloprakarn, Somkiet, 80, 132
 Philippines
 energy resources, 65, 66
 environmental laws, 104
 generating mix, 67
 interconnection with ASEAN, 73
 Luzon grid, 70, 72, 73
 power utilities, 74, 77, 88
 small-scale energy technology, 88, 89
- Photovoltaic, 17, 31, 81, 86, 87, 88, 156
- Pian bin Sukro, 182, 190
 Pilegaard, Max, 40, 132
 PLN, see: Perusahaan Umum Listrik Negara
 Plutonium, 91
 PNPP I or Philippine Nuclear Power Plant, 82
 Pollution, 23, 29, 30, 46, 89, 93
 Pontianak, 61, 145, 151, 153
 Power, 176
 Present benefit, 176
 Present cost, 176
 Prices, energy, 81, 82, 83, 84
 Pricing of electricity, 123–25
 annual escalation, 124
 average incremental cost, 127
 by exporting utility, 125
 by STMC, 126
 ceiling, 125, 132
 currency used, 125
 fixed base price, 124
 hydro power, 127
 indexed to oil price, 124
 marginal production costs, 126, 127
 NORDEL formula, 125, 126
- Privatization, 74
 Proven reserve, 177
 PUB or Public Utilities Board, 10, 31, 51, 52, 53, 57, 61, 77, 80, 144, 177
 Public opposition, 100, 101
 Pulau Seraya, 73, 146
 PURPA Law, 74, 87, 88
- Quijano, 129, 188

- R&D, 177
R&D consortium, 148, 149
R/P ratio, 65, 68
Radioactive, 29, 89–91, 156
Radioactive wastes, 96
Rakyat, Partai, 132, 193
Ramachandra, S.G., 17, 183
Rebels, 23, 57, 100–3, 106, 111, 113
Reddy, Amulya K.N., 186
Reliability, 12, 13, 17, 20, 22, 86, 96,
 110, 128, 136, 151, 153, 156, 177
Reserve, 177
Reserve margin, 13, 14
Reserve
 economic, 173
 lifetime of energy, 65, 66, 79
 oil, 66
Risks, 26, 28, 29, 87, 91, 93, 108, 109,
 115–17, 120–23, 125, 130, 147
 project non-completion, 120
Rithauddin, Tengku Ahmad, 170
Rosenqvist, Roger, 18, 183, 189
Ross, Ian, 123, 183
Rowe, B.A., 34, 183
Rozali bin Mohd. Ali, 6, 11, 57, 80, 91,
 142, 143, 182, 183, 190
Rugg, Peter, 123, 183
- Sabah, 59, 60, 76, 92, 112, 113,
 114, 131
Sabah Electricity Board or SEB, 60, 61,
 70, 76
Sadao, 144
SADCC or South African Development
 Co-operation Committee, 34, 35,
 110, 183
Saldivar-Sali, Arthur, 182, 183
Salim bin Sairan, 6, 187
Salleh, Hashim, 79
Salween River, 56, 57, 66, 92, 114, 140
Sao Paolo, 34
Sarawak, 5, 52, 60, 61, 76, 92, 103,
 119, 141, 145, 146, 151, 153, 155
Sarawak-Brunei-Sabah-Philippines, 145
Sarawak-Kalimantan, 151
Sarawak-Philippines, 113
- Sarawak-Sabah, 61
Sattaur, Omar, 98, 100, 130, 188
Savannakhet, 56
Saw Swee-Hock, 143, 181
SBCA or social benefit-cost analysis, 177
SCADA or supervisory control and
 data acquisition, 16
Schuler, Henry, 83
Schumacher, Edwin, 97, 183
Scotland, 33
SEB or Sabah Electricity Board, 60, 61,
 70, 76
Security, energy, 6, 25, 48, 49, 55, 107,
 109, 131, 137
Senegal, 35, 187
Senoko power station, 51, 73
SESCO or Sarawak Electricity Supply
 Corporation, 52, 60, 61, 70, 76,
 80, 82, 119, 130
Seyhand River (Turkey), 164
Sharing of reserve capacities, 20
Short-term marginal cost, see: STMC
Siddayao, Corazon, 98, 184
Siddiqi, Toufiq, A., 98, 100, 103, 184
Siemens, 80, 158, 189
Sieminski, Adam, 83
Siltation, 18, 177
Singapore
 energy resources, 65, 66
 grid, 70, 73
 power utility, 77
Singh, Gurdip, 188
Singh Rye, Ajit, 130, 190
Small-scale energy technology, 31, 85,
 87–89, 150
Smith, Kirk R., 98, 184
Snitwongse, Kusuma, 131, 133, 179, 182
Social benefit, 177
Social benefit multiplier, see: Multiplier
 effect
Social benefit-cost analysis or SBCA,
 29, 30, 177
Social cost, 177
Social feasibility, 104
Social forestry, 132
Social impacts, 101

