

## **Projection of Long Term Housing Demand**

### **PURPOSE**

This paper explains the methodology and results of the projection of long term housing demand as set out in the consultation document released by the Long Term Housing Strategy (LTHS) Steering Committee on 3 September 2013, and addresses questions on the projection raised since the beginning of the consultation exercise.

### **PROJECTION OF LONG TERM HOUSING DEMAND**

#### *Projection Methodology*

2. The Steering Committee considers that every household in Hong Kong should be adequately housed (please refer to paragraph 8 below for the definition of “adequate housing”), irrespective of whether they live in public or private housing, or in owned or rented accommodation. For the purpose of projecting long term housing demand, housing demand is defined as the total number of new housing units required to be built if each and every household with a housing need is to be accommodated in adequate housing over the long term. Accordingly, it is assumed that those who are already adequately housed currently will not generate new net demand for housing units, even though some households may move between different housing units. This being the case, only the following major components will count towards the number of new housing units required –

- (a) net increase in the number of households;
- (b) households displaced by redevelopment; and
- (c) inadequately housed households.

#### *Net Increase in the Number of Households*

3. Each year, new households are formed arising from marriages, splitting of existing households, immigration, and expatriates and non-local students coming to work or study in Hong Kong. At the same time, existing households may be dissolved due to deaths, emigration and expatriates/non-local students returning to their home. It is the net increase in the number of households that will generate new housing demand. Towards this end, the latest domestic household projections published by the Census and Statistics Department (C&SD) in January 2013 are used as the basis for assessing the overall new housing demand from the net increase in the number of domestic households. The Steering Committee has adopted the average annual net increase from mid-2011 to mid-2021, amounting to about 29 400 new domestic households per year (i.e. 294 000 new domestic households over the ten-year period), to project this component of the housing demand over the next ten years.

4. Apart from marriages/divorces, splitting of families, etc, the domestic household projections have taken into account factors affecting the movement of Hong Kong residents, such as Hong Kong people living and working in the Mainland; Type I babies (babies born in Hong Kong to Mainland women whose spouses are Hong Kong Permanent Residents) and Type II babies (babies born in Hong Kong to Mainland women whose spouses are not Hong Kong Permanent Residents); One-way Permit Holders settling in Hong Kong; expatriates coming to work in Hong Kong; and the entry of talents/professionals under various schemes. Therefore, the projection of long term housing demand has also taken into account these factors.

5. As regards domestic household projections, we note that there are views that since there are more than 50 000 marriages a year in Hong Kong, which is higher than C&SD's estimated net change in the number of domestic households (29 400 per year), C&SD's domestic household projections may not be able to fully capture housing needs. We have to point out that not all marriages will automatically lead to the formation of new households. For example, if these marriages involve existing one-person households, or if the newly married couples choose to live with their existing families, they will only increase the size of the existing households. Besides, among the total number of marriages registered in Hong Kong, there were about 20 000 marriages per year between residents of Hong Kong and the Mainland in recent years<sup>1</sup>. Not

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<sup>1</sup> According to C&SD's figures, in the past three years (i.e. 2010, 2011 and 2012), the number of

all of such cross-boundary marriages would lead to the formation of new households in Hong Kong. For instance, some of the couples of the cross-boundary marriages may join existing households in Hong Kong, while some of them may choose not to reside in Hong Kong. In any event, the impact of these marriages on Hong Kong's demographics has been covered in C&SD's domestic household projections (in which the factor of One-way Permit Holders settling in Hong Kong has been taken into account). Besides, marriage is not the only factor contributing to the net change in the number of households. Other factors also need to be taken into account. For example, the number of deaths was about 43 000 in 2012 and is projected to increase gradually to about 80 000 in 2041. Given the fact that most of these deaths are elderly persons and that there is an increasingly significant proportion of households which consist of elderly members only, we expect that more elderly households will be dissolved with the increasing number of deaths.

