

China Infrastructure Newsletter

MONTHLY OVERVIEW OF CHINA'S INFRASTRUCTURE SECTOR

Housing's not-so-speedy turnaround Slug or hare?

How much growth can the housing industry support this year? The answer will be a key indicator of the success of China's quest for 8 percent GDP growth in 1998. Initial grand talk of a locomotive-like housing sector hauling forward the economy has settled into harder numbers. Amid the chanting of the 8 percent mantra, senior officials have preached that the housing sector alone should enlarge GDP by almost a full percentage point. However, though increased sales of residential property in the first two months of this year have raised hopes, the housing sector will not be the single-handed savior of the economy this year, and the real impact of commercialization will not begin to be felt until at least the fourth quarter.

A gargantuan task

To expect instant results is unrealistic. The task Zhu Rongji has set for his government is gargantuan. First, at the consumer level, they must end a system of housing allocations and artificially low rents that predates most potential home buyers. New allocations can be stopped and rents raised, but it remains to be seen how quickly people can gain confidence in the investment value of housing and shed old notions of lifelong entitlement to virtually free housing.

Structurally, Zhu's regime must enact a rapid regulatory changeover for the Housing Reform Office and other government bodies responsible for regulating the market. Re-alignments and downsizing within the Ministry of Construction must proceed rapidly and leave a core of able officials. The

MOC needs to cut down on bureaucracy in the process of project approval and improve its ability to monitor quality and safety in new construction. Land use, too, will present a challenge for a ministry in flux: the government recently admitted a 50 percent year-on-year decrease in land available for new construction, and developers say this is a barrier to growth.

In the finance sector, Zhu must not only mobilize massive amounts of bank credit for home buyers, which he has begun to do, he must also develop a financial services industry that is in its infancy. Chinese banks, struggling under the weight of bad industrial loans, see mortgages as easy money. "There is basically no risk" Liu Zigang, head of real estate lending for the Industrial and Commercial Bank of China, told Reuters last month. Such optimism will help provide ample lending for a housing boom, but will not remove flaws like the lack of a proper credit assessment system and poorly developed property laws.

Measured optimism

To its credit, Zhu's government has already taken some decisive steps that allow for measured optimism. The People's Bank of China has mandated that residential housing loans from the top five banks jump to 10 times the 1997 total of \$1.2 billion, with mortgages expected to account for half the increase. PBOC also mandated a slowdown in state bond sales, which threatened to suck up free capital. Interest rate cuts will push savers to spend



clear thinking
solutions & analysis

Volume 3, Issue III

April 1998

Construction Update

Slug or hare?

Housing picks up slowly, p.1

Buyers speak: *Housing survey, p.2*

.....

Energy Update

To BOT or not to be?

Restructuring delays regulations, p.4

No money: *Power to the people, p.6*

Too gorgeous? *Three Gorges headaches, p.5*

Drip, drip...

No water left, p.6

Trash power

Garbage-fired generators clean up cities, p.7

.....

Transportation briefing

Highway bill:

Breakthrough possible, p.9

Tarring up the road

Louis Berger hits stride, p.10

.....

News briefs

Most respondents lack funds for housing

Ample bank credit doesn't move people...

...but losing state-housing may

Home buyers in two cities speak Ready or not?

The government is hoping eager developers will jump-start growth this year, but housing reform will ultimately hinge on demand. A recent survey commissioned by Clear Thinking of over 400 families in Shanghai and Guangzhou, cities in which housing reform is relatively mature, indicates low housing demand. But successful implementation of reforms, particularly of the state-sponsored housing system, could indeed induce people to buy.

Recently, government officials have been quoting surveys showing high housing demand. China Daily, for example, cited a poll suggesting that as many as 66 percent of Beijingers aspire to home ownership. In the CT survey, however, only 25.5 percent of respondents who were not already owners said they had plans to buy. Less than 20 percent said they planned to buy in the next year, and almost half admitted that they had no idea about when they might do so.

By far the most common reason given for not planning to buy was insufficient funds. More than half of respondents listed this as the single most important reason they didn't plan to buy, and more than one fifth pointed to the fact that they already had state-sponsored housing. Another 15 percent gave other reasons for not needing to own their own homes.

In total, almost 85 percent of respondents who did not own housing said their families did not have the resources to buy. This figure was even higher — 90 percent — among the three fifths of respondents who worked for government organizations or state-owned enterprises.