- Socio-technical system, 3, 25, 27, 162, 178
 Soeharto, 32
 Soenarjo, Sastrosewojo, 80
 SOFC or solid oxide fuel cell, 86
 Soft technology, 31, 97
 Solar energy/power, 30, 43, 66, 81, 87–89, 97, 156, 159, 166
 Solar farm/plantation, 146, 156, 157, 159, 178
 "Solar plantation reservation areas", 157
 Sovereign guarantee, 123
 Soviet Union, 34, 39, 106
 Spinning reserve, 13, 14, 22
 Sri Lanka, 102
 Stackegard, Hans, 18, 40, 183, 184, 189
 Standardization, 43, 135, 141, 142, 166
 Standby reserve, 13
 State control over resources, 130
 Stewart, James Clark, 32
 STMC or short-term marginal cost, 38, 39, 125, 126, 127, 132, 150, 175
 Subroto, 65, 79, 82, 83, 142, 188
 Sumatra, 51, 61, 63, 72, 73, 94, 119, 145, 146, 151, 153, 154, 155, 156
 Sumatra-Java, 61, 145, 151, 153, 155
 Superconductivity/superconductor, 85, 86, 96, 97, 180, 181, 194
 SUPERSEA or superconducting self-exciting armature, 86
 Swaziland, 35
 Sweden, 4, 18, 35, 36, 38, 39, 40, 123, 183
 Symbolic value in a megaproject, 158, 164
 Syria, 164
- Tajudin bin Mohd Ariff, 10, 11, 57, 58, 63, 80, 94, 158
 Talisayon, Serafin D., 26, 28, 94, 100, 104, 130, 184, 188, 190
 Tan Siok Choo, 97, 188
 Tanzania, 35
 Tariff, 7, 22, 23, 31, 55, 117, 125, 126, 130, 194
 Tasmania, 100
- Technological fix, 25, 152, 164
 Tenasserim, 57
 Th'ng, Lawrence Kok Kuang, 4, 5, 52, 184
 Thailand
 energy resources, 65, 66
 environmental laws, 104
 generating mix, 67
 grid, 70, 72, 73
 power utility, 72, 74, 76
 small-scale energy technology, 89
 Thailand-Indonesia, 49
 Thailand-Laos, 56
 Thailand-Malaysia, 6, 26, 51, 52, 111, 131, 140, 154, 194
 Thakhek, 56
 Thermonuclear power, 156
 Thyristor, 39
 Tidal power, 90, 93
 Tiwi geothermal field, 72
 Toba, Lake, 61
 Toe or tons of oil equivalent, 178
 Togo, 34
 Tongonan geothermal field, 72, 130
 Trans-Malaysian interconnection, 5, 52, 61, 63, 108, 115, 116, 151, 153, 157; see: Bakun
 Transmission line, 178
 Turkey, 91, 164, 194
 TW, 175
 TWh, 173
- UCTPE, 33
 Uganda, 34
 Unitization of two gas/oil fields, 140
 UPS or uninterruptible power supply, 86, 97
 Utility, power, 23
- Victoriano, Virgilio R., 46, 185
 Vientianne, 56
 Vietnam, 114
 Villach conference, 90
 Vitug, Vittorio, 129, 188
 Volt, 178
 Volta, 100

- WAES or Workshop on Alternative Energy Scenarios, 83, 180
Walton, Geoffrey, 129, 188
Watt, 175
Weatherly, W. Paul, 129, 191
WEC or World Energy Conference, 66, 68, 69, 151, 189
WGNCER, see: Working Group on Non-Conventional Energy Research
Wiedswang, Rolf, 40
Williams, Robert H., 186
Wilson, Carroll, 83, 185
Woodard, Kim, 98, 184
Woodlands, 57, 63
Working Group on Non-Conventional Energy Research or WGNCER, 47
Yang Razali Kassim, 79, 187
Yeoh Guan Jin, 97, 188
Yugoslavia, 33, 106, 109
Zaharom bin Haron, 182
Zambesi, 110
Zambia, 34, 35
Zamboanga, 130, 190
Zimbabwe, 34, 35
Zuhal, 132