6. Taking all these factors into account, C&SD's domestic household projections clearly capture the impact of changing demographics in Hong Kong. The Steering Committee recognizes that household formation and dissolution would vary in response to changes in economic and property market environment. Therefore, the Steering Committee has undertaken an econometric modeling exercise to quantify the relationship between household formation and economic performance (as proxied by real Gross Domestic Product growth rate) and the housing market situation (as proxied by the average vacancy rate of private flats). The results of the econometric modeling exercise show that the number of household formations will be in the range of 271 950 to 316 050, depending on different economic and housing market situations. This represents a +/-7.5% from the C&SD's domestic household projection of 294 000 households over the ten-year projection period<sup>2</sup>.

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marriages registered in Hong Kong were about 52 600, 58 400 and 60 500 respectively, of which the number of marriages between residents of Hong Kong and the Mainland were about 18 700, 20 600 and 21 900 respectively.

<sup>2</sup> According to the econometric model adopted, in the past 20 years, the number of households formed was higher when the local macroeconomic performance was better or the private domestic vacancy rate was higher. Under the base case, it is assumed that the real economic growth and private domestic vacancy rate in the next ten years would be similar to those of the past ten years (i.e. 4.5% and 5.5% respectively) in order to project the household formation in the next ten years.

In order to work out a lower limit of households formed, it is assumed that the real economic growth and the private domestic vacancy rate would be 3.5% and 4.5% respectively in the next ten years (i.e. 1% point lower than the base case). Under this lower case scenario, the household formation in the next ten years would be 7.5% lower than the base case.

### ***Households Displaced by Redevelopment***

7. Households displaced by the redevelopment of old buildings in the public and the private sectors have to be rehoused, thus generating new housing demand on top of the net increase in the number of households. Based on announced redevelopment plans from the Hong Kong Housing Authority (HA) and the Hong Kong Housing Society (HS), as well as past trends in the private sector, it is estimated that there would be a new housing demand of about 46 300 units over the ten-year period from households displaced by redevelopment. This figure includes 4 100 units for the HA's redevelopment of Pak Tin Estate; 1 900 units for the HA's interim housing units to be converted into public rental housing (PRH); 700 units for the HS's redevelopment programme of Ming Wah Dai Ha; and 39 600 units for households to be displaced by the redevelopment of private sector flats. When more information on redevelopment programmes is available, the Government will take such new information into account in future reviews and update the projection on housing demand accordingly.

### ***Inadequately Housed Households***

8. As explained in paragraph 2 above, the objective of the projection on long term housing demand is to estimate the number of units required to satisfy the need for adequate accommodation in Hong Kong. Therefore, those households who are currently inadequately housed are deemed to have a need for new housing units, either in public or private housing. As there is no widely accepted definition of "inadequately housed", for the purpose of projecting the long term housing demand, the Steering Committee has made reference to a number of considerations in determining which households should be regarded as "inadequately housed" and adopted a conservative approach in this regard. The Steering Committee considers that households in public housing (i.e. PRH and subsidized sale flats) should be regarded as living in adequate housing. For households living in private housing, the Steering Committee considers that the following circumstances should be taken into account in determining whether households are "inadequately housed" for the

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In order to work out an upper limit of households formed, it is assumed that the real economic growth and the private domestic vacancy rate would be 5.5% and 6.5% respectively in the next ten years (i.e. 1% point higher than the base case). Under this upper case scenario, the household formation in the next ten years would be 7.5% higher than the base case.

purpose of the projection –

- (a) if the housing unit is made up of temporary structures (e.g. huts, squatters and roof-top structures);
- (b) if the unit is located in a non-residential building (e.g. commercial and industrial building);
- (c) if the unit is shared with other households (e.g. those living in rooms, cubicles, bedspaces and cocklofts); and
- (d) if the unit is subdivided (see also paragraph 10 below).

9. Based on results of the 2011 Population Census and the Survey on Subdivided Units in Hong Kong commissioned by the Steering Committee, for the purpose of the long term housing demand projection, the estimated number of inadequately housed households is 74 900, which includes 18 500 households living in units made up of temporary structures; 3 000 households living in non-residential buildings; 11 100 households sharing the same unit with other households; and 42 300 households living in units with observable physical partitions and in buildings aged 50 years or below<sup>3</sup>.

