```cpp
typedef long double ld;
struct node {
    ld left, p, q;
};
vector<node> lines;

ld get inter(ld p, ld q, ld r, ld s) { return (q-s)/(r-p); }

// lines must be inserted in strictly decreasing order of p
void insert(ld p, ld q) {
    while (sz(lines) >= 2) {
        ld r = lines[sz(lines)-2].p;
        ld s = lines[sz(lines)-2].q;
        if (lines.back().left > get inter(p,q,r,s)) lines.pop back();
        else break;
    }
    node nd;
    nd.p = p; nd.q = q;
    nd.left = (lines.empty() ? -INFINITY : get inter(lines.back().p,
    lines.back().q, p, q));
    lines.pb(nd);
}

ld get min(ld x) {
    node aux;
    aux.left = x;
    auto nd = *prev(upper bound(all(lines), aux, [](node a, node b){ return a.left
    < b.left; }));
    return nd.p*x + nd.q;
}

```