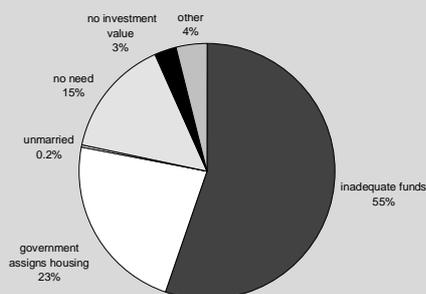
Inadequate private capital for real estate investment might indicate that one of the central incentives of housing reform — low interest bank loans for home buying — will be the most important aspect of the package. However, the possibility of bank loans did little to stir interest among respondents. Among those without their own housing, 71 percent said that even if banks provided credit they would still not buy.

Nor did the development of a secondary market, another of the pull factors of reform aimed at attracting people to the investment potential of home-buying, seem to attract new consumers. When asked to suppose the advent of a secondary market, only about one fifth of respondents who did not initially plan to buy changed their minds.

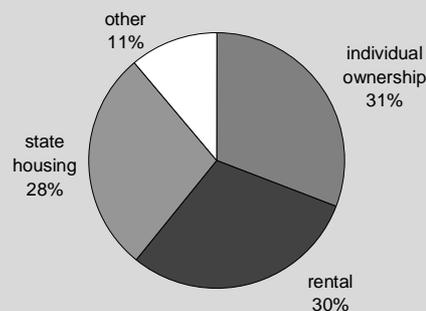
In fact the far more powerful factor in altering people's housing plans was the push factor of state-sponsored housing reform. The survey indicated that the end of welfare housing might cause 35 percent of those who originally expressed no interest in buying to change their response, bringing the total percentage of those who intended to buy up to more than 42 percent.

The least surprising but perhaps most important aspect of the survey was the relation between housing plans and work status. Of the 25 percent of people polled who intended to buy, almost half was made up by the 16 percent who worked in joint ventures, private businesses, and foreign companies. But getting these relatively affluent consumers to buy will not bring about the housing revolution.

No.1 reason not to buy a house



Family's current housing situation



and make the idea of mortgages more palatable. A virtual ban on construction of pricey office and hotel space will force developers to focus on housing construction.

A housing revolution?

Officials seem genuinely committed to starting crucial reforms of the state housing system, scheduled to begin officially on July 1, the cutoff date for new purchasing and distribution of state-sponsored housing. This move should force 6 million new members of the 110 million state workforce to join the housing market, the officials say.

The determined Zhu may be able to pull off most of the changes necessary for a housing revolution in a matter of a few years, which would constitute an economic miracle. Housing starts could rise by the last quarter of this year, perhaps even enough to cover the 10 percent share of new growth the sector is expected to account for. But it will be next year before the effects of commercialization are really felt.

The 37.5 percent year-on-year increase in residential housing sales for January-February of this year has raised hopes that the effects might be more immediate. Such a dramatic rise does indicate a demand for home ownership. But the 3.7 million square meters sold in the first two months comes primarily from a buy-up of existing empty housing stock, and represents a small portion of the estimated 70 million square meters still vacant. At an average of 2,089 yuan per square meter, prices were more than twice the 1,000 yuan per square meter that the government regards as an affordable price for average middle and lower income buyers.

Investment rise inadequate

More tellingly, the 10 percent rise in real estate investment in the first two months of this year failed to act as an adequate buoy for the economy. The increase in fixed assets investment fell 7.9 percent in the same period, and first quarter GDP growth was below the 8 percent target by as much as 1.5 percentage points.

A recent survey commissioned by Clear Thinking found that even in Shanghai and Guangzhou, prosperous cities where housing reform is relatively advanced, only a quarter of non-owners said they intended to buy, and even fewer said they planned to buy within the next year (see box opposite).

Shanghai struggles

Two main factors will impede the planned construction boom. First, approvals and negotiations on new housing projects take an average of about 18 months before ground is even broken. With government restructuring and downsizing, the red tape may be reduced, but not in the short term. Even investors who rush to get into the first wave will not be able to start construction until well into next year.

Second, an immediate jump in construction may not be what local governments actually want. Take Shanghai, for example. Despite having begun housing reform years ago, a glut of empty space remains. The over-capacity has led city officials to call for a sell-off period, and there are rumors that Shanghai will impose a temporary ban on foreign investment in housing construction to allow the market to level out. Meanwhile, the Shanghai economy has sunk into single digit growth in the first four months of 1998, for the first time in six years, which is only likely to diminish demand. Shanghai officials plan to increase credit and double assistance from the city's public housing reserve, but this year the city will struggle to soak up its existing supply of housing.