10. The Steering Committee notes that depending on the actual living conditions, not all households sharing units with other households are necessarily inadequately housed. Given the wide range of different standards of subdivided units in the market, the actual living environment varies under different circumstances. However, since it is difficult to differentiate the actual living conditions of individual households among these two categories, after balancing different views, the Steering Committee is inclined to adopt a conservative approach and count **all** these households as having housing needs which are not fully satisfied in the context of the projection. Accordingly, all of them are included in the projection of long term housing demand.

### *Miscellaneous*

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<sup>3</sup> As buildings aged over 50 years stand a high chance of being targeted for redevelopment, in order to avoid double counting of housing demand, we have assumed that the housing demand from households living in subdivided units located in buildings aged above 50 years should have been covered in the projection of demand from households affected by redevelopment.

11. Apart from the above-mentioned demand components, the Steering Committee acknowledges that there may also be demand over the next ten years which may not be accounted for in the C&SD's domestic household projections. This being the case, based on the previous trend statistics available, the Steering Committee considers that a "miscellaneous" factor should be added to reflect an additional housing demand of some 3 450 units per year (i.e. a total of 34 500 units over ten years), which include an increase of some 700 per year for private permanent living quarters occupied by "mobile residents only" households<sup>4</sup>; some 500 units per year for non-local students who might take up accommodation in Hong Kong; and the demand of non-local buyers who may take up flats but without channelling them back to the market, which would be in the range of 1 500 to 3 000 units per year (i.e. a mid-point of about 2 250 units per year).

### ***Gross Total Housing Demand and Total Housing Supply Target***

12. Summing up all the components set out above, the estimated gross total housing demand would be 449 700 units (mid-point) for the projection period from 2013-14 to 2022-23, with an upper and lower range of 479 250 and 420 150 units respectively. Having regard to the strategy of supply-led, with public housing accounting for a higher proportion of the new supply, the Steering Committee recommends adopting the ratio of 60:40 as the public/private split in the new housing supply target for the coming ten years. Public housing comprises both PRH and subsidized sale units. In terms of private housing, the Steering Committee notes that there are always a certain number of flats left vacant in the private sector at any point in time, and vacant units will affect the number of new units required to satisfy housing demand. Therefore, it is necessary to take into account the number of vacant units both at the beginning and at the end of the projection period to ensure that the projected housing demand can be satisfied. In this connection, at the beginning of the projection period there are about 48 000 vacant private flats. As regards the possible vacancy rate at the end of the projection period in the projection, the Steering Committee has drawn reference from the average vacancy rate in the private sector from 2003 to 2012 (about 5.2%) as the basis for estimation. Accordingly, based on the projection results of gross total housing demand, and

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<sup>4</sup> Mobile residents refer to Hong Kong permanent residents who have stayed in Hong Kong for at least one month but less than three months during the six months before or after the reference time-point, regardless of whether they are in Hong Kong or not at the reference time-point.

taking into account the vacancy situation among private flats, it is projected that the total housing supply over the next ten years should range between 440 000 and 500 000 units, with a proposed supply target of 470 000 units (mid-point).

## **DEMAND FOR PRH**

13. As there are 118 700 general applications and 115 600 non-elderly one-person applications under the Quota and Points System on the Waiting List (WL) for PRH as at end-June 2013, we note that there are views that the Steering Committee's proposed total housing supply target of 470 000 units in the next ten years may not be able to satisfy the society's housing demand including that of WL applicants. On this, we have to point out that the number of WL applications will change over time. Therefore, it is not appropriate to compare the number of applications at a particular time-point with the projected total housing demand and total housing supply target over the 10-year projection period.

14. However, from the demand perspective, the projection of long term housing demand has already captured the demand for PRH by WL applicants. This is because if PRH applicants are split from existing households (e.g. splitting from households of PRH/subsidized sale flats/private units), their housing demand has been covered in the projection of "net increase in the number of households". For PRH applicants who are living in units affected by redevelopment projects, their housing demand has been covered in the projection of "households displaced by redevelopment". For PRH applicants who are now inadequately housed, their housing demand has also been covered in the projection of "inadequately housed households". Therefore, the fact is that the housing demand of the above three categories of PRH applicants has been taken into account in the projection of long term housing demand. As regards households who are now renting a private unit with adequate housing, as pointed out in paragraph 2 above, if they intend to apply for PRH, it will be regarded as movement between different housing units within the existing stock and will not be regarded as generating a need for new housing units, unless it involves net increase in the number of households (such as splitting from existing households).