Zhu seems to be pinning his hopes on something like the American baseball movie principle "if you build it, they will come." The idea is that if China constructs housing of acceptable quality and cost — while dismantling the current state housing system, providing incentives for purchasers by raising rents, and speeding up the development of mortgage and equity laws — then people will flock to buy. But to expect a major boost from the housing sector this year is to expect too much. And if not from housing, where will Zhu get his 8 percent growth?

Housing starts could rise by the last quarter of 1998...

...but a glut of empty space remains in many cities

So how will Zhu Rongji meet his 8% growth target?



Restructuring delays regulations To BOT or not to be?

**It is no longer certain
that BOT will remain
standard**

China's long-anticipated build-operate-transfer (BOT) regulations, once believed close to passage by the National People's Congress, have most likely been shelved for this year, and perhaps indefinitely. For now, would-be BOT developers must continue to negotiate the protracted, occasionally multi-year countdown to the launch of a new project.

New regulations could have provided a much-needed lift for major infrastructure projects, particularly in the power sector. The foot dragging by various bureaucracies leaves foreign investors with mixed messages: Is it simply a matter of bad timing, with the State Power Bureau and other infrastructure ministries preoccupied with their own restructuring, or does it signal a retrenchment of the government's commitment to BOT?

**SDPC is
preoccupied with
downsizing**

"It is no longer certain that BOT will remain standard for major infrastructure projects," a power industry official admitted. "BOT regulations, perhaps even the BOT concept, could be abandoned."

Provincial approval

However, the absence of new regulations may not be such bad news. Some foreign players in the power sector say the insistence on provincial SDPC and SETC approval no matter what the size or type of project, which was to have been a feature of new regulations, would have made the process of BOT approval more bureaucratic and less predictable. Meanwhile, at national level, SDPC officials will be preoccupied with a massive downsizing, which could leave them with little time or inclination for the approval of new projects. So the sector may be better off without regulations that, far from driving forward China's inland infrastructure development, could have dragged many projects into a quagmire of apathy and competing provincial and departmental interests.

**Among the problems
are complicated
formulas for payouts**

The BOT Notice came into effect in August 1995, with guidelines jointly issued by the State Planning Commission and the Ministries of Communications and Electric Power. It stipulates how projects can utilize the BOT model, and what exemptions and waivers are allowed. But the power sector has been slow to catch on to BOT. Private capital is more expensive than that offered by multilateral agencies, meaning that BOT is often an expensive way of funding power projects.

Changsha progressed smoothly

Since the conclusion in September last year of China's first successful BOT power project agreement, for the Laibin B plant in Guangxi province, plans for a second BOT power station, a 720-megawatt plant in the Hunan provincial capital of Changsha, have progressed more smoothly using Laibin as a model for contract terms and documents. Like Laibin, the Changsha plant has a 15-year operation period before it passes to Chinese control. A third BOT power project, a 600-megawatt coal-fired power station to be built in Puqi, Hubei province, will cost US\$450-500 and be operated by Siche China for 20 years.

But the need for regulations was highlighted by the abandonment last year of a planned BOT power plant in the Pudong development area of Shanghai. Lack of familiarity with the BOT process was cited as the cause of the cancellation by officials close to the project, suggesting that without regulations difficulties would continue to plague negotiations over foreign financing for Chinese power projects. Among the problems are complicated formulas for payouts in convertible currency and returns on investment.

The Laibin plant, the first BOT project with demand guaranteed by central — as opposed to local and provincial — authorities, will be managed by Electricite de France and Anglo-French company GEC Alstom. Two 360-

megawatt generating units will be built over 33 months, then operated by the French side, which holds 85 percent of the equity, and the Guangxi provincial government, which holds 15 percent. But some analysts say the terms were so unfavorable that it will be difficult for the foreign side to make money.

Beijing has always been reluctant to allow foreign companies a stake in key industries. However, prompted by the need to expand the power sector, the State Council announced late last year that it would introduce regulations for BOT projects. Any future regulations are expected to use the principles of the Laibin agreement as their basis, and to follow the existing guidelines. Among the targets for national-level pilot BOT projects, all of which were to have remained targets under the new regulations, were thermal power plants of not less than two

generating units of 300-megawatt capacity and hydroelectric plants with a capacity of up to 250,000 kilowatts.

Greater support for infrastructure development in central and western areas, reaffirmed by President Jiang Zemin at last September's 15th Party Congress, was another factor behind the planned introduction of BOT regulations. The current uncertainty over the future of BOT will not help. However, State Council leader and power specialist Li Peng, replaced last month as premier by economic czar Zhu Rongji, is likely to remain a strong influence behind the scenes, particularly in the power industry. Li may try to give BOT another push if economic indicators continue to show slowing growth. But if BOT is to bear fruit, it could be a long wait under the tree.



Laibin B is likely to remain the model for BOT

Three Gorges taxes suppliers, settlers Too gorgeous?

Who would have thought that foreign suppliers of equipment and services to the huge Three Gorges project would be complaining? After all, the world's biggest hydroelectric dam has a budget that will eventually exceed \$30 billion, much of which will be spent on equipment. Until recently, environmentalists and anti-dam activists had made most noise, complaining about the forcible removal of millions of people, the threat to endangered plants and animals, and the economic advantages of smaller projects.

But now foreign equipment suppliers are raising their voices, saying the ministry-level Three Gorges Development Corporation is too difficult to do business with. "I know of a lot of small companies in our position that have just stopped dealing with them," said one supplier of small engines to the construction industry. Despite the attraction of such a large client, "there are too many regulations, too much lag time, and of course they also demand the lowest prices." He and other suppliers and manufacturers declined to be identified, worried about their ability to win new contracts elsewhere in China. But they said that even some

of the largest suppliers, such as US giant Caterpillar, were experiencing difficulties in getting contracts signed.

Meanwhile, major political irritants continue to prove abrasive to the project. Last month two of the dam's most persistent opponents, International Rivers Network and Human Rights in China, said the resettlement of 1.2 million people was slowing because of popular resistance and corruption. The Chinese government admitted that resettlement was not going as quickly as they had planned, but denied any serious problem. Already 80,000 have been moved, with another 67,000 to go this year.

Investor activists continue to hound the largest of the power suppliers and financiers. Earlier this month, two large US fund management companies stated their opposition to Asea Brown Boveri's involvement in the Three Gorges and other large dams, saying they would base investment decisions on political as well as economic factors. The 350-mile-long reservoir will inundate two cities, 11 county seats and 114 towns when completed in 2009.



The development body is hard to deal with, suppliers say

Investor activists oppose large dam projects

Drip, drip... No water left

Water pollution is the top complaint of Beijingers

Water is a problem not only for people threatened by the Three Gorges. Beijing residents are also concerned about water, but for different reasons. A recent poll of Beijingers suggests that 89 percent are dissatisfied with their environment. Water contamination is at the top of their list of complaints. It seems their apprehensions are justified: a recent United Nations report indicted China's cities for having some of the worst water contamination in urban Asia.

The South-to-North project plans to add 15b cubic meters...

More than half of the 191 rivers in the Huaihe system, which provides water for Beijing, Tianjin, and other cities in four provinces, are so contaminated that they are deemed to be biologically "dead," or non-functional. Incidence of cancer and intestinal diseases has seen a parallel rise. In reaction, the government has finally toughened environmental law enforcement, requiring over 1,500 polluting factories along the river to clean up their acts or shut down.

...but Beijing's water will cost much more

Even if the Ministry of Water Resources meets its goal of a 40 percent decrease (from 1.8 million tons in 1997) in water lost through wastage, northern China will still go thirsty. Already 400 of China's 600 cities experience water shortages, with 108 shortfalls classified as serious. Each year drought affects \$25 billion of industrial production, and reduces crop production by an estimated 25 billion tons.

In the longer term droughts contribute to falling water tables and subsidence. Beijing is no exception: its 1996 rainfall measured 348 mm, only half of its normal

note and less than the 1965 record low of 377 mm. Researchers caution to expect more of the same. Already water stored in Beijing's reservoirs has decreased, and the water tables have been dropping for several years.

To meet a growing need for potable water in the drought stricken north, which has suffered decreasing rainfall during a period of intense growth, the ministry plans to build the Nanshui Beidao (South to North) Water Transportation Project during the next decade. Originally proposed in the 1950s, the project will bring 15 billion cubic meters of water per year from Daijiangkou reservoir north to Beijing. The project, the largest of its kind and covering the longest route, will channel water along 1,200 kilometers, requiring the resettlement of 220,000 people and the removal of 800,000 cubic meters of earth. Financing for the project will be split 60:40 between central and provincial governments.

Beijingers, too, will pay. The government believes that until now heavily subsidized water prices have encouraged wastage. The average price of water in Chinese cities is one yuan (\$0.12) per cubic meter. At project completion, Beijing will have the most expensive water in China, five yuan (\$0.60) per cubic meter. By comparison, Qingdao residents currently pay the country's highest charges, at 1.6 yuan (\$0.19) per cubic meter. With an estimated total annual cost of \$225 million for 1.2 billion cubic meters of water, the Beijing municipal government will be unable to maintain its present rate of water subsidies.



No money, but...

Power to the people

According to most power developers operating here, the real question is not to BOT or not to BOT. A notice was issued in 1995, another set of guidelines was published last year, and some remain optimistic that a third document, perhaps even formal regulations, will come out at some point.

No, what developers would really like is some money from their investments. While some major foreign developers are earning their investment dollars back, in general the power grids are not paying an informal Clear Thinking poll turned up a surprising number of complaints from companies once considered lucky—by those without approvals—to be up and running.

One industry source said he thought “almost all Western developers” have power bills going unpaid. Another lamented that he could not find a buyer for a majority ownership share of a power plant his company was attempting to divest. A third said he would not be surprised to see more companies selling most of their stakes or pulling out over the next year.

Most had received similar explanations as to why their clients, the power grids, were not paying. “They tell us that their are gaining no revenues to pass on,” said a Beijing-based power executive. All respondents said they did not completely believe these explanations, but that there was little they could do except keep providing the power, and hope. Most are afraid to go public with their information out of fear they will anger the Chinese power authorities.

Needless to say, unbridled skepticism surrounds the State Power Development Corporation’s estimates for foreign power investment. The corporation and its newly formed bureaucratic counterpart, the Bureau of Power, want to see foreign developers invest in up to 15 percent of all installed generating capacity over the next few years. But a 54-step tiptoe through red tape, and the iron grip recently retired Premier Li Peng holds over

the approvals process, including rates of return, have discouraged foreign investors.

For those who have emerged victorious from the regulatory process, the low rewards have turned more than a few into cynics. The US developer AES is the only major company to have announced publicly a scaling back, but others are looking more closely at the possibility. “Obviously, those are not great incentives for developers to invest any more money,” a poll respondent said wryly.

State Power Development Corporation officials are quick to point out that in installed capacity terms, they are right on target, with more than 10,000 megawatts of new generating capacity every year. In percentage terms, of course, a larger base has meant falling growth, and in 1997 growth dropped to just 4.5 percent over the previous year, down from 6.8 percent in 1996.

The heavy competition for the approval of the former premier, his well-connected “power” playing offspring, and anyone else of influence in the power sector has produced a number of seasoned Beijing-based Western executives with strong connections. When the competition heats up, as it did in February, those with deeper pockets usually win. In February, the US power giant Enron had the deeper pockets, appointing former McDonnell Douglas executive John Fugh to head its China effort. Retired General Fugh is the only mainland born Chinese man to have served in the US armed forces.

At around the same time, Enron decided to bolster its Beijing team by hiring veteran power executive Soon Yip away from its smaller rival, Coastal Power. Soon brought most of his team to Enron with him, leaving Coastal scrambling to fill their slots as projects in the pipeline near approval. But with the prospects for stable revenue streams low, Coastal may emerge, if not the winner, at least the lesser loser.

Financial returns, not BOT, are the real issue, developers say

Many are skeptical of SDPC figures

Power firms with deep pockets usually win



Urban energy goes to waste

Trash power

Rubbish is not a high priority...

The logic, at least, is quite simple: China's cities are awash with rubbish, and hurting for energy, so why not use one to get the other. This is the idea behind a new power plant to be built in Tianjin by a consortium headed by Australia's Great Pacific Financial Group. And though the equation is complicated, interest is growing in developing waste-to-energy (WTE) technology.

In an agreement signed late last month, the Great Pacific-led consortium, which also includes Hong Kong's Environmental Power Company, agreed with city leaders to build the Tianjin Waste-to-Energy Power Plant, which will have a capacity of 20 megawatts when completed in late 1999 or 2000. It is the first Western WTE project in China to get past the drawing board.

Low priority

...but does have potential

Waste-to-energy is not exactly high on the central government's priority list for power development. A manager in the planning department of the Ministry of Energy, said WTE it would not play a significant part in national power production in the foreseeable future. But underdevelopment means that garbage power has "huge potential for growth," says Sha Yiqiang of the China National Power Technology Import Export Corporation.

The Tianjin plant is expected to process about 420,000 tons of trash annually, creating 20 megawatts of power. To put this in perspective, the United States disposed of 33 million tons of trash in WTE plants in 1994, according to officials at Invercargill, a firm which develops WTE plants. That was 16 percent of the 209 million tons of rubbish generated in the world's leading producer of solid waste. China's cities disposed of over 108 million tons of trash in 1996.

The greatest obstacle is cost

One possible impediment to developing power by burning trash is emissions. Concern

over the environmental impact of emissions derailed plans for a major WTE project in New Zealand earlier this month, and a Hong Kong project was criticized for similar reasons in January. Emissions may be of particular concern in China, where urban air quality in major cities is bad and getting worse. In Tianjin this month, 14 people died and more than 1,000 were hospitalized in a disastrous climatically induced outbreak of carbon-monoxide poisoning.

But proponents of WTE technology argue that anti-pollution measures in WTE plants remove enough particulate smoke to make the plants more than compliant with air-quality regulations, and reduce solid waste by more than 80 percent into treated, environmentally safe ash. Harvey Yang, chief representative of Great Pacific in China, says the Tianjin plant conforms to international environmental standards and has been certified by an independent Chinese environmental research company.

The greatest obstacle to growth of WTE plants in China is cost. Despite the low price of fuel for garbage-incinerator power plants, opinions differ over the cost effectiveness of WTE. Cash-strapped Chinese cities can't afford large-scale experiments for their possible environmental benefits alone. So city officials are being particularly careful about finding the lowest available cost arrangements with the least possibility of failure. Thus deals are not all that fast in coming despite tremendous competition among foreign companies to get into China.

Smooth negotiations

Then there is the ever-present problem of negotiating at local level in China. Great Pacific's triumph in being the first Western company to pull off a WTE deal on the mainland was not without trials. Negotiations with city officials took just 12 months, not long by China standards, but the final \$50 million,

25 year build-operate-transfer agreement left the developers a little uneasy. "I have a feeling there may yet be problems," says Yang.

Cities adopt WTE

Nonetheless, the future is bright, if not unclouded. An energy analyst in a Western embassy says he has heard of interest in WTE from almost 200 Chinese cities. Chongqing

recently announced negotiations with US and German companies to build a 25-megawatt plant, and Beijing began work last month on a 24-megawatt plant funded largely by Spanish government loans. A plant is under construction in Shanghai's Pudong district, and Shenzhen boasts the only rubbish plant already in operation. Great Pacific remains optimistic. It plans to build more plants in Tianjin and is negotiating with other major cities.



Interest is growing in garbage-fired generators

Fuel tax will be a shock for drivers Highway bill putters on

The no-nonsense Zhu administration may at last have succeeded in moving forward the controversial fuel tax portion of the Highway Bill which President Jiang Zemin signed in July last year. The fuel tax was supposed to take effect on January 1st of this year, but the new year came and went without a new regulation and with barely a whisper of why. Now, according to a highway industry expert, the bill may be released after extended internal wrangling, albeit with substantial revisions.

The advent of a fuel tax, and the removal of existing road taxes, was by far the most controversial aspect of the Highway Bill. Central government officials wanted it to bring in revenue to the central highway administration, helping central planners to speed up work towards its ambitious goal of building a well-planned and integrated highway system like that of the US. Provincial and local officials opposed it vigorously, however, because a corollary of the law was the end of local road taxes, which are based not on usage but on size and type of vehicle, and allow independent-minded local officials to use less discernibly legal criteria.

The tax in its original form was to be an at-the-pump tax of around 60 percent on petrol. Though this is considerably lower than the duty paid on fuel in many Western countries, it is likely to come as a shock to drivers if it finally

takes effect. But proponents argue it will benefit most drivers and road transport companies, as long as the tax is accompanied by a removal of the local and provincial road levies. As a tax based on usage and not on ownership, it would certainly be more fair, and would have the added effect of encouraging fuel efficiency. Indeed, insiders in China's trucking industry are looking to the fuel tax to help boost sales of heavy trucks by encouraging upgrading of trucking fleets.

The reason for the resumption of the bill's stalled progress lies in the reforms announced by Zhu Rongji last month. Zhu has made it clear infrastructure spending will be used to keep China from falling into the East Asian economic pit, so increased revenue for highways has become even more important than it was last July.

But, as often happens in power struggles between the center and the provinces, both sides may win in the short term, with the losers being the road users. Zhu's government will succeed in garnering a fuel tax of some sort, but more independent provinces may temporarily continue local tolls in some form, leading to double taxation. This will make for some angry road users, and the ultimate test for the government may not be enacting the law but, as with so much previous legislation, getting it properly enforced.



Both sides may win...

...but double taxation may mean road users lose

Tarring up the country

Berger's grand plans

Berger made its reputation with highways...

Engineering giant Louis Berger, one of China's main road designers, wants to lend its water, track and power expertise to the country too. With operations in 66 countries in all aspects of infrastructure engineering, Berger in China has been confined to the highway sector, linking its fortunes to the Ministry of Communications Highway Planning Design Institute in 1984. The marriage has been a successful one: over the last 13 years, the joint venture between China Highway Engineering Consultants (CHEC) and Louis Berger International has worked on projects for the planning, design and construction of 6,500 kilometers of expressway valued at over \$19 billion. Many were World Bank and Asian Development Bank (ADB) projects.

In China, as in the rest of Asia, the group provides reviewer feasibility studies, design, design review services, and due diligence for BOT and other infrastructure projects. But whereas Berger International has a hand in the water supply, the power sector, and urban infrastructure developments in other parts of Asia, in mainland China, the company has made all its profits in the fast-growing highway sector.

...now it wants to diversify

Most consultancies have focused their attention on one sector, explains Lee Ahlstrom, the director of Berger's China teams. "Our joint venture partner is road-orientated, so it made sense. In order to be effective in China you need relationships, he says. Concentrating on one sector has paid dividends, Ahlstrom believes.

Expansion to 2005

Now, however, Berger intends to diversify. It is setting its sights on water resources, a sector in which US-based competitor SMEC has a strong presence. Berger's strength is its prestige in the China market generally, and its dominance over the highway sector. "We have sustained ourselves at the same level of growth for the last three to four years, and plan to expand until 2005," Ahlstrom says.

Currently, the Berger group is working on the Anyang to Xinxiang highway in central China's Henan province. Berger won the contract to supervise construction of the Anyang-Xinxiang road after successfully assisting the Henan Provincial High-Grade Highway Construction Authority (HGHCA) to construct a 120-kilometer divided four-lane expressway from Zhengzhou to Luoyang. The Berger team supervised construction of a \$758 million bridge over the Yiluohe River, 18 medium-length bridges, four tunnels totaling 2.3 kilometers, eight interchanges, 25 flyovers, toll booths, administration buildings and 12 million cubic meters of earth works.

Training proves crucial

A crucial part of the Henan highway projects, and every other World Bank or ADB project, was the training for Chinese road builders. To date, Berger has trained over 800 Chinese professionals both domestically and overseas. Many Chinese highway technicians are taken to the US. "The United States is the ideal place to train Chinese road builders because of the diverse geographical conditions it presents," Ahlstrom says.

Twelve of the Chinese engineers working on the 265-kilometer, four-lane, World Bank-financed Urumqi-Kuitun Highway in Xinjiang province are studying road building in California's Sierra Nevada mountain range, an area with winter snow conditions similar to those of Xinjiang province. Berger is acting as construction supervisor for the project. The road, scheduled for completion in 2000, will run along the Silk Road and provide the principal transport corridor linking China with central Asia and Europe. It will be operated as an open toll route, and is vital to supporting the region's growth, which

Anyang-Xinxiang Expressway, which will replace a portion of the existing National Highway 107 and link with a new expressway to Beijing.

Berger and the Henan authority will supervise construction of the route across open farmland from the northern boundary of Henan Province, near Anyang, bypassing towns and villages before reconnecting to NH 107 south-east of Xinxiang. Elevated 4 meters above the surrounding farmland, the expressway includes 150 bridges, one barrier toll station on the main roadway and nine toll stations on interchange ramps.

In the southern province of Jiangsu, the Berger group was hired by the Jiangsu Provincial Communication Department to prepare bid documents and review the designs for the 80-kilometer World Bank funded Suzhou-Shanghai section of the 285-kilometer Nanjing-Shanghai highway. The project was divided into two construction contracts and included 29.7 kilometers of new alignment and the reconstruction of 49 kilometers. The Berger team assisted in the preparation of contract requirements, technical specifications, schedules and bills of quantities.

Further north, the Berger group was selected by the Jilin Provincial Expressway Corporation to provide consultancy and training services during construction of the \$300-million, 133-km ADB-financed Siping-Changchun Expressway. Starting at Wulipo south of Siping City, the four-lane expressway connects Siping to the provincial capital of Changchun and forms part of the future network that will connect Changchun and Siping with Beijing and all of northeast China by 2000.

Now that its prominence in China's highway sector is established, Berger hopes to make waves in the water sector. Last year, Berger worked with the Chengdu local authorities to refine the concession agreement to build China's first BOT water treatment plant, the Chengdu No. 6 water plant.

"There are huge opportunities to clean up China's rivers and streams, in order to deliver potable water to China's biggest cities," says Ahlstrom, who predicts that once China's state planners have solved the problem of how to drive from one sprawling city to another, they will turn their attention to what to drink when they arrive. And when they do, Berger will be waiting for them.



Berger spreads its expertise

Urban water supply offers 'huge' opportunities

News Briefs

Beijing opens airports to FDI

Beijing will encourage foreign investors to take part in a \$12 billion expansion and modernization program to drag airports out of red ink. The Civil Aviation Administration of China (CAAC) will issue measures late this year allowing foreigners interests of up to 49 percent in the construction and management of major airports. New World Infrastructure (NWI) will be the first foreign investor to partake, committing \$42 million for an undisclosed minority stake in Wuhan's Tianhe Airport. More airports will follow soon: in addition to Xiamen, Shanghai Hongqiao International and Shenzhen Huangtian airports, which are already listed

on domestic stock exchanges, Beijing's Capital International and Guangzhou's New Baiyun are also slated to go public.

WB energy efficiency loans

The World Bank will give China two loans totalling \$313 million to help improve its energy efficiency and fund new power transmission projects. With a \$250 million loan, a new high voltage transmission network will be set up in eastern China. Another \$63 million will help fund an energy conservation project aimed at reducing carbon dioxide emissions. The World Bank offer also includes a \$22 million grant.

CCB loan for Fujian highway

The China Construction Bank (CCB) recently granted a \$60 million loan for construction of a highway in Fujian province, bringing the bank's total investment in the project to \$84 million. The 166-km highway, from Fuzhou to Quanzhou, is expected to be completed on October 1, 1999. The total cost will be \$568 million, with \$483 million already raised by the provincial government.

Sino French invests

Sino French, a venture jointly operated by Suez Lyonnaise des Eaux (France) and New World Group (Hong Kong), signed two water contracts with Zhongshan municipal government in Guangdong province. Sino French will expand the capacity of the two water plants from 700,000 cubic meters to 1.3 million cubic meters per day. The expansion will double Suez Lyonnaise's turnover to serve 3 million people on the mainland, of which half are in Zhongshan. Sino French will take a 66 percent share in the plants and will operate them for 22 years with an annual turnover of \$16.3 million.

Swiss shipping JV

Danzas Group, a Swiss shipping and freight company, launched its first Chinese joint venture with Zhong Fu Group in Shanghai. Danzas will take a \$1.5 million, 49 percent stake in Danzas Z.F. Freight Agency, with the majority owned by its Chinese partner. Danzas, granted a Class A license by the extremely selective MOFTEC, will have wide business access in China in international air and ocean freight, warehousing, transshipment, insurance, and consulting. Last year, Danzas handled more than 10,000 shipments,

more than 9,000 containers and 5,000 tons of airfreight in and out of the country.

Power gathering

China Power Generation '98, a gathering of top energy executives and domestic officials, will take place May 27-28 at the Kempinski Hotel in Beijing. Contact Jolene at CMT at 65-345 7322, or e-mail: jolene@pacific.net.sg

Rail expansion

China will invest \$29.5 billion in railway construction in the next five years. Investment in 1998, previously planned to be \$4.2 billion, will be increased to \$5.4 billion. Funds this year will be used to build 1,210 kilometers of new lines, double-track 575 kilometers of existing lines, and electrify another 980 kilometers. The southern provinces of Hunan, Guangdong and Hainan will get \$830 million for three new lines. In addition, the central government is considering constructing a high-speed express from Beijing to Shanghai. The 1,300 kilometer line, estimated to cost \$12 billion, is designed for speeds up to 350 kph, almost treble the national average of 120 kph.

SDB infrastructure loans

The State Development Bank (SDB), a major policy-oriented bank, extended loans of \$2.5 billion in the first quarter of this year for infrastructure construction. The loans, \$1.02 billion more than planned, will go to over 200 projects, including the Shuohuang Railway (from Shanxi's Shuozhou to Hebei's Huanghua), extension of Beijing's subway, the Pudong Airport in Shanghai, and the Ertan Power Station in Sichuan. SDB has approval to issue \$11.45 billion in loans during 1998. They are expecting Beijing to open a nuclear project to international bidding by next year.



clear thinking
solutions & analysis

**Clear Thinking
(HK) Ltd.**

**China Infrastructure
Newsletter**

Volume 3, Issue III
April 1998

Publisher
Nick Driver

Editor: Bill Smith
Analysis: Jason Dean,
Bill Smith, Yang Zhaohua

For subscription information,
contact: Isolda Morillo
Marketing Director

Tel: (8610) 6592 2734
Fax: (8610) 6592 2723
info@clearthinking.com

Reproduction and
transmission
in any form without
prior permission is
prohibited.
For subscribers only.
All rights reserved.
Copyright by
Clear Thinking (HK) Ltd.