15. From the supply perspective, the current projection of long term housing demand only reflects the number of new units required in the projection

period. In respect of PRH, in addition to new units, recovered units are also an important source for satisfying the needs of WL applicants. Experience has shown that an annual average of some 7 000 net units can be recovered by the HA through voluntary surrender of PRH units by sitting tenants and enforcement actions against the abuse of PRH resources. In other words, to satisfy the demand of WL applicants, we do not rely solely on the number of new PRH units within the total housing supply target (470 000 units).

16. We will continue to closely monitor the number of applications on the WL and maintain our objective to provide PRH for low-income families who cannot afford private rental accommodation, with a view to maintaining the average waiting time for general applicants on the WL at around three years. The development plans for PRH can be adjusted wherever feasible to maintain the target.

## **COMPARISON WITH THE RESULTS OF THE 1987 AND 1998 LTHS**

17. According to some views, the proposed annual supply target of 47 000 units by the Steering Committee is relatively low when compared with the target in the 1987 LTHS (i.e. to provide an average of about 70 000 units per year) and the 1998 LTHS (i.e. to provide an average of about 85 000 units per year), and therefore may have under-estimated the housing demand.

18. We have to point out that the projection methodology and results adopted by the Steering Committee should not be directly compared to those in the previous LTHS exercises in 1987 and 1998 respectively because they each adopted different methodologies and had taken into account the circumstances prevalent at the time. For instance, the circumstances such as socio-economic conditions, demographic situations, policy decisions and programmes were different when the three assessments of housing demand were conducted. When the 1987 LTHS was formulated, the demand for PRH from clearance and redevelopment of the then non-self-contained PRH flats had to be taken into account. When the 1998 LTHS was formulated, the then average waiting time for PRH flats was about 6.5 years. As at end-June 2013, the average waiting time for general WL applicants for PRH was about 2.7 years. Another example is that, we are now facing a trend in which there is an increasingly significant proportion of households which consist of elderly members only, and these elderly households are more likely to be dissolved due to deaths. Hence,



it is not appropriate to directly compare the projection methodology and results in the previous LTHS exercises (which are based on circumstances prevalent at the time) with those currently adopted by the Steering Committee (which were based on the current situation and latest available data).

19. As regards the current projection methodology adopted by the Steering Committee, the total housing demand is assessed using a household-based approach to aggregate housing demand from three major components (i.e. projected net increase in the number of households, households displaced by redevelopment and inadequately housed households). This methodology has the following characteristics –

- (a) the household-based approach is relatively simple and easy to understand. C&SD has conducted the projection in a rigorous manner by taking into account the past trend and assumptions adopted for population projection (including birth, death and emigration; as well as the trend of foreigners working or studying in Hong Kong); and
- (b) the Steering Committee has deployed an econometric model to quantify the relationship between domestic household formation and other relevant factors such as economic situation and property market conditions. In so doing, the Steering Committee can conduct scenario analyses on the projected household formation and produce a range of projections which enable it to generate possible physical housing demand scenarios under different economic and property market situations.

20. In developing the methodology for projecting the long term housing demand, the Steering Committee has been mindful not to over-estimate the projected housing demand, which may lead to over production. Equally, the Steering Committee is mindful that an under-estimation of demand could lead to insufficient supply, which would result in rises in flat prices and rental of the private flats, making flats unaffordable to the community. The Steering Committee considers that the current approach best represents the circumstances we now face and should provide an objective basis on which to assess the long term housing demand. The projection results, and hence the total housing supply target, represent the best estimate based on the latest available data and under a framework which is robust.

21. The Steering Committee recognizes that ten years is a long period of time. Therefore, the projection is necessarily premised on a large number of variables, which are taken from objective circumstances and the latest policies and programmes that may change over time. Accordingly, the Steering Committee recommends that the projection methodology and the projection results should be reviewed on an annual basis to take into account any changes in policy and/or prevailing circumstances.

**Transport and Housing Bureau